

**UNIT PACK**

# **Level 3 Certificate/ Diploma for Proficiency in Fresh Produce Industry Skills 1289-21/22 Unit Pack**

February 2015 Version 1.1



## Qualification at a glance

<b>City &amp; Guilds Scheme Number</b>	1289
<b>Age group approved</b>	16-18, 18+, 19+
<b>Entry requirements</b>	None
<b>Assessment</b>	Portfolio of evidence
<b>Support materials</b>	Unit Pack Centre handbook

<b>Version and date</b>	<b>Change detail</b>	<b>Section</b>
1.1 February 2015	Minor typing errors corrected	<b>Units</b>



# Units

## Availability of units

Below is a list of the learning outcomes for all the units. If you want to download a complete set of units, go to [www.cityandguilds.com](http://www.cityandguilds.com)

## Structure of units

These units each have the following:

- City & Guilds reference number
- unit accreditation number (UAN)
- title
- level
- credit value
- unit aim
- relationship to NOS, other qualifications and frameworks
- endorsement by a sector or other appropriate body
- information on assessment
- learning outcomes which are comprised of a number of assessment criteria.

## Unit 001

## Analyse and report data

<b>UAN:</b>	Y/601/2538
<b>Level:</b>	3
<b>Credit value:</b>	6
<b>GLH:</b>	30
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.

<b>Learning outcome</b>
The learner will: 1 understand how to organise and evaluate data that has been researched
<b>Assessment criteria</b>
The learner can: 1.1 describe purpose and benefits of organising data so that it can be analysed 1.2 explain how to evaluate the relevance, validity and reliability of data 1.3 explain how to analyse and prepare researched data so results will be accurate and free from bias 1.4 explain the differences between primary and secondary research methods 1.5 explain the differences between quantitative and qualitative research methods 1.6 describe how to search for relevant data sources.

<b>Learning outcome</b>
The learner will: 2 understand how to report data that has been researched
<b>Assessment criteria</b>
The learner can: 2.1 describe ways of reporting data so that it: a. meets agreed aims and objectives b. is accurate and free from bias.

<b>Learning outcome</b>
The learner will: 3 be able to analyse and evaluate data
<b>Assessment criteria</b>
The learner can: 3.1 organise data so that it can be analysed and reported 3.2 select relevant, valid and reliable data to analyse 3.3 apply analysis and evaluation techniques, as required 3.4 review data to produce accurate, unbiased results and conclusions 3.5 check the accuracy of the analysis, and make adjustments, if required 3.6 obtain feedback on data analysis, if required.

<b>Learning outcome</b>
The learner will: 4 be able to report data
<b>Assessment criteria</b>
The learner can: 4.1 present data in agreed format 4.2 present data to agreed timescale.

## Unit 002

## Buy fresh produce on the wholesale market

<b>UAN:</b>	T/503/2561
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	15
<b>Relationship to NOS:</b>	This unit is linked to the PP.116S Buy fresh produce on the wholesale market National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who buy fresh produce on the wholesale market for a food business.</p> <p>The unit is designed for use primarily by buyers and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, buying fresh produce on the wholesale market. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by at least two observations of performance in the workplace, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 be able to prepare to purchase fresh produce

**Assessment criteria**

The learner can:

- 1.1 confirm own organisation's product purchasing needs
- 1.2 check available budgets to support planned purchases
- 1.3 evaluate factors that may influence price, and impact on purchasing decisions.

**Learning outcome**

The learner will:

- 2 be able to purchase produce stock

**Assessment criteria**

The learner can:

- 2.1 greet traders politely and courteously, and maintain effective communication throughout purchase
- 2.2 accurately describe the characteristics of the types of produce required
- 2.3 assess the suitability of the available produce against needs
- 2.4 conduct the purchase courteously, and at a pace which is appropriate to the trading conditions
- 2.5 negotiate and agree sale terms with the trader in accordance with available budget
- 2.6 seek advice when negotiation goes beyond limits of own authority
- 2.7 organise the delivery of purchased items from stock
- 2.8 complete all purchase records.

## Unit 005

## Carry out quality audits in food operations

<b>UAN:</b>	L/602/4699
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	9
<b>Relationship to NOS:</b>	This unit is linked to the QI.119S Carry out quality audits in food manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who carry out quality audits in a food business.</p> <p>The unit is designed for use primarily by team leaders and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, carrying out quality audits in food operations. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by at least two observations of performance in the workplace, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>



**Learning outcome**

The learner will:

- 1 be able to prepare for quality audits

**Assessment criteria**

The learner can:

- 1.1 give auditees the required notice period of the intention to audit
- 1.2 confirm responsibilities and procedures which apply to the work of an auditor.

**Learning outcome**

The learner will:

- 2 be able to audit compliance against quality systems

**Assessment criteria**

The learner can:

- 2.1 carry out quality audits according to an agreed plan and schedule
- 2.2 agree corrective action and the date by which it should be carried out with auditees
- 2.3 complete records in accordance with agreed procedures
- 2.4 make appropriate recommendations for improvements to procedures to relevant people.

**Learning outcome**

The learner will:

- 3 be able to complete post quality audit actions

**Assessment criteria**

The learner can:

- 3.1 make quality audit reports to authorised people in accordance with procedures
- 3.2 report discrepancies which hold serious or immediate risks for the business or organisation to relevant people
- 3.3 check with auditees that corrective action has been carried out by the agreed dates
- 3.4 report any persistent problems in achieving compliance with quality systems to relevant people.

## Unit 006

## Carry out sampling for quality control in food operations

<b>UAN:</b>	D/601/8311
<b>Level:</b>	3
<b>Credit value:</b>	2
<b>GLH:</b>	8
<b>Relationship to NOS:</b>	This unit is linked to the QI.105S Carry out sampling for quality control in food manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who carry out sampling for quality control in a food business.</p> <p>The unit is designed for use primarily by team leaders and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, carrying out sampling for quality control in food operations. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by at least two observations of performance in the workplace, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 be able to sample food products to meet sampling requirements

**Assessment criteria**

The learner can:

- 1.1 prepare sampling resources
- 1.2 carry out hygienic sampling
- 1.3 label the samples for traceability
- 1.4 store sample prior to testing
- 1.5 clean sampling tools and equipment.

**Learning outcome**

The learner will:

- 2 be able to maintain integrity of sample

**Assessment criteria**

The learner can:

- 2.1 record information about the sample for traceability purposes
- 2.2 follow instructions to maintain the condition of the sample
- 2.3 protect the sample from sources of contamination.

## Unit 008

## Carry out testing for quality control in food operations

<b>UAN:</b>	L/502/7365
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	11
<b>Relationship to NOS:</b>	This unit is linked to the QI.107S Carry out testing for quality control in food manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who carry out testing for quality control in a food business.</p> <p>The unit is designed for use primarily by team leaders and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, carrying out testing for quality control in food operations. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by at least two observations of performance in the workplace, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 be able to prepare for quality testing

**Assessment criteria**

The learner can:

- 1.1 assemble resources for testing
- 1.2 ensure equipment is ready and calibrated for testing
- 1.3 report variances in equipment or testing
- 1.4 confirm specification for the testing application.

**Learning outcome**

The learner will:

- 2 be able to carry out testing for quality

**Assessment criteria**

The learner can:

- 2.1 check integrity of sample
- 2.2 document sample information
- 2.3 perform tests within agreed specification
- 2.4 record test results
- 2.5 investigate out of specification results
- 2.6 report test deviations to relevant people.

## Unit 018

## Control energy efficiency in food operations

<b>UAN:</b>	A/602/4701
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	13
<b>Relationship to NOS:</b>	This unit is linked to the SF.111S Control energy efficiency in a food environment National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who control energy efficiency in food operations.</p> <p>The unit is designed for use primarily by team leaders/supervisors and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, controlling energy efficiency in food operations. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by at least two observations of performance in the workplace, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 be able to maintain measures that support sustainable energy usage
<b>Assessment criteria</b>
The learner can: 1.1 obtain and interpret the organisation's sustainability targets for own area of responsibility 1.2 ensure production processes and working practices comply with: a. organisational targets b. quality specifications c. legal requirements 1.3 ensure production processes and working practices make efficient use of resources 1.4 monitor the working practices and evaluate energy usage and efficiency.

<b>Learning outcome</b>
The learner will: 2 be able to promote measures that support sustainable energy usage
<b>Assessment criteria</b>
The learner can: 2.1 inform others of their responsibilities in relation to organisational targets to promote energy efficiency 2.2 support others in avoiding energy wastage 2.3 encourage others to overcome barriers, improve working practices and energy efficiency 2.4 provide training to improve energy efficiency.

<b>Learning outcome</b>
The learner will: 3 be able to promote the development of sustainable energy usage
<b>Assessment criteria</b>
The learner can: 3.1 identify and make opportunities to encourage others to adopt more energy-efficient working practices 3.2 develop and communicate to others recommendations for efficiency improvements 3.3 present recommendations that support the further development of sustainable practice: a. at an appropriate time b. with the right level of detail.

## Unit 033

## Control transport efficiency in food operations

<b>UAN:</b>	Y/602/4706
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	16
<b>Relationship to NOS:</b>	This unit is linked to the SF.117S Control transport efficiency in a food environment National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who control transport efficiency in food operations.</p> <p>The unit is designed for use primarily by team leaders/supervisors and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, control transport efficiency in food operations. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by at least two observations of performance in the workplace, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>



<b>Learning outcome</b>
The learner will: 1 be able to maintain measures that support sustainable transport usage
<b>Assessment criteria</b>
The learner can: 1.1 obtain and interpret organisational sustainability targets for own area of responsibility 1.2 ensure working practices comply with: a. organisational targets b. quality specifications c. legal requirements 1.3 ensure transportation makes efficient use of resources 1.4 monitor the working practices and evaluate energy usage and efficiency.

<b>Learning outcome</b>
The learner will: 2 be able to promote measures that support sustainable transport usage
<b>Assessment criteria</b>
The learner can: 2.1 inform others of their responsibilities in relation to organisational targets that promote transport efficiency 2.2 support others to avoid waste 2.3 encourage others to overcome barriers and improve working practices and transport efficiency 2.4 provide training to encourage transport efficiency.

<b>Learning outcome</b>
The learner will: 3 be able to promote the development of sustainable transport
<b>Assessment criteria</b>
The learner can: 3.1 identify and make opportunities to encourage others to adopt more efficient working practices 3.2 develop and communicate to others recommendations for efficiency improvements 3.3 present recommendations that support the further development of sustainable practice: a. at an appropriate time b. with the right level of detail.

## Unit 035

## Control waste minimisation in food operations

<b>UAN:</b>	F/602/4702
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	16
<b>Relationship to NOS:</b>	This unit is linked to the SF.113S Control waste minimisation in a food environment National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who control waste minimisation in food operations.</p> <p>The unit is designed for use primarily by team leader/supervisors and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, who control waste minimisation in food operations. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria.</p> <p>This will be achieved by at least two observations of performance in the workplace, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 be able to maintain measures that support waste minimisation
<b>Assessment criteria</b>
The learner can: 1.1 obtain and interpret organisational sustainability targets for own area of responsibility 1.2 ensure production processes and working practices comply with: a. organisational targets b. quality specifications c. legal requirements 1.3 ensure production processes and working practices make efficient use of resources and avoid waste 1.4 monitor the working practices and evaluate waste levels within own area of responsibility.

<b>Learning outcome</b>
The learner will: 2 be able to promote measures that support waste minimisation
<b>Assessment criteria</b>
The learner can: 2.1 inform others of their responsibilities in relation to organisational targets that promote waste minimisation 2.2 support others to avoid and minimise waste 2.3 encourage others to overcome barriers, improve working practices and reduce waste 2.4 provide training to minimise waste in own area of responsibility.

<b>Learning outcome</b>
The learner will: 3 be able to promote the development of sustainability through waste minimisation
<b>Assessment criteria</b>
The learner can: 3.1 identify and make opportunities to encourage others to adopt more sustainable working practices 3.2 develop and communicate to others recommendations for waste reduction 3.3 present recommendations that support the further development of sustainable practice: a. at an appropriate time b. with the right level of detail.

## Unit 036

## Control water usage in food operations

<b>UAN:</b>	L/602/4704
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	16
<b>Relationship to NOS:</b>	This unit is linked to the SF.115S Control water usage in a food environment National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who control water usage in food operations.</p> <p>The unit is designed for use primarily by team leaders/supervisors and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, control water usage in food operations. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by at least two observations of performance in the workplace, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 be able to maintain measures that support sustainable water usage
<b>Assessment criteria</b>
The learner can: 1.1 obtain and interpret organisational sustainability targets for own area of responsibility 1.2 ensure production processes and working practices comply with: a. organisational targets b. quality specifications c. legal requirements 1.3 ensure production processes and working practices make efficient use of resources in own area of responsibility 1.4 monitor the working practices and evaluate water usage and efficiency in own area of responsibility.

<b>Learning outcome</b>
The learner will: 2 be able to promote measures that support sustainable water usage
<b>Assessment criteria</b>
The learner can: 2.1 inform others of their responsibilities in relation to organisational targets that promote efficient water usage 2.2 support others to avoid wasting water 2.3 encourage others to overcome barriers and improve working practices and water efficiency 2.4 provide training to improve water efficiency.

<b>Learning outcome</b>
The learner will: 3 be able to promote the development of sustainable water usage
<b>Assessment criteria</b>
The learner can: 3.1 identify and make opportunities to encourage others to adopt more water efficient working practices 3.2 develop and communicate to others recommendations for efficiency improvements 3.3 present recommendations that support the further development of sustainable practice: a. at an appropriate time b. with the right level of detail.

## Unit 040

## Design and develop fresh produce products

<b>UAN:</b>	J/503/1608
<b>Level:</b>	3
<b>Credit value:</b>	4
<b>GLH:</b>	30
<b>Relationship to NOS:</b>	This unit is linked to the PP.126S Design and develop fresh produce products National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who design and develop fresh produce products in a food or related business.</p> <p>The unit is designed for use primarily by technicians, development specialists, managers and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, designing and developing fresh produce products. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by at least two observations of performance in the workplace, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 be able to research designs, techniques and materials
<b>Assessment criteria</b>
The learner can: 1.1 review and understand the customer requirements for design and development 1.2 formulate and record structured ideas to outline design and development 1.3 research appropriate records and information and identify useful design features, production techniques and materials 1.4 select designs, techniques and materials for evaluation.

<b>Learning outcome</b>
The learner will: 2 be able to test and evaluate designs, techniques and materials
<b>Assessment criteria</b>
The learner can: 2.1 apply a range of testing methods to test designs, techniques and materials 2.2 evaluate designs, techniques and materials and record findings 2.3 present the results of their evaluation for approval 2.4 comply with regulatory and organisational requirements.

<b>Learning outcome</b>
The learner will: 3 be able to prepare product specification
<b>Assessment criteria</b>
The learner can: 3.1 organise the storage and rotation of ripened produce 3.2 identify and collate information and data to inform the product specification 3.3 produce an accurate product specification which meets customer requirements 3.4 ensure that the product specification meets regulatory and organisational requirements 3.5 present the product specification for approval and storage.

## Unit 041

## Diagnose problems in food operations

<b>UAN:</b>	A/602/4617
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	14
<b>Relationship to NOS:</b>	This unit is linked to the PO.1175 Diagnose problems in a food environment National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who diagnose problems in food operations within a food business.</p> <p>The unit is designed for use primarily by operatives, team leaders, supervisors, technicians and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, when diagnosing problems in food operations. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by presenting relevant evidence of workplace performance, and may be supported by witness testimony and other workplace evidence. Any observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>



**Learning outcome**

The learner will:

- 1 be able to identify problems

**Assessment criteria**

The learner can:

- 1.1 identify differences from normal operating conditions quickly
- 1.2 assess the impact of problems
- 1.3 take action to ensure safety of self and colleagues.

**Learning outcome**

The learner will:

- 2 be able to diagnose problems

**Assessment criteria**

The learner can:

- 2.1 check and follow legal or regulatory requirements for:
  - a. hygiene
  - b. health and safety
  - c. environmental standards
- 2.2 establish the nature, cause and the effect of the problems
- 2.3 investigate problems in a safe and cost-effective manner, with minimum delay or wastage.

**Learning outcome**

The learner will:

- 3 be able to report problems

**Assessment criteria**

The learner can:

- 3.1 communicate problems to the relevant person
- 3.2 complete and process all records.

## Unit 048

# Maintain, promote and improve environmental good practice in food operations

<b>UAN:</b>	H/602/1713
<b>Level:</b>	3
<b>Credit value:</b>	2
<b>GLH:</b>	10
<b>Relationship to NOS:</b>	This unit is linked to the HS.203S Maintain, promote and improve environmental good practice in food manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who maintain, promote and improve environmental good practice in a food business.</p> <p>The unit is designed for use primarily by team leaders and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, maintaining, promoting and improving environmental good practice in food operations. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by at least two observations of performance in the workplace, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 be able to maintain environmental good practice

**Assessment criteria**

The learner can:

- 1.1 comply with environmental good practice
- 1.2 monitor the working practice of others to evaluate their impact on the environment
- 1.3 follow correct procedures when dealing with environmental damage.

**Learning outcome**

The learner will:

- 2 be able to promote and improve environmental good practice

**Assessment criteria**

The learner can:

- 2.1 inform and encourage others to maintain good environmental workplace practice
- 2.2 evaluate work practices seeking areas for improvements
- 2.3 present clear and detailed recommendations to the relevant person
- 2.4 complete and process documentation.

## Unit 049

# Manage organisational change for achieving excellence in food operations

<b>UAN:</b>	L/602/5075
<b>Level:</b>	3
<b>Credit value:</b>	4
<b>GLH:</b>	21
<b>Relationship to NOS:</b>	This unit is linked to the QI.224S Manage organisational change for achieving excellence in a food environment National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who manage organisational change for achieving excellence in a food business.</p> <p>The unit is designed for use primarily by operatives, team leaders, supervisors, technicians and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, managing organisational change for achieving excellence in food operations. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by presenting relevant evidence of workplace performance, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 be able to prepare for managing organisational change

**Assessment criteria**

The learner can:

- 1.1 identify how plan for change fit with the overall achieving excellence strategy
- 1.2 identify the specific achieving excellence plans for change
- 1.3 confirm the key objectives and scope of the plans for change with relevant colleagues and any stakeholders
- 1.4 identify available resources
- 1.5 make any final changes to plans where necessary and confirm with relevant people.

**Learning outcome**

The learner will:

- 2 be able to manage organisational change

**Assessment criteria**

The learner can:

- 2.1 apply processes and resources to manage potential risks arising from the change and deal with contingencies
- 2.2 implement the change plan
- 2.3 select and apply a range of management tools and techniques to monitor, control and review progress
- 2.4 identify any required changes to the plan and obtain agreement from relevant people where necessary
- 2.5 achieve plan for change objectives using the agreed level of resources
- 2.6 confirm completion of the plan for change with relevant people and stakeholders.

**Learning outcome**

The learner will:

- 3 be able to communicate plans for organisational change

**Assessment criteria**

The learner can:

- 3.1 brief any change team members on the plans for change, detailing their roles and responsibilities
- 3.2 provide ongoing support, encouragement and information to any change team members
- 3.3 communicate progress to relevant people, stakeholders and members of any change team on a regular basis
- 3.4 seek feedback on the value of own contribution to change management
- 3.5 provide feedback on the value of own contribution to the relevant person.

<b>Learning outcome</b>
The learner will: 4 be able to monitor plans for organisational change
<b>Assessment criteria</b>
The learner can: 4.1 evaluate the success of the change programme 4.2 identify what lessons can be learned, recognising contributions of any team members and other colleagues 4.3 review the impact of change.

## Unit 050

## Manage the fresh produce ripening process

<b>UAN:</b>	T/503/1605
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	15
<b>Relationship to NOS:</b>	This unit is linked to the PP.1225 Manage the fresh produce ripening process National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who manage the fresh produce ripening process in a food or related business.</p> <p>The unit is designed for use primarily by managers and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, managing the fresh produce ripening process. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by at least two observations of performance in the workplace, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 be able to manage the forecasted ripening of fresh produce
<b>Assessment criteria</b>
The learner can: 1.1 ensure forecasting is managed according to regulatory and organisational requirements 1.2 obtain the forecasted ripening requirements 1.3 implement advanced ripening trials to detect potential quality issues 1.4 organise the facilities and resources required to complete forecasted ripening including: a. equipment b. personnel c. time d. materials.

<b>Learning outcome</b>
The learner will: 2 be able to manage the fresh produce ripening process
<b>Assessment criteria</b>
The learner can: 2.1 communicate the requirements of the ripening process to all those involved in its implementation 2.2 ensure that produce is established within the ripening facilities under the required environmental conditions 2.3 monitor and maintain the ripening process to achieve required forecasted ripening 2.4 collect management information to demonstrate performance of the ripening process, and to manage the ripening process 2.5 ensure that working practices maintain the quality of produce throughout the ripening process 2.6 investigate potential or actual variations from forecasted ripening, and take action to minimise disruption to the ripening process.

<b>Learning outcome</b>
The learner will: 3 be able to manage the storage and waste control of fresh produce ripening
<b>Assessment criteria</b>
The learner can: 3.1 organise the storage and rotation of ripened produce 3.2 minimise and control the disposal of waste according to organisational procedures 3.3 maintain records of the ripening process.



## Unit 051

## Manage the long term storage of fresh produce

<b>UAN:</b>	D/503/1615
<b>Level:</b>	3
<b>Credit value:</b>	2
<b>GLH:</b>	15
<b>Relationship to NOS:</b>	This unit is linked to the PP.1315 Manage the long term storage of fresh produce National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who manage the long term storage of fresh produce in a food or related business.</p> <p>The unit is designed for use primarily by managers and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, managing the long term storage of fresh produce. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by at least two observations of performance in the workplace, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 be able to manage the establishment of fresh produce in long term storage
<b>Assessment criteria</b>
The learner can: 1.1 manage storage according to regulatory and organisational requirements 1.2 specify storage requirements for fresh produce 1.3 organise the resources required to complete planned storage 1.4 ensure storage facilities are prepared and ready for the receipt of fresh produce 1.5 assess the characteristics of fresh produce to verify suitability for long term storage 1.6 monitor the preparation and loading of produce to ensure that the required storage conditions can be achieved 1.7 establish required environmental conditions within storage.

<b>Learning outcome</b>
The learner will: 2 be able to manage the long term storage of fresh produce
<b>Assessment criteria</b>
The learner can: 2.1 manage storage according to regulatory and organisational requirements 2.2 organise the collection of management information to monitor produce quality and environmental conditions within storage 2.3 ensure on-going compliance with required storage requirements 2.4 investigate potential or actual variations from planned storage, and take action to minimise impact 2.5 control the un-loading of produce from storage 2.6 maintain records of storage to enable accurate traceability.

## Unit 052

# Monitor and control quality of work activities in food operations

<b>UAN:</b>	M/502/7407
<b>Level:</b>	3
<b>Credit value:</b>	2
<b>GLH:</b>	18
<b>Relationship to NOS:</b>	This unit is linked to the QI.109S Monitor and control quality of work activities in food manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who monitor and control quality of work activities in a food business.</p> <p>The unit is designed for use primarily by team leaders and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, monitoring and controlling quality of work activities in food operations. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by at least two observations of performance in the workplace, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 be able to carry out activities to ensure quality results are achieved

**Assessment criteria**

The learner can:

- 1.1 check that there are sufficient resources available to complete work activities within own area of responsibility
- 1.2 monitor consistently the variances in work activities against specifications
- 1.3 complete all relevant quality checks.

**Learning outcome**

The learner will:

- 2 be able to report on quality of work activities against specifications

**Assessment criteria**

The learner can:

- 2.1 report all instances of non-compliance accurately and promptly to relevant people
- 2.2 action opportunities for improvement in work activities to relevant people
- 2.3 assess implications of changes on quality control mechanisms
- 2.4 access information from appropriate sources to support your report and recommendations
- 2.5 complete quality records accurately and in line with operational procedures.

## Unit 053

# Monitor and control throughput to achieve targets in food operations

<b>UAN:</b>	F/602/4697
<b>Level:</b>	3
<b>Credit value:</b>	2
<b>GLH:</b>	9
<b>Relationship to NOS:</b>	This unit is linked to the QI.110S Monitor and control throughput to achieve targets in food manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who monitor and control throughput to achieve targets in a food business.</p> <p>The unit is designed for use primarily by team leaders and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, monitoring and controlling throughput to achieve targets in food operations. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by at least two observations of performance in the workplace, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 be able to monitor and control throughput to achieve targets

**Assessment criteria**

The learner can:

- 1.1 organise work to meet predetermined schedules, targets and make effective use of resources
- 1.2 record the volume of throughput in line with operational requirements
- 1.3 record production run output targets within the agreed operational parameters
- 1.4 investigate output targets within the operational parameters.

**Learning outcome**

The learner will:

- 2 be able to take action to resolve problems affecting volume of throughput

**Assessment criteria**

The learner can:

- 2.1 identify problems affecting the volume of throughput
- 2.2 take corrective action to rectify and minimise the effects of the problems
- 2.3 report problems, which exceed the limits of own authority, to the relevant people
- 2.4 resolve problems that fall within own limits of responsibility.

## Unit 054

## Monitor and control waste disposal in food operations

<b>UAN:</b>	T/602/0646
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	15
<b>Relationship to NOS:</b>	This unit is linked to the SO.305S Monitor and control the recovery of by-products and waste disposal in food manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who monitor and control waste disposal in a food business.</p> <p>The unit is designed for use primarily by team leaders and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, monitoring and controlling waste disposal in food operations. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by at least two observations of performance in the workplace, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 be able to organise and control the storage and handling of waste
<b>Assessment criteria</b>
The learner can: 1.1 deposit separated waste into the specified storage locations in accordance with operational and statutory requirements 1.2 maintain waste storage areas and monitor them so that the specified levels are not exceeded 1.3 check that storage conforms to operational and statutory requirements 1.4 handle separated waste in ways which eradicate: a. the risks of cross-contamination b. environmental nuisance c. reduction of the commercial value of the waste d. breach of statutory requirements 1.5 complete the documentation and make it available to the relevant people.

<b>Learning outcome</b>
The learner will: 2 be able to organise and control the disposal of waste and despatch of by-products
<b>Assessment criteria</b>
The learner can: 2.1 organise their own and others' work practices to enable the despatch of by-products and the disposal of waste to be carried out in accordance with operational and statutory requirements 2.2 take corrective action when problems occur within the limits of own authority, and report the actions taken to the relevant people 2.3 dispatch by-products to their specified destinations in accordance with operational and statutory requirements 2.4 dispose of waste in accordance with operational and statutory requirements 2.5 handle by-products and waste in ways which eradicate the risks of cross-contamination and non-conformance to operational and statutory requirements 2.6 complete the documentation and make it available to the relevant people.



## Unit 055

## Monitor food safety at critical control points in operations

<b>UAN:</b>	H/602/5826
<b>Level:</b>	3
<b>Credit value:</b>	1
<b>GLH:</b>	5
<b>Relationship to NOS:</b>	This unit is linked to the FS.1085 Monitor food safety at critical control points in manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who monitor food safety at critical control points in a food or animal feed business.</p> <p>The unit is designed for use primarily by team leaders and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, monitoring food safety at critical control points in operations or animal feed production. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by at least two observations of performance in the workplace, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 be able to identify and monitor critical control points

**Assessment criteria**

The learner can:

- 1.1 apply food safety control measures
- 1.2 complete operational controls and checks at the set time frequency
- 1.3 keep records of checks and obtain verification of completed checks.

**Learning outcome**

The learner will:

- 2 be able to take corrective action when control measures fail

**Assessment criteria**

The learner can:

- 2.1 take corrective action in a timely manner
- 2.2 seek advice and support for matters outside own level of authority or expertise
- 2.3 report specifications or procedures that are out of line with set limits to the relevant person.

## Unit 056

# Monitor health, safety and environmental systems in food operations

<b>UAN:</b>	K/602/5827
<b>Level:</b>	3
<b>Credit value:</b>	2
<b>GLH:</b>	12
<b>Relationship to NOS:</b>	This unit is linked to the HS.307S Monitor health, safety and environmental systems National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who monitor health, safety and environmental systems in a food business.</p> <p>The unit is designed for use primarily by team leaders and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, monitoring health, safety and environmental systems in food operations. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by at least two observations of performance in the workplace, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 be able to implement compliance systems

**Assessment criteria**

The learner can:

- 1.1 implement health, safety and environmental monitoring systems in limits of own authority
- 1.2 monitor conditions to ensure health, safety and environmental system requirements are met.

**Learning outcome**

The learner will:

- 2 be able to undertake operational audits

**Assessment criteria**

The learner can:

- 2.1 undertake health, safety and environmental management audits of operations
- 2.2 take corrective action when required
- 2.3 report outcomes of monitoring to relevant people
- 2.4 maintain records in accordance with organisational and statutory requirements.

**Learning outcome**

The learner will:

- 3 be able to make recommendations for improvements to systems

**Assessment criteria**

The learner can:

- 3.1 recommend ways to improve health, safety and environmental management systems
- 3.2 disseminate information about improvements to the relevant people
- 3.3 ensure that information provided enables people to implement improvements.

## Unit 057

## Monitor product quality in food operations

<b>UAN:</b>	Y/602/1692
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	20
<b>Relationship to NOS:</b>	This unit is linked to the QI.103S Monitor product quality in food manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who monitor product quality in a food business.</p> <p>The unit is designed for use primarily by a food manufacturing supervisor and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, monitoring product quality in food operations. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by at least two observations of performance in the workplace, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 be able to monitor product quality

**Assessment criteria**

The learner can:

- 1.1 wear appropriate personal protective clothing and equipment during quality monitoring
- 1.2 identify and report factors which may adversely affect product quality
- 1.3 identify and report to the relevant people instances of non-conformance to quality standards
- 1.4 take action to reject or isolate products or items which do not conform to specification.

**Learning outcome**

The learner will:

- 2 be able to contribute to resolving quality problems

**Assessment criteria**

The learner can:

- 2.1 seek advice on quality problems outside own authority or expertise
- 2.2 offer support to, or seek help for, colleagues who encounter quality problems
- 2.3 evaluate quality problems within the limits of own expertise and understanding
- 2.4 feedback to the relevant people observations on quality
- 2.5 receive and confirm instructions for the resolution of quality problems
- 2.6 carry out agreed action to resolve quality problems and feedback results to the relevant people
- 2.7 communicate with others to ensure that resolutions to quality problems are understood.

## Unit 060

## Plan production schedules in food manufacture

<b>UAN:</b>	J/502/7414
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	21
<b>Relationship to NOS:</b>	This unit is linked to the PM.105S Plan production schedules in food manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who plan production schedules in a food manufacturing business.</p> <p>The unit is designed for use primarily by food manufacturing supervisors and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, when planning production schedules in food manufacture. It needs to be assessed on the job.</p> <p>The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by at least two observations of performance in the workplace, and may be supported by witness testimony and other workplace evidence. Observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 be able to manage work in teams
<b>Assessment criteria</b>
The learner can: 1.1 set work objectives for the team 1.2 give the team opportunities to take responsibility for their own work and assist with the planning process.

<b>Learning outcome</b>
The learner will: 2 be able to allocate resources to meet production plans
<b>Assessment criteria</b>
The learner can: 2.1 ensure the requirements of the production plans are clear 2.2 produce schedules which are consistent with: a. production plans b. management priorities and objectives c. legal and standard operating requirements 2.3 produce schedules which make cost-effective use of available resources within given constraints 2.4 seek advice from the relevant people if production schedules appear to conflict with legal requirements and/or organisational objectives.

<b>Learning outcome</b>
The learner will: 3 be able to ensure availability of resources to meet production plans
<b>Assessment criteria</b>
The learner can: 3.1 keep colleagues informed of production schedules, and particularly any changes, to ensure they can plan their work 3.2 confirm that equipment required is available and in good working order before production starts 3.3 confirm that the specified type and volume of materials are available, in the specified location for production 3.4 ensure that all equipment and materials are ready for use and conform to legal and standard operational requirements 3.5 confirm that the required number of staff, with the appropriate skills and knowledge, are available 3.6 inform the relevant people immediately if lack of resources will affect production output.



<b>Learning outcome</b>
The learner will: 4 be able to avoid production problems
<b>Assessment criteria</b>
The learner can: 4.1 report all damage and faults, with recommendations for corrective action 4.2 manage risk and ensure a hazard-free workplace.

<b>Learning outcome</b>
The learner will: 5 be able to avoid production problems
<b>Assessment criteria</b>
The learner can: 5.1 maintain all records relating to resources and ensure they are available to management 5.2 monitor record and report on all instances of non-compliance with quality requirements.

## Unit 061

## Plan, allocate and monitor work of a team

<b>UAN:</b>	Y/600/9669
<b>Level:</b>	3
<b>Credit value:</b>	5
<b>GLH:</b>	25
<b>Relationship to NOS:</b>	This unit is linked to the MSC D5 Allocate and check work in your team National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	This unit is about planning, allocating and monitoring the work of a team.

<b>Learning outcome</b>
The learner will: 1 be able to plan work for a team
<b>Assessment criteria</b>
The learner can: 1.1 agree team objectives with own manager 1.2 develop a plan for a team to meet agreed objectives, taking into account capacity and capabilities of the team.

<b>Learning outcome</b>
The learner will: 2 be able to allocate work across a team
<b>Assessment criteria</b>
The learner can: 2.1 discuss team plans with a team 2.2 agree work allocation and SMART (Specific, Measurable, Achievable, Realistic and Time-bound) objectives with team members 2.3 agree standard of work required by team.

<b>Learning outcome</b>
The learner will: 3 be able to manage team members to achieve team objectives.
<b>Assessment criteria</b>
The learner can: 3.1 support all team members in order to achieve team objectives.

<b>Learning outcome</b>
The learner will: 4 be able to monitor and evaluate the performance of team members
<b>Assessment criteria</b>
The learner can: 4.1 assess team members' work against agreed standards and objectives 4.2 identify and monitor conflict within a team 4.3 identify causes for team members not meeting team objectives.

<b>Learning outcome</b>
The learner will: 5 be able to improve the performance of a team.
<b>Assessment criteria</b>
The learner can: 5.1 identify ways of improving team performance 5.2 provide constructive feedback to team members to improve their performance 5.3 implement identified ways of improving team performance.

## Unit 064

## Principles of achieving excellence in food operations

<b>UAN:</b>	D/601/9944
<b>Level:</b>	4
<b>Credit value:</b>	4
<b>GLH:</b>	33
<b>Relationship to NOS:</b>	This unit is linked to the QI.323K Principles of achieving excellence in a food environment National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of achieving excellence in food manufacturing or supply operations, or in a learning environment.</p> <p>The unit is designed for use primarily by managers, technicians and others who carry out these FME workplace activities. It is also designed for those who plan to enter the food and drink industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of achieving excellence in food manufacturing or supply operations. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 understand food manufacturing excellence (fme)
<b>Assessment criteria</b>
The learner can: 1.1 explain the principle of continuous improvement and its importance within FME 1.2 analyse the role of quality improvement methodologies and their importance within FME including: a. Six Sigma b. Total Quality Management (TQM) c. Kaizen 1.3 analyse the role of quality improvement tools and their importance within FME 1.4 clarify the role of sustainable improvement management systems and their importance within FME including: a. change management b. people and team development c. organisational culture 1.5 summarise the main components of a FME approach that can provide sustainable and continuous productivity improvement 1.6 define the vision, purpose and scope of FME within own or a typical food sector organisation.

<b>Learning outcome</b>
The learner will: 2 understand how food manufacturing excellence (fme) can be achieved
<b>Assessment criteria</b>
The learner can: 2.1 justify how an FME approach is best developed and implemented to maximise organisational advantage 2.2 explain the importance and roles of a FME strategy and implementation/action plan to steer improvement within the business 2.3 analyse how best to drive FME implementation/utilisation using continuous improvement and organisational development managers and teams 2.4 summarise how quality improvement methodologies are best identified, utilised and evaluated within the business 2.5 summarise how quality improvement tools are best identified, utilised and evaluated within the business 2.6 justify at what level and how key decisions are best made within FME implementation/utilisation 2.7 clarify the role of senior management in FME implementation/utilisation.

**Learning outcome**

The learner will:

- 3 understand the business outputs and benefits of food manufacturing excellence (fme)

**Assessment criteria**

The learner can:

- 3.1 review the importance of identifying and measuring outputs and benefits in FME
- 3.2 evaluate how outputs are best identified, set and measured in FME
- 3.3 summarise the short term benefits which can be achieved by FME
- 3.4 summarise the medium to long term benefits which can be achieved by FME
- 3.5 clarify how benefits are best justified and promoted to support organisational credibility
- 3.6 explain the critical importance of FME to business efficiency, success and sustainability.

## Unit 065

## Principles of appearance and texture in food technology

<b>UAN:</b>	K/602/4502
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	23
<b>Relationship to NOS:</b>	This unit is linked to the FT.115K Principles of appearance and texture in food technology National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of appearance and texture in food technology, in a food environment or in a learning environment.</p> <p>The unit is designed for use primarily by managers and others who carry out these workplace activities. It is also designed for those who plan to enter the food and drink industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of appearance and texture in food technology. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 understand the role of appearance and texture in food and drink products

**Assessment criteria**

the learner can:

- 1.1 detail the role of appearance and texture
- 1.2 identify the factors that influence appearance and texture
- 1.3 explain the importance of appearance to consumer acceptance
- 1.4 describe how product appearance and texture is influenced by different components
- 1.5 describe how raw material quality can influence appearance and texture.

**Learning outcome**

The learner will:

- 2 understand the importance of quality in the appearance and texture of food and drink products

**Assessment criteria**

the learner can:

- 2.1 identify the types of sensory methods used to assess appearance and texture
- 2.2 explain how processing activities influence the appearance and texture
- 2.3 outline the processes, facilities and equipment that are required to assess the appearance and texture
- 2.4 detail the common quality problems that can occur with product appearance and texture
- 2.5 describe how appearance and texture quality problems can be rectified
- 2.6 describe the role of appearance and texture assessment in quality assurance systems.



## Unit 066

## Principles of aseptic packaging in food technology

<b>UAN:</b>	L/602/4556
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	20
<b>Relationship to NOS:</b>	This unit is linked to the FT.151K Principles of aseptic packaging in food technology National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of aseptic packaging in food technology, in food operations or in a learning environment.</p> <p>The unit is designed for use primarily by managers and others who carry out these workplace activities. It is also designed for those who plan to enter the food and drink industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of aseptic packaging in food technology. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 understand the definition and hermetic sealing of aseptic packaging

**Assessment criteria**

The learner can:

- 1.1 explain the definition of aseptic packaging
- 1.2 explain the importance of hermetically sealing aseptic products
- 1.3 describe how hermetic sealing is carried out.

**Learning outcome**

The learner will:

- 2 understand the uht milk processing as an example of aseptic packaging technology

**Assessment criteria**

The learner can:

- 2.1 describe how Ultra-High Temperature (UHT) milk is processed
- 2.2 critically compare the advantages of UHT milk treatments over traditional in-bottle long process sterilisation techniques
- 2.3 explain how uperization achieves rapid milk sterilization.

**Learning outcome**

The learner will:

- 3 understand sterilisation in food technology

**Assessment criteria**

The learner can:

- 3.1 explain how sterilisation is carried out in the production of
  - a. aseptic soups
  - b. ice-cream mixtures
  - c. custards
- 3.2 explain how sterilisation is carried out in the production of aseptic soft drinks
- 3.3 evaluate the use of micro-filters for the sterilisation of heat sensitive food products.

## Unit 067

## Principles of bar coding in food operations

<b>UAN:</b>	D/602/4562
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	20
<b>Relationship to NOS:</b>	This unit is linked to the FT.152K Principles of bar coding in a food and drink National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of bar coding, in a food environment or in a learning environment.</p> <p>The unit is designed for use primarily by managers and others who carry out these workplace activities. It is also designed for those who plan to enter the food and drink industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of bar coding in food and drink. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 understand the form and data capture of bar codes

**Assessment criteria**

The learner can:

- 1.1 describe the form and structure of a bar code
- 1.2 explain how bar coding stores product data
- 1.3 explain the different types of bar code used for food and drink products.

**Learning outcome**

The learner will:

- 2 understand the infrastructure required to implement and maintain bar coding

**Assessment criteria**

The learner can:

- 2.1 summarise the systems, equipment and processes that are required to implement bar coding systems
- 2.2 explain the role of bar coding in product traceability and stock control from food producer to consumer
- 2.3 outline the processes, facilities and equipment that are required to bar code food and drink products.

**Learning outcome**

The learner will:

- 3 understand the organisation and control of bar coding

**Assessment criteria**

The learner can:

- 3.1 describe the organisation and control of the bar coding processes
- 3.2 evaluate the risks associated with inaccurate bar coding
- 3.3 explain common quality problems associated with the bar coding process
- 3.4 explain how to develop contingency processes for dealing with product that has been incorrectly bar coded
- 3.5 explain the quality assurance systems required to support bar coding processes
- 3.6 summarise the recording and reporting systems that are needed to support bar coding in food and drink production.

## Unit 068

## Principles of canning in food technology

<b>UAN:</b>	F/502/7430
<b>Level:</b>	3
<b>Credit value:</b>	4
<b>GLH:</b>	30
<b>Relationship to NOS:</b>	This unit is linked to the FT.150K Principles of canning in food technology National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of canning in food technology, in food operations or in a learning environment.</p> <p>The unit is designed for use primarily by managers and others who carry out these workplace activities. It is also designed for those who plan to enter the food and drink industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of canning in food technology. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 understand the preparation for canning and the importance of canning
<b>Assessment criteria</b>
The learner can: 1.1 explain the purpose of food washing/cleaning and food size reduction in preparation for canning 1.2 evaluate why some fruits and most vegetables are blanched before canning 1.3 summarise the importance of canning as a food preservation technique 1.4 explain why canning is a bactericidal process.

<b>Learning outcome</b>
The learner will: 2 understand how canning is carried out and the acceptable standards of sterility required
<b>Assessment criteria</b>
The learner can: 2.1 describe how to carry out and what equipment is used in the filling, vacuum treatment and sealing of cans 2.2 summarise how the toxin of Clostridium botulinum can be used as an indicator of heat resistant spores and toxins in the canning process 2.3 explain the standards of commercial sterility which are acceptable to canning of foods 2.4 explain the importance of the decimal reduction time or d value, in the canning process 2.5 explain the definition and importance of the f value in canning different types of foods.

<b>Learning outcome</b>
The learner will: 3 understand heat penetration, cooling and labelling during canning
<b>Assessment criteria</b>
The learner can: 3.1 explain how heat penetration into cans differs in solid pack and liquid pack canning 3.2 explain how the heating process is carried out and what retort equipment is used 3.3 explain how the cooling process is carried out and what equipment is used 3.4 describe how cans are labelled, where the cans are not previously printed.

**Learning outcome**

The learner will:

- 4 understand spoilage and the competition canning faces from other preservation technologies

**Assessment criteria**

The learner can:

- 4.1 explain what the causes of spoilage are in canned foods
- 4.2 analyse why the canning of foods has been affected by newer food preservation and packing technologies like freezing and the production of pouches of foil, plastics and laminates.

## Unit 069

## Principles of cleaning raw food materials

<b>UAN:</b>	T/602/4552
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	22
<b>Relationship to NOS:</b>	This unit is linked to the FT.142K Principles of cleaning raw food materials National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of cleaning raw food materials, in food operations or in a learning environment.</p> <p>The unit is designed for use primarily by managers and others who carry out these workplace activities. It is also designed for those who plan to enter the food and drink industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of cleaning raw food materials. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>



**Learning outcome**

The learner will:

- 1 understand the rationale for cleaning and separation technology

**Assessment criteria**

The learner can:

- 1.1 compare the advantages and disadvantages of using mechanised picking machines to hand picking raw food materials
- 1.2 explain the rationale for cleaning raw food materials after harvesting
- 1.3 summarise the multistage separation methodology used for the cleaning of raw food materials
- 1.4 explain how combinations of cleaning methods can be used to obtain the optimum results for specific raw food materials.

**Learning outcome**

The learner will:

- 2 understand the processes for cleaning raw food materials without using water

**Assessment criteria**

The learner can:

- 2.1 summarise which raw food materials are best cleaned without using water
- 2.2 explain why some raw materials are best cleaned without water
- 2.3 explain the characteristics of, and equipment used in, the processes for separating raw material from contaminants including:
  - a. continuous drum screening
  - b. aspiration process
- 2.4 outline how metal detectors and magnets are used to identify and remove metal contaminants from raw materials.

**Learning outcome**

The learner will:

- 3 understand the processes for cleaning raw food materials using water

**Assessment criteria**

The learner can:

- 3.1 summarise which raw food materials are best cleaned using water
- 3.2 explain why specific raw good materials can be soaked or agitated in water as a preliminary treatment to cleaning
- 3.3 explain how spray washing is used to clean raw materials
- 3.4 explain the characteristics of, and equipment used in the floatation washing process for separating raw material from contaminants.

## Unit 070

# Principles of continuous improvement techniques (Kaizen) in food operations

<b>UAN:</b>	F/601/2954
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	15
<b>Relationship to NOS:</b>	This unit is linked to the QI.207K Principles of continuous improvement techniques (Kaizen) in a food environment National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of continuous improvement techniques (Kaizen) in food operations or in a learning environment.</p> <p>The unit is designed for use primarily by manager, technicians and others who carry out these workplace activities. It is also designed for those who plan to enter the food and drink industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised national occupational standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of continuous improvement techniques (Kaizen) in food operations. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 understand the features, importance of kaizen activity
<b>Assessment criteria</b>
The learner can: 1.1 explain how the health, safety and hygiene requirements of a work area can influence a Kaizen activity 1.2 summarise the main features of a Kaizen activity and the establishment of measurable improvements 1.3 evaluate the importance of encouraging people to identify continuous improvements 1.4 explain the evaluation of improvement ideas and selection of those that are to be pursued 1.5 explain the function of standard operating procedures and specifications 1.6 clarify the resources required to support production schedules and specifications 1.7 describe why it is important to be clear about the levels of authority of personnel linked to problem resolution.

<b>Learning outcome</b>
The learner will: 2 understand the criteria and requirements for kaizen and problem solving
<b>Assessment criteria</b>
The learner can: 2.1 explain the criteria used to select an area/processing activity for Kaizen activity 2.2 explain the importance of understanding the food process and/or activity under review 2.3 summarise the requirements for the deployment of Kaizen, and the resources required by the activity 2.4 explain the importance of waste in Kaizen activity and why inventory control is important to waste reduction 2.5 explain how root cause analysis can support problem solving 2.6 explain how own knowledge of food processing activities can support problem solving.

**Learning outcome**

The learner will:

- 3 understand how to interact with kaizen activity

**Assessment criteria**

The learner can:

- 3.1 explain the application of the Deming cycle (plan, do, check, act)
- 3.2 explain how to engage the knowledge and experience of the people involved in the process in the development of improvement activities
- 3.3 explain how to separate facts and opinions about the food operations and how these affect improvement actions
- 3.4 explain the techniques used to visually communicate the work of the Kaizen activity to participants and others
- 3.5 explain how to use calculations for identifying the required production rate for a process
- 3.6 summarise the cycle time of a process
- 3.7 explain the techniques used to distribute work content to balance cycle times to the rate of customer demand, and how to visually represent it including:
  - a. line balance
  - b. process displays.

## Unit 071

## Principles of energy efficiency in food operations

<b>UAN:</b>	H/601/9685
<b>Level:</b>	4
<b>Credit value:</b>	4
<b>GLH:</b>	24
<b>Relationship to NOS:</b>	This unit is linked to the SF.104K Principles of energy efficiency in a food environment National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of energy efficiency, in food operations or in a learning environment.</p> <p>The unit is designed for use primarily by managers and others who carry out these workplace activities. It is also designed for those who plan to enter the food and drink industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of energy efficiency in food operations. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 understand the principles of energy efficiency
<b>Assessment criteria</b>
The learner can: 1.1 explain how energy consumption impacts on climate change 1.2 explain the role of energy efficiency in achieving sustainability 1.3 explain how energy efficiency can help reduce carbon emissions 1.4 describe the benefits of: a. low-carbon energy b. energy efficiency.

<b>Learning outcome</b>
The learner will: 2 understand the factors influencing the setting of energy efficiency targets
<b>Assessment criteria</b>
The learner can: 2.1 explain climate change legislation and how it controls organisational energy usage 2.2 describe the government targets and legal requirements for carbon reduction and climate change and their implications in food operations 2.3 explain how to use carbon footprints as a measure of energy efficiency 2.4 explain the principles of energy efficiency benchmarking as a method of identifying opportunities for improving energy efficiency 2.5 explain how to establish current levels of energy usage for all organisational activities 2.6 describe the areas of energy usage and opportunities for improving energy efficiency 2.7 explain how to develop targets for energy efficiency.

<b>Learning outcome</b>
The learner will: 3 understand the factors influencing support for energy efficiency
<b>Assessment criteria</b>
The learner can: 3.1 describe the methods for promoting organisational energy efficiencies 3.2 explain how to define and allocate roles and responsibilities for all those involved in improving energy efficiency 3.3 explain how to identify training needs and organise staff training to support the more efficient use of energy.

**Learning outcome**

The learner will:

- 4 understand the factors influencing the achievement of energy efficiency

**Assessment criteria**

The learner can:

- 4.1 describe the sources of low-carbon energy, including options for on-site energy generation
- 4.2 explain how to monitor and control energy efficiency
- 4.3 describe the barriers that can limit energy efficiency and the strategies that can be used to overcome these barriers
- 4.4 explain how process and product design can impact on energy efficiency
- 4.5 explain how process control and quality assurance can support energy efficiency
- 4.6 explain how to monitor, control and maintain sustainable energy usage.

**Learning outcome**

The learner will:

- 5 understand the factors necessary to assess the effectiveness of energy efficiency initiatives

**Assessment criteria**

The learner can:

- 5.1 explain how to evaluate the impact of measures to improve energy efficiency
- 5.2 explain how to complete an organisational cost/benefit analysis in respect to energy efficiency measures.

## Unit 072

## Principles of flavours in food technology

<b>UAN:</b>	M/602/4503
<b>Level:</b>	3
<b>Credit value:</b>	4
<b>GLH:</b>	36
<b>Relationship to NOS:</b>	This unit is linked to the FT.116K Principles of flavours in food technology National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of flavours in food technology, in food operations or in a learning environment.</p> <p>The unit is designed for use primarily by managers and others who carry out these workplace activities. It is also designed for those who plan to enter the food and drink industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of flavours in food technology. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>



<b>Learning outcome</b>
The learner will: 1 understand the principles of taste flavours
<b>Assessment criteria</b>
The learner can: 1.1 explain how the salt flavour produced by taste is a property of electrolytes 1.2 review how the saltiness taste can relate to the type of salt including: a. chloride b. bromide c. iodide d. sulphate e. nitrate f. partner metals 1.3 explain how low-molecular carbohydrates produce a sweet taste 1.4 describe the structure and sweet characteristics of saccharin and aspartame 1.5 explain how acid flavour is a property of the hydrogen ion derived from acids 1.6 explain how the bitterness taste is a property of alkaloids, and substances containing magnesium, calcium and ammonium ion.

<b>Learning outcome</b>
The learner will: 2 understand the principles of odour flavours
<b>Assessment criteria</b>
The learner can: 2.1 explain how food flavours produced by odours are composed of complex mixtures of hydrocarbons, alcohols, acids, aldehydes, ketones and esters 2.2 explain how natural food flavours can be extracted from special oil sacs in fruits and vegetables as 'essential oils' 2.3 describe the sources of the most common range of essential oils.

**Learning outcome**

The learner will:

- 3 understand the chemical structure and characteristics of flavours

**Assessment criteria**

The learner can:

- 3.1 describe the structure and characteristics of the isoprene based terpenoids
- 3.2 explain why the monoterpenes are the most common flavours and have the strongest odours
- 3.3 describe the structure and characteristics monoterpenes including:
  - a. acyclic monoterpenes
  - b. monocyclic monoterpenes
  - c. bicyclic monoterpenes
- 3.4 explain which synthetic alcohols, aldehydes, ketones and esters are used for fruit flavouring
- 3.5 explain the structure and characteristics of the sulphur containing compounds which provide the flavour of onions and cabbage
- 3.6 explain the sensitivities surrounding the use and consumption of synthetic flavours.

## Unit 073

## Principles of food labelling in food operations

<b>UAN:</b>	T/602/4566
<b>Level:</b>	3
<b>Credit value:</b>	4
<b>GLH:</b>	30
<b>Relationship to NOS:</b>	This unit is linked to the FT.155K Principles of food labelling in food and drink National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of food labelling, in food and drink operations or in a learning environment.</p> <p>The unit is designed for use primarily by technicians, managers and others who carry out these workplace activities. It is also designed for those who plan to enter the food and drink industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of food labelling in food and drink. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 understand the purpose and regulation of labelling
<b>Assessment criteria</b>
The learner can: 1.1 describe the purpose of food labelling in the food and drink sector 1.2 explain the regulatory labelling requirements that control food and drink content and composition 1.3 explain the regulatory requirements and implications associated with mislabelling 1.4 explain how regulatory requirements are monitored through enforcement 1.5 clarify the role of labelling in product traceability and control.

<b>Learning outcome</b>
The learner will: 2 understand how labelling contributes to nutritional awareness and product quality
<b>Assessment criteria</b>
The learner can: 2.1 explain how food labelling contributes to consumer awareness of food nutritional content 2.2 evaluate the labelling schemes and protocols that are used to inform the public of food nutritional content.

<b>Learning outcome</b>
The learner will: 3 understand the business use of food labelling
<b>Assessment criteria</b>
The learner can: 3.1 describe the processes, facilities and equipment that are required to label food 3.2 explain how to interpret process specifications to obtain accurate food data for inclusion in labelling specifications 3.3 explain how to develop, consult and agree labelling specifications 3.4 justify what arrangements are necessary to implement and communicate labelling specifications 3.5 describe different ways in which food data can be misrepresented by non-compliant labelling descriptions 3.6 explain the typical arrangements for organisation and control of the labelling processes 3.7 explain the risks associated with labelling policies and practices.

## Unit 074

## Principles of fresh produce handling and quality

<b>UAN:</b>	F/503/1610
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	23
<b>Relationship to NOS:</b>	This unit is linked to the PP.128K Principles of fresh produce handling and quality National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of fresh produce handling and quality, in a food processing, wholesaling or related business, or in a learning environment.</p> <p>The unit is designed for use primarily by operatives, managers and others who carry out these workplace activities. It is also designed for those who plan to enter the food industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of fresh produce handling and quality. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 understand produce contamination, spoilage and handling
<b>Assessment criteria</b>
The learner can: 1.1 describe the common forms of fresh produce contamination that are caused by farming methods 1.2 state how growing conditions can affect quality of fresh produce 1.3 explain how quality is influenced by the amount of time fresh produce is in the supply chain 1.4 summarise what the common causes of spoilage and damage are and the measures that are taken to limit spoilage 1.5 describe how fresh produce must be handled to maintain quality and the limitations of handling methods 1.6 explain how product handling systems are designed to maintain product quality 1.7 explain how good processing practice helps to maintain product quality.

<b>Learning outcome</b>
The learner will: 2 understand the quality measurement and assessment methods for produce
<b>Assessment criteria</b>
The learner can: 2.1 summarise what methods are used to measure the external quality of fresh produce 2.2 state how quality measuring methods measure the external quality of fresh produce 2.3 describe the destructive methods used to assess the internal quality of fresh produce 2.4 describe the non-destructive methods used to assess the internal quality of fresh produce 2.5 explain what organoleptic quality assessment techniques are 2.6 explain how organoleptic quality assessment techniques are carried out.

<b>Learning outcome</b>
The learner will: 3 understand the quality parameters of produce
<b>Assessment criteria</b>
The learner can: 3.1 summarise the impact temperature control has on fresh produce quality 3.2 clarify why time and temperature control during production is essential to quality 3.3 explain what product shelf life is and how it is established for items of produce 3.4 outline the legal and company regulations affecting the production of fresh produce 3.5 explain how seasons and country of origin can affect the handling and quality requirements of fresh produce 3.6 summarise how product quality is maintained throughout the supply chain 3.7 explain how different types of packaging are used to maintain the quality of fresh produce.

<b>Learning outcome</b>
The learner will: 4 understand the control of quality and food safety of produce
<b>Assessment criteria</b>
The learner can: 4.1 explain what key performance indicators are and their role in the maintenance of quality 4.2 explain how the following help to maintain the quality of fresh produce: a. use by dates b. best before dates c. average weights 4.3 summarise how regulation influences the supply and quality of produce in respect of: a. use by dates b. best before dates c. average weights 4.4 explain what Maximum Residue Levels (MRL) are and how they relate to the safety of fresh produce 4.5 summarise the legal requirements when handling disease insects found in the processing of produce.

## Unit 075

# Principles of fresh produce packaging and preservation

<b>UAN:</b>	A/503/1623
<b>Level:</b>	3
<b>Credit value:</b>	4
<b>GLH:</b>	26
<b>Relationship to NOS:</b>	This unit is linked to the PP.136K Principles of the fresh produce packaging and preservation National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of fresh produce packaging and preservation, in a food processing, wholesaling or related business, or in a learning environment.</p> <p>The unit is designed for use primarily by operatives, managers and others who carry out these workplace activities. It is also designed for those who plan to enter the food industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of fresh produce packaging and preservation. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy sets out the overarching assessment requirements.</p>



**Learning outcome**

The learner will:

- 1 understand packaging types and their application

**Assessment criteria**

The learner can:

- 1.1 summarise the main types of packaging available in the fresh produce sector including;
  - a. paper and card
  - b. plastics and permeable films
  - c. fabric and textiles
  - d. netting
  - e. wooden/plastic boxes
- 1.2 explain the advantages and disadvantages of properties of the main types of packaging
- 1.3 clarify how packaging is used at point of harvest and in support of transportation
- 1.4 outline which type of packaging is used for the main types of fresh produce
- 1.5 clarify how different packaging aids the preservation of fresh produce
- 1.6 state the importance of matching packaging material correctly to product type
- 1.7 explain how to assess if packaging is fit for purpose.

**Learning outcome**

The learner will:

- 2 understand packaging quality characteristics and storage requirements

**Assessment criteria**

The learner can:

- 2.1 describe how packaging can damage fresh produce
- 2.2 outline why it is important to use process packaging when handling fresh produce
- 2.3 clarify how fresh produce packaging methods optimise product quality
- 2.4 describe how the stability and shelf life of fresh produce is affected in packaging
- 2.5 outline the storage requirements of packaging materials.

<b>Learning outcome</b>
The learner will: 3 understand produce preservation methods
<b>Assessment criteria</b>
The learner can: 3.1 explain the use of controlled environment as a method of preserving and conditioning fresh produce 3.2 explain the use of modified atmosphere packaging as a method of preservation 3.3 summarise the effects of the gases used in fresh produce packaging and preservation on the environment and the workplace 3.4 outline the packaging requirements used in high risk zones and the potential hazards of them 3.5 explain the use of heat as a method of preservation for fresh produce 3.6 explain the effects of chilled environments used in fresh produce packaging and preservation 3.7 explain the effects of freezing in fresh produce packaging and preservation.

<b>Learning outcome</b>
The learner will: 4 understand legislative and voluntary impacts of packaging and the business implications
<b>Assessment criteria</b>
The learner can: 4.1 summarise why automation of packing machinery is important in the packing process 4.2 outline how packaging techniques have an impact on the environment 4.3 state the legislative and voluntary requirements on labelling for the fresh produce sector, including wrap 4.4 summarise the key drivers affecting packaging costs 4.5 explain the advantages and disadvantages of consumer packs and their role in product marketing.

## Unit 076

## Principles of fresh produce ripening

<b>UAN:</b>	H/503/1602
<b>Level:</b>	3
<b>Credit value:</b>	4
<b>GLH:</b>	31
<b>Relationship to NOS:</b>	This unit is linked to the PP.121K Principles of fresh produce ripening National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of fresh produce ripening, in a food processing, wholesaling or related business, or in a learning environment.</p> <p>The unit is designed for use primarily by operatives, managers and others who carry out these workplace activities. It is also designed for those who plan to enter the food industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of fresh produce ripening. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 understand the features of ripe and un-ripe produce, and their assessment
<b>Assessment criteria</b>
The learner can: 1.1 describe the physical characteristics of ripe and un-ripe produce 1.2 outline how the condition of un-ripe produce can impact on the ripening process 1.3 explain the storage requirements of both unripe and ripe products 1.4 explain the methods for assessing fruit ripeness and quality.

<b>Learning outcome</b>
The learner will: 2 understand the natural ripening process
<b>Assessment criteria</b>
The learner can: 2.1 summarise the key chemical and physical stages in the natural ripening process of fresh produce 2.2 assess the factors affecting the natural ripening process of fresh produce 2.3 explain how environmental conditions including temperature, humidity and storage room conditions affect natural ripening 2.4 describe how the natural ripening process can be suppressed and controlled 2.5 state the agents that are used to help ripen fresh produce.

<b>Learning outcome</b>
The learner will: 3 understand the produce ripening process in the supply chain
<b>Assessment criteria</b>
The learner can: 3.1 summarise what types of fresh produce undergo a natural ripening process and which undergo controlled ripening 3.2 explain where the ripening of fresh produce occurs in the supply chain 3.3 summarise the different types of controlled ripening available for fresh produce 3.4 explain which types of controlled ripening are used for different types of fresh produce 3.5 clarify the importance of controlled and modified atmosphere storage to controlled ripening.

**Learning outcome**

The learner will:

- 4 understand the planning, handling and storage of ripening produce

**Assessment criteria**

The learner can:

- 4.1 explain the importance of ripening planning and forecasting to supply of product
- 4.2 describe how to plan for the controlled ripening of fresh produce to ensure continuity of supply
- 4.3 explain how the use of controlled ripening is affected by seasonality of fresh produce
- 4.4 summarise how ripening is used in conjunction with long term storage to maintain continuity of supply
- 4.5 state how product handling can impact on the ripening process and the quality of ripened product
- 4.6 state how product packaging can affect the ripening process.

## Unit 077

## Principles of fresh produce wholesaling

<b>UAN:</b>	M/503/2560
<b>Level:</b>	3
<b>Credit value:</b>	4
<b>GLH:</b>	32
<b>Relationship to NOS:</b>	This unit is linked to the PP.114K Principles of fresh produce wholesaling National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of fresh produce wholesaling, in a food wholesaling or related business, or in a learning environment.</p> <p>The unit is designed for use primarily by operatives, managers and others who carry out these workplace activities. It is also designed for those who plan to enter the food industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of fresh produce wholesaling. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 understand the produce market operators, facilities and financial system

**Assessment criteria**

The learner can:

- 1.1 state the main UK based companies supplying fresh produce to the wholesale markets
- 1.2 state the main companies who buy fresh produce on the wholesale market
- 1.3 state the large wholesale markets operating in the UK and outside the UK
- 1.4 explain how the storage and distribution facilities in the wholesale market operate
- 1.5 summarise how the wholesale and distribution environment is organised to maintain product quality
- 1.6 outline the financial systems that support the wholesaling of fresh produce.

**Learning outcome**

The learner will:

- 2 understand the source of produce and the impact of seasonality

**Assessment criteria**

The learner can:

- 2.1 outline the main fresh produce products grown in the UK and outside the UK
- 2.2 summarise how the availability of fresh produce grown in the UK is affected by seasonality
- 2.3 summarise how fresh produce originating from outside the UK is affected by seasonality
- 2.4 state the main types of fresh produce affected by seasonality
- 2.5 describe what the additional factors are affecting the availability of fresh produce
- 2.6 explain how the seasonal trends and requirements of wholesale market customers change during a calendar year.

**Learning outcome**

The learner will:

3 understand the transport, distribution and pricing of produce

**Assessment criteria**

The learner can:

- 3.1 explain why it is important to organise storage and distribution when buying and selling fresh produce
- 3.2 describe how to source product specifications and transfer customer requirements to outcomes
- 3.3 summarise the main methods of transport for fresh produce and the impact of the food miles agenda on these methods
- 3.4 explain the factors affecting the wholesale price of UK grown and imported fresh produce
- 3.5 state the average current retail price of specific grades of UK grown fresh produce.

**Learning outcome**

The learner will:

4 understand produce quality and environmental factors

**Assessment criteria**

The learner can:

- 4.1 explain the main factors which affect the quality and shelf life of fresh produce
- 4.2 describe how the supply chain for fresh produce is organised and maintained to meet customer's needs
- 4.3 summarise the key environmental factors to be controlled during the storage and distribution of fresh produce
- 4.4 explain why it is important to maintain an effective supply chain during the distribution of fresh produce
- 4.5 state the average shelf life for the main UK grown fresh produce.



## Unit 079

# Principles of improving organisational performance in achieving excellence in food operations

<b>UAN:</b>	R/601/9956
<b>Level:</b>	4
<b>Credit value:</b>	5
<b>GLH:</b>	35
<b>Relationship to NOS:</b>	This unit is linked to the QI.333K Principles of improving organisational performance in achieving excellence in a food environment National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of improving organisational performance in achieving excellence in food manufacturing or supply operations, or in a learning environment.</p> <p>The unit is designed for use primarily by managers, technicians and others who carry out these FME workplace activities. It is also designed for those who plan to enter the food and drink industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of improving organisational performance in achieving excellence in food manufacturing or supply operations. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 understand how to improve organisational performance and how it contributes to food manufacturing excellence (fme)

**Assessment criteria**

The learner can:

- 1.1 summarise the purpose and overall objectives of improving organisational performance
- 1.2 clarify the importance and benefits of improving organisational performance to a FME approach
- 1.3 summarise how improving organisational performance is placed within and contributes towards a FME strategy or approach.

**Learning outcome**

The learner will:

- 2 understand the principles of improving organisational performance of food processing/supply capability

**Assessment criteria**

The learner can:

- 2.1 clarify the role of improving organisational performance in driving quality improvement of processes
- 2.2 explain how improving organisational performance is important in the DMAIC model for quality improvement and its relationship with Six Sigma
- 2.3 explain how improving organisational performance is important in the DMADV model for quality improvement and its relationship with Six Sigma
- 2.4 summarise how to organise plans for implementing performance improvement priorities in process capability including:
  - a. identification of solutions
  - b. solution testing
  - c. solution validation
  - d. solution agreement
- 2.5 summarise how to implement solutions for performance improvement in process capability including:
  - a. identification
  - b. testing
  - c. validation
  - d. agreement
- 2.6 summarise how to identify the measures and targets needed to analyse performance improvement in process capability.

**Learning outcome**

The learner will:

- 3 understand the application of improving organisational performance to support food manufacturing excellence (fme)

**Assessment criteria**

The learner can:

- 3.1 summarise the type of management expertise, resources and systems required to improve organisational performance
- 3.2 summarise the type of technical expertise and resources required to improve organisational performance
- 3.3 explain how the process of improving organisational performance is best evaluated and reviewed to maximise the effectiveness of quality improvement and achievements
- 3.4 justify at what level and how key decisions are best made about improving organisational performance to sustain FME.

## Unit 080

# Principles of monitoring and assessing risks in food operations

<b>UAN:</b>	D/602/4044
<b>Level:</b>	3
<b>Credit value:</b>	2
<b>GLH:</b>	13
<b>Relationship to NOS:</b>	This unit is linked to the HS.107.1K Principles of monitoring and assessing risks in food operations National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of monitoring and assessing risks. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 understand health and safety legislation and workplace policies and procedures for food operations
<b>Assessment criteria</b>
The learner can: 1.1 outline the key features of legislation including: a. Health and Safety at Work Act b. Health and Safety Management Regulations c. COSHH 1.2 describe the legal duties of employers and employees for: a. health and safety b. risk assessments 1.3 describe the importance of keeping organisational health and safety records 1.4 outline how a health and safety policy and procedures are best structured in a food operation 1.5 explain how to develop an effective health and safety communication strategy 1.6 outline how to monitor the activities and understanding of relevant people with respect to health and safety issues in the workplace.

<b>Learning outcome</b>
The learner will: 2 understand risks and hazards in food operations
<b>Assessment criteria</b>
The learner can: 2.1 explain the difference between a hazard and a risk 2.2 outline methods of identifying hazards in the workplace 2.3 explain the importance of promptly dealing with and reporting risks and hazards in the workplace and implications of not doing so.

<b>Learning outcome</b>
The learner will: 3 understand how to conduct risk assessments in the workplace
<b>Assessment criteria</b>
The learner can: 3.1 explain the purpose, legal implications and importance of carrying out risk assessments 3.2 outline methods used to conduct an effective risk assessments and the resources required to do so 3.3 describe how to deal with results of risk assessments 3.4 state sources of information about risk assessments.

## Unit 082

## Principles of paper and board packaging in food operations

<b>UAN:</b>	K/602/4564
<b>Level:</b>	3
<b>Credit value:</b>	4
<b>GLH:</b>	34
<b>Relationship to NOS:</b>	This unit is linked to the FT.153K Principles of paper and board packaging in food and drink National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of paper and board packaging, in food and drink operations or in a learning environment.</p> <p>The unit is designed for use primarily by managers and others who carry out these workplace activities. It is also designed for those who plan to enter the food and drink industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of paper and board packaging in food and drink. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 understand the sources and business uses of paper and board packaging
<b>Assessment criteria</b>
The learner can: 1.1 describe the origins and sources of paper and board packaging material 1.2 explain how paper and board packaging materials can be used as a part of a sustainable policy packaging material 1.3 compare the business advantages for using paper and board packaging materials to other non-biodegradable materials 1.4 summarise the limitations of food safe packaging material 1.5 outline the regulations for using food safe packaging.

<b>Learning outcome</b>
The learner will: 2 understand paper processing and its suitability as a packaging material
<b>Assessment criteria</b>
The learner can: 2.1 describe how paper is processed into food safe packaging material 2.2 explain the purposes and functions of paper packaging food products 2.3 summarise the typical uses of paper and waxed paper packaging material 2.4 evaluate the suitability of paper based packaging material in the freezing and storage of food products 2.5 evaluate the suitability of paper based packaging material in providing a substrate for advertising, labelling and bar coding.

<b>Learning outcome</b>
The learner will: 3 understand board processing and its suitability as a packaging material
<b>Assessment criteria</b>
The learner can: 3.1 describe how board is processed into different types of food safe packaging material 3.2 explain the purposes and functions of board packaging food and drink products 3.3 summarise the options for treating board for use in direct contact with food or drink 3.4 explain the typical uses for board, waxed board and lined board packaging material for food and drink products 3.5 evaluate the suitability of board based packaging material in the freezing and storage of food products 3.6 evaluate the suitability of board based packaging material in providing a substrate for advertising, labelling and bar coding.

**Learning outcome**

The learner will:

- 4 understand the promotional role and disposal arrangements for paper and board packaging

**Assessment criteria**

The learner can:

- 4.1 describe the role of paper and board packaging materials in promoting and advertising products
- 4.2 explain how paper and board packaging materials are best recycled and disposed of after use by wholesalers, retailers and consumers.



## Unit 083

# Principles of plastic and cellulose films in food and drink

<b>UAN:</b>	M/602/4565
<b>Level:</b>	3
<b>Credit value:</b>	4
<b>GLH:</b>	34
<b>Relationship to NOS:</b>	This unit is linked to the FT.154K Principles of plastic and cellulose films in food and drink National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of plastic and cellulose films in food and drink, in food operations or in a learning environment.</p> <p>The unit is designed for use primarily by managers and others who carry out these workplace activities. It is also designed for those who plan to enter the food and drink industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised national occupational standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of plastic and cellulose films in food and drink. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 understand the sources and business use of plastic and cellulose films
<b>Assessment criteria</b>
The learner can: 1.1 describe the origins and sources of plastic and cellulose packaging films 1.2 explain how plastic and cellulose packaging materials can be used as part of a sustainable policy approach to the use of packaging films 1.3 explain what the business advantages might be for using plastic and cellulose packaging films over other types of packaging films 1.4 explain what the limitations and regulations are in the use of food safe packaging films.

<b>Learning outcome</b>
The learner will: 2 understand cellulose processing and its suitability as a packaging film
<b>Assessment criteria</b>
The learner can: 2.1 explain the structure of cellulose and its properties in providing a packaging film 2.2 describe how cellulose is processed into food safe packaging film 2.3 explain the purpose of cellulose packaging film for food products 2.4 summarise the grades of cellulose film available, their functionality and use of codes 2.5 describe the typical uses for cellulose packaging film for food products 2.6 evaluate the suitability of cellulose based packaging film in the freezing and storage of food products.

<b>Learning outcome</b>
The learner will: 3 understand polythene based processing and suitability as packaging film
<b>Assessment criteria</b>
The learner can: 3.1 describe how polythene films are made 3.2 explain the properties and functionality of low density and high density polythene films 3.3 describe how polypropylene films are made 3.4 explain the properties and functionality of; a. cast b. oriented c. coated oriented polypropylene films 3.5 explain the properties and functionality polyvinylidene chloride and polyvinylidene chloride films and their use as cling or shrink wrap films 3.6 evaluate the suitability of polythene based packaging film in the freezing and storage of food products.

**Learning outcome**

The learner will:

- 4 understand polycarbonate based processing and suitability as packaging material

**Assessment criteria**

The learner can:

- 4.1 describe how polycarbonate packaging material is made
- 4.2 explain the properties and functionality of polycarbonate packaging material
- 4.3 describe the typical uses for polycarbonate packaging material for food and drink products
- 4.4 evaluate the suitability of polycarbonate based packaging material in the freezing and storage of food products.

**Learning outcome**

The learner will:

- 5 understand the promotional role and disposal arrangements for plastic and cellulose based packaging

**Assessment criteria**

The learner can:

- 5.1 explain the suitability of plastic and cellulose based packaging material in providing a substrate for advertising, labelling and bar coding
- 5.2 explain the role of plastic and cellulose packaging material in promoting and advertising products
- 5.3 explain how plastic and cellulose packaging materials are best recycled and disposed of after use by wholesalers, retailers and consumers.

## Unit 085

## Principles of quality in food operations

<b>UAN:</b>	T/602/4034
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	18
<b>Relationship to NOS:</b>	This unit is linked to the QI.118.2K Principles of quality in food operations National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of quality in food operations. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 understand the importance of controlling product quality in food operations

**Assessment criteria**

The learner can:

- 1.1 summarise the importance of complying with current legislation and industry codes of practice to control product quality
- 1.2 explain the importance of maintaining product quality
- 1.3 explain how quality control affects efficiency of work activities
- 1.4 describe typical factors that affect quality
- 1.5 outline the documentation requirements for recording product quality
- 1.6 describe the importance of keeping records and data safe and secure.

**Learning outcome**

The learner will:

- 2 understand how to monitor quality

**Assessment criteria**

The learner can:

- 2.1 describe how to obtain information, specifications and resources required to monitor product quality
- 2.2 outline procedures for monitoring quality
- 2.3 describe how to take actions to minimise typical problems affecting quality
- 2.4 explain how operational parameters affect achieving output targets
- 2.5 explain the importance of monitoring throughput and procedures used to do this
- 2.6 summarise the potential consequences of ineffective monitoring and control
- 2.7 outline procedures to deal with non conformance in quality and how to develop solutions for this.

**Learning outcome**

The learner will:

- 3 understand how to conduct quality audits

**Assessment criteria**

The learner can:

- 3.1 summarise the key principles of quality auditing
- 3.2 outline how to conduct an audit investigation
- 3.3 explain how to implement any corrective actions identified during audits
- 3.4 describe quality audit documentation requirements and importance of maintaining secure records
- 3.5 describe how to interpret and communicate reports from quality auditors.

## Unit 086

# Principles of quality sampling and testing in food operations

<b>UAN:</b>	L/602/3987
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	18
<b>Relationship to NOS:</b>	This unit is linked to QI.106.1K Principles of quality sampling and testing in food operations National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of quality sampling and testing. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 understand the requirements of sampling for quality control
<b>Assessment criteria</b>
The learner can: 1.1 summarise the operational and regulatory requirements for sampling product quality 1.2 outline the purpose and methods of sampling 1.3 describe the implications of not carrying out adequate sampling of product quality sampling 1.4 explain what the acceptable levels of tolerance are in interpretation and decision-making.

<b>Learning outcome</b>
The learner will: 2 understand how to prepare for sampling
<b>Assessment criteria</b>
The learner can: 2.1 summarise the operational and regulatory requirements for sampling product quality 2.2 outline the purpose and methods of sampling 2.3 describe the implications of not carrying out adequate sampling of product quality sampling 2.4 explain what the acceptable levels of tolerance are in interpretation and decision-making.

<b>Learning outcome</b>
The learner will: 3 understand the procedures for sampling for quality control
<b>Assessment criteria</b>
3.1 outline controls used in the sampling process 3.2 explain how to calculate test results and assess these against key factors identified in product specifications 3.3 explain the importance of tolerance 3.4 explain the importance of labelling, identifying and maintaining the integrity of samples 3.5 summarise how to record sampling results for traceability purposes.

<b>Learning outcome</b>
The learner will: 4 understand how to feedback test outcomes
<b>Assessment criteria</b>
The learner can: 4.1 describe the importance of effective communication in delivering test outcomes 4.2 explain how to report results to relevant people 4.3 outline how to select the appropriate methods of communication for the audience 4.4 explain the importance of presenting key points of test outcomes in the appropriate format.

## Unit 087

## Principles of raw food materials in food operations

<b>UAN:</b>	D/602/4061
<b>Level:</b>	3
<b>Credit value:</b>	2
<b>GLH:</b>	14
<b>Relationship to NOS:</b>	This unit is linked to PO.242K Principles of raw food materials in food operations National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of food and raw materials, in a food production business or in a learning environment.</p> <p>The unit is designed for use primarily by food production supervisors, and others who carry out these workplace activities. It is also designed for those who plan to enter the food and drink industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of food and raw materials. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy sets out the overarching assessment requirements.</p>



<b>Learning outcome</b>
The learner will: 1 understand sources and functional role of raw materials used in food operations
<b>Assessment criteria</b>
The learner can: 1.1 outline the main sources of raw materials for use in food operations, to include: a. cereals b. fruits c. vegetables d. meat e. fish f. nuts g. dairy products 1.2 explain the functional role of raw materials as ingredients in finished products, to include: a. preservation b. enhanced eating qualities c. nutritional value d. ingredients lists.

<b>Learning outcome</b>
The learner will: 2 understand supply and production of raw food materials
<b>Assessment criteria</b>
The learner can: 2.1 outline annual production figures required for annual UK consumption for raw materials, to include: a. cereals b. fruits c. vegetables d. meat e. fish f. nuts g. dairy products 2.2 outline the raw material production techniques to include: a. cultivation and farming methods and conditions b. intensive and extensive agriculture related to country of origin c. production trends d. health and safety requirements 2.3 explain handling and transportation systems for raw materials, to include: a. cereals b. fruits c. vegetables d. meat

	<ul style="list-style-type: none"> <li>e. fish</li> <li>f. nuts</li> <li>g. dairy products</li> </ul>
2.4	<p>explain factors affecting supply in the UK:</p> <ul style="list-style-type: none"> <li>a. political</li> <li>b. economic</li> <li>c. health scares</li> <li>d. environmental</li> </ul>
2.5	<p>identify factors affecting storage:</p> <ul style="list-style-type: none"> <li>a. methods and conditions</li> <li>b. quality</li> <li>c. contamination</li> <li>d. health and safety requirements.</li> </ul>

<b>Learning outcome</b>
<p>The learner will:</p> <p>3 understand the use of additives in raw food materials</p>
<b>Assessment criteria</b>
<p>The learner can:</p> <p>3.1 describe the categories of additives which are used to treat raw food materials</p> <p>3.2 describe the main function of each of the categories of additives in raw food materials</p> <p>3.3 describe the advantages and disadvantages of additives in raw food materials</p> <p>3.4 state how raw food materials can be classified as organic foods.</p>

## Unit 088

# Principles of sensory assessment in food technology

<b>UAN:</b>	Y/502/7496
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	22
<b>Relationship to NOS:</b>	This unit is linked to the FT.114K Principles of sensory assessment in food technology National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of sensory testing in food technology, in a food environment or in a learning environment.</p> <p>The unit is designed for use primarily by managers and others who carry out these workplace activities. It is also designed for those who plan to enter the food and drink industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of sensory testing in food technology. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 understand the physiological and psychological factors influencing sensory assessments

**Assessment criteria**

The learner can:

- 1.1 explain the principles of visual perception in relation to food and drink
- 1.2 describe the role of colour in influencing consumer reactions
- 1.3 outline the physiological processes associated with taste detection
- 1.4 detail the psychological and physiological factors that can impact on sensory tests.

**Learning outcome**

The learner will:

- 2 understand the importance of flavour in the sensory assessment of food and drink products

**Assessment criteria**

The learner can:

- 2.1 explain the different flavour sensations and their respective receptors
- 2.2 describe how different tastes interact when combined
- 2.3 identify the various flavour components
- 2.4 describe how flavour is broken down into components
- 2.5 describe how mouthfeel influences the perception of food products
- 2.6 explain the different textures associated with food and drink products.

## Unit 089

# Principles of sorting and grading produce and food materials

<b>UAN:</b>	A/602/4553
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	22
<b>Relationship to NOS:</b>	This unit is linked to the FT.143K Principles of sorting and grading produce and food materials National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of sorting and grading produce and food materials, in food operations or in a learning environment.</p> <p>The unit is designed for use primarily by managers and others who carry out these workplace activities. It is also designed for those who plan to enter the food and drink industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of sorting and grading produce and food material. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 understand the definitions and rationale for sorting and grading food materials

**Assessment criteria**

The learner can:

- 1.1 summarise the definition of sorting produce and food materials
- 1.2 summarise the definition of grading produce and food materials
- 1.3 explain the rationale for sorting and grading food materials after cleaning
- 1.4 outline the separation methodology for sorting and grading food materials.

**Learning outcome**

The learner will:

- 2 understand equipment and methods used for sorting food materials

**Assessment criteria**

The learner can:

- 2.1 explain why sorting is necessary in preparation for mechanical food processing
- 2.2 explain why sorting is important to the effective packaging of fresh produce
- 2.3 summarise which foods can be sorted by weight
- 2.4 explain the types of equipment used to sort by weight and how this equipment functions
- 2.5 summarise which foods can be sorted by colour
- 2.6 explain the types of equipment used to sort by colour and how this equipment functions

**Learning outcome**

The learner will:

- 3 understand the quality factors used in grading food materials

**Assessment criteria**

The learner can:

- 3.1 explain how the quality parameters for grading reflect the intended use of the produce or food materials
- 3.2 summarise the importance of the common quality criteria for grading to include:
  - a. shape
  - b. size
  - c. colour
  - d. freedom from damage and contamination
- 3.3 explain the importance of including quality criteria such as texture, crumb and eating quality when grading food products.

## Unit 090

## Principles of sustainability in food operations

<b>UAN:</b>	L/601/2701
<b>Level:</b>	3
<b>Credit value:</b>	4
<b>GLH:</b>	34
<b>Relationship to NOS:</b>	This unit is linked to the SF.102K Principles of sustainability in a food environment National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of sustainability, in a food environment or in a learning environment.</p> <p>The unit is designed for use primarily by managers and others who carry out these workplace activities. It is also designed for those who plan to enter the food and drink industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of sustainability. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 understand the principles of sustainability
<b>Assessment criteria</b>
The learner can: 1.1 outline the key principles of environmental sustainability in a food environment in relation to: a. energy b. waste c. water usage d. transportation 1.2 describe the relationship between sustainability and the three key elements of corporate social responsibility: a. economic b. social c. environmental 1.3 describe the benefits of sustainability to the organisation and its stakeholders 1.4 summarise how sustainability impacts on all the component functions of an organisation.

<b>Learning outcome</b>
The learner will: 2 understand factors affecting sustainability targets
<b>Assessment criteria</b>
The learner can: 2.1 outline how to establish targets for sustainable development, including the use of benchmarking 2.2 explain how carbon currency data (carbon footprints) is used as an indicator of sustainability 2.3 explain the importance of liaising with national policy-makers to determine the influence of government targets and legal requirements on organisational sustainability.

<b>Learning outcome</b>
The learner will: 3 understand factors affecting support for sustainability targets
<b>Assessment criteria</b>
The learner can: 3.1 explain how continuous improvement supports sustainability 3.2 explain how to gain the commitment of stakeholders to the development of sustainable food production 3.3 outline how environmental management systems (EMS) are used to support sustainability in a food environment.



**Learning outcome**

The learner will:

- 4 understand the factors influencing the achievement of sustainability

**Assessment criteria**

The learner can:

- 4.1 summarise the influences which impact upon the achievement of sustainability
- 4.2 explain how to control the efficient use of resources within organisational activities to help achieve sustainability
- 4.3 explain how the actions of others within the supply chain can influence sustainability
- 4.4 explain the potential barriers to achieving sustainability and summarise ways these can be overcome
- 4.5 describe how to access sources of advice and guidance on achieving sustainability.

## Unit 091

## Principles of the fresh produce handling systems

<b>UAN:</b>	T/503/1622
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	18
<b>Relationship to NOS:</b>	This unit is linked to the PP.135K Principles of the fresh produce handling systems National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of the fresh produce handling systems, in a food processing, wholesaling or related business, or in a learning environment.</p> <p>The unit is designed for use primarily by operatives, managers and others who carry out these workplace activities. It is also designed for those who plan to enter the food industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of the fresh produce handling systems. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy sets out the overarching assessment requirements</p>

**Learning outcome**

The learner will:

- 1 understand the characteristics of handling systems

**Assessment criteria**

The learner can:

- 1.1 describe the different handling systems used to handle different types of fresh produce including:
  - a. air based
  - b. fluid based
  - c. mechanical
  - d. non-contact transfer systems
- 1.2 explain the different handling requirements of specific types fresh produce
- 1.3 summarise the advantages and disadvantages of different handling systems
- 1.4 clarify the utilities and costs associated with different handling systems
- 1.5 explain why it is important to match handling systems to the handling requirements of fresh produce
- 1.6 describe how to match handling systems to the specific requirements of the fresh produce.

**Learning outcome**

The learner will:

- 2 understand produce quality during handling, and the use of additives in fluid transfer

**Assessment criteria**

The learner can:

- 2.1 explain how handling systems can contaminate and cause physical damage to fresh produce
- 2.2 describe how product handling systems are designed to maintain product quality
- 2.3 clarify the impact that handling systems can have on product shelf life
- 2.4 explain why additives are used in fluid transfer systems
- 2.5 explain the key differences between additives used in fluid transfer systems.

**Learning outcome**

The learner will:

- 3 understand produce quality during packing and storage

**Assessment criteria**

The learner can:

- 3.1 summarise the different types of packaging used in the handling process
- 3.2 describe the key differences between storage systems used during the handling of fresh produce
- 3.3 summarise why it is important to maintain labelling, identification and traceability throughout the handling process
- 3.4 outline potential causes of waste and their control during handling.

## Unit 092

## Principles of the fresh produce supply chain

<b>UAN:</b>	D/503/1551
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	20
<b>Relationship to NOS:</b>	This unit is linked to the PP.115K Principles of the fresh produce supply chain National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of the fresh produce supply chain, in a food processing, wholesaling or related business, or in a learning environment.</p> <p>The unit is designed for use primarily by operatives, managers and others who carry out these workplace activities. It is also designed for those who plan to enter the food industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of the fresh produce supply chain. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 understand the produce supply chain and how growers and co-operatives impact on this

**Assessment criteria**

The learner can:

- 1.1 describe the structure and operating principles of the UK fresh produce supply chain
- 1.2 outline how the UK fresh produce supply chain links to the international supply chain
- 1.3 explain how the UK grower impacts on the fresh produce supply chain
- 1.4 state how the overseas grower impacts on the fresh produce supply chain
- 1.5 explain what a co-operative group is and its role in the supply of fresh produce
- 1.6 summarise how dealing with co-operative groups differs to dealing with conventional companies

**Learning outcome**

The learner will:

- 2 understand import/export standards and the role of markets and pre-packers

**Assessment criteria**

The learner can:

- 2.1 summarise the regulatory and ethical standards that must be adhered to in the import and export of fresh produce
- 2.2 summarise the importance of UK importers in the fresh produce supply chain
- 2.3 explain the role of overseas wholesale markets in the UK supply chain
- 2.4 outline the role of a UK pre-packer in the fresh produce supply chain.

**Learning outcome**

The learner will:

- 3 understand the importance of organisations and factors across the produce supply chain

**Assessment criteria**

The learner can:

- 3.1 describe the specific requirements of fresh produce processors and retailers in the supply chain
- 3.2 summarise the role of fresh produce logistics both nationally and internationally
- 3.3 summarise the position and relative importance of the grower, importer, pre-packer, processor and retailer in the supply chain
- 3.4 explain the impact of the issue of food miles in the supply of fresh produce to all parts of the supply chain
- 3.5 explain the importance of environmental factors to the effective running of the supply chain.

## Unit 098

## Resolve problems in food operations

<b>UAN:</b>	J/602/4619
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	16
<b>Relationship to NOS:</b>	This unit is linked to the PO.119S Resolve problems in a food environment National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who resolve problems in a food business.</p> <p>The unit is designed for use primarily by operatives, team leaders, supervisors, technicians and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the skills of learners in the workplace, when resolving problems in food operations. It needs to be assessed on the job. The learner must be able to demonstrate their competent performance consistently over a period of time, to meet all of the assessment criteria. This will be achieved by presenting relevant evidence of workplace performance, and may be supported by witness testimony and other workplace evidence. Any observations must ensure that the learner's working practice is at commercial speed and in compliance with standard operating procedures.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 be able to establish what the problems are
<b>Assessment criteria</b>
The learner can: 1.1 check and follow legal or regulatory requirements for: <ul style="list-style-type: none"> <li>a. hygiene</li> <li>b. health and safety</li> <li>c. environmental standards</li> </ul> 1.2 check the available information and clarify or seek further information.

<b>Learning outcome</b>
The learner will: 2 be able to implement solutions
<b>Assessment criteria</b>
The learner can: 2.1 select solutions which are effective in relation to operational requirements 2.2 ensure that the corrective actions determined meet with organisational requirements 2.3 implement own chosen solution to restore operating conditions safely and effectively 2.4 monitor operations to ensure that correct operating conditions are met and maintained 2.5 communicate the results of own actions to the relevant person.

<b>Learning outcome</b>
The learner will: 3 be able to report on further action to be taken
<b>Assessment criteria</b>
The learner can: 3.1 identify the need for further work and report this to the relevant person in sufficient detail for action to be taken 3.2 make suggestions to prevent the problem from happening again and ways to improve operations to managers and colleagues 3.3 complete and process all records.

## Unit 108

# The principles of food safety supervision for manufacturing

<b>UAN:</b>	T/502/0183
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	25
<b>Relationship to NOS:</b>	This unit is linked to the FS.110K Understand food safety management procedures in manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of food safety for manufacturing, in a food business or in a learning environment.</p> <p>The unit is designed for use primarily by operatives and others who carry out these workplace activities. It is also designed for those who plan to enter the food and drink industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of food safety for manufacturing. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>



<b>Learning outcome</b>
The learner will: 1 understand how food business operators can ensure compliance with food safety legislation.
<b>Assessment criteria</b>
The learner can: 1.1 summarise the importance of food safety management procedures 1.2 explain the responsibilities of employers and employees in respect of food safety legislation and procedures for compliance 1.3 explain how the legislation is enforced 1.4 outline the requirements of food safety audits.

<b>Learning outcome</b>
The learner will: 2 understand the application and monitoring of good hygiene practice
<b>Assessment criteria</b>
The learner can: 2.1 justify the importance of high standards of personal hygiene 2.2 explain procedures for cleaning and disinfection including the need for workplace and equipment schedules 2.3 explain procedures to control contamination and cross-contamination 2.4 describe the importance of and methods for waste disposal. 2.5 describe the importance of and methods for pest control.

<b>Learning outcome</b>
The learner will: 3 understand how to implement food safety management procedures
<b>Assessment criteria</b>
The learner can: 3.1 describe the consequences for food safety from microbial, chemical, physical and allergenic hazards 3.2 describe methods and procedures for controlling food safety to include critical control points, critical limits and corrective actions 3.3 explain the requirement for temperature control 3.4 explain the importance of traceability 3.5 explain the importance of continually reviewing and, as appropriate, improving the organisation's procedures.

**Learning outcome**

The learner will:

- 4 understand the role of supervision in food safety management procedures

**Assessment criteria**

The learner can:

- 4.1 explain the requirements for induction and on-going training of staff
- 4.2 explain the importance of monitoring and reporting in food safety management.

## Unit 109

# The principles of HACCP for food manufacturing

<b>UAN:</b>	Y/600/2382
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	20
<b>Relationship to NOS:</b>	This unit is linked to the FS.110K Understand food safety management procedures in manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce and/or vocational development for those who need to understand the principles of food safety for manufacturing, in a food business or in a learning environment.</p> <p>The unit is designed for use primarily by operatives and others who carry out these workplace activities. It is also designed for those who plan to enter the food and drink industry or employees who wish to expand on their existing knowledge and understanding. The aim of the unit is to assess underpinning knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of food safety for manufacturing. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 understand the importance of haccp based food safety management procedures
<b>Assessment criteria</b>
The learner can: 1.1 outline the need for HACCP based food safety management procedures 1.2 describe the HACCP approach to food safety procedures 1.3 summarise legislation relating to HACCP.

<b>Learning outcome</b>
The learner will: 2 understand the preliminary processes for haccp based procedures
<b>Assessment criteria</b>
The learner can: 2.1 explain the requirements of a HACCP team 2.2 outline the pre-requisites for HACCP 2.3 describe food production processes including use of end product 2.4 use process flow diagrams in the development of HACCP based food safety management procedures.

<b>Learning outcome</b>
The learner will: 3 understand how to develop haccp based food safety management procedures
<b>Assessment criteria</b>
The learner can: 3.1 identify hazards and risks in the production process 3.2 determine critical control points 3.3 establish critical limits.

<b>Learning outcome</b>
The learner will: 4 understand how to implement haccp based food safety management procedures
<b>Assessment criteria</b>
The learner can: 4.1 establish and implement monitoring procedures at critical control points 4.2 describe corrective actions.

<b>Learning outcome</b>
The learner will: 5 understand how to evaluate haccp based procedures
<b>Assessment criteria</b>
The learner can: 5.1 describe documentation and record keeping procedures 5.2 outline the verification and review of procedures.

## Unit 111

# Understand how to buy fresh produce on the wholesale market

<b>UAN:</b>	H/503/1552
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	20
<b>Relationship to NOS:</b>	This unit is linked to the PP.117K Understand how to buy fresh produce on the wholesale market National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who need to understand how to buy fresh produce on the wholesale market, in a wholesaling business.</p> <p>The unit is designed for use primarily by buyers and others who carry out these workplace activities. The aim of the unit is to assess knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the knowledge and understanding of learners in the workplace context, when buying fresh produce on the wholesale market. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 understand how to identify produce and the factors influencing price

**Assessment criteria**

The learner can:

- 1.1 outline the legal requirements that protect both the customer and the trader
- 1.2 summarise how to identify the full range of produce on sale
- 1.3 explain how to identify and describe produce characteristics including:
  - a. quality
  - b. ripeness
  - c. condition
- 1.4 describe the factors that can influence produce availability and price including:
  - a. weather
  - b. seasons
  - c. supply and demand economics
  - d. currency fluctuations.

**Learning outcome**

The learner will:

- 2 understand how to assess organisation's produce needs when buying on the market

**Assessment criteria**

The learner can:

- 2.1 describe why it is important to determine own organisation's produce needs
- 2.2 summarise how to identify the budgets available to support the planned purchases
- 2.3 explain how to assess the suitability of produce against organisation's produce needs
- 2.4 explain why it is important to confirm needs in respect of quantities, type and quality
- 2.5 summarise the means used to receive purchased stock.

**Learning outcome**

The learner will:

- 3 understand how to communicate and negotiate when buying produce on the market

**Assessment criteria**

The learner can:

- 3.1 outline the communication skills required for buying, including the importance of being polite and courteous
- 3.2 summarise the implications of not communicating effectively
- 3.3 describe the sales techniques used on the market
- 3.4 explain how and why it is important to establish a rapport with traders
- 3.5 summarise the type of negotiation skills used on the market
- 3.6 outline why it is important not to cause conflict during sales activities
- 3.7 explain what the limits of own authority are and the consequences of operating outside these limits.



## Unit 114

# Understand how to carry out quality audits in food operations

<b>UAN:</b>	T/602/4700
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	15
<b>Relationship to NOS:</b>	This unit is linked to the QI.120K Understand quality audits in food manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who understand how to carry out quality audits, in a food business.</p> <p>The unit is designed for use primarily by team leaders and others who carry out these workplace activities. The aim of the unit is to assess knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the knowledge and understanding of learners in the workplace context, when carrying out quality audits in food operations. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 know about quality auditing best practice
<b>Assessment criteria</b>
The learner can: 1.1 describe the principles of quality auditing 1.2 describe current trends and development in auditing listing examples of good industry practice 1.3 outline the impact of relevant legal, regulatory and ethical requirements impacting on auditing systems 1.4 outline the importance of conduct in auditing 1.5 describe the importance of an organisation's quality policies and procedures in auditing 1.6 describe how to evaluate actual practice against procedures in order to identify discrepancies 1.7 explain the organisation's plan and schedule for carrying out quality audits.

<b>Learning outcome</b>
The learner will: 2 know how to communicate audit results and recommendations
<b>Assessment criteria</b>
The learner can: 2.1 describe how to apply the principles and processes of effective communication 2.2 explain how to make recommendations for improvements 2.3 list people who need to receive reports, presentations and recommendations 2.4 explain organisational procedures and timing for communication and reporting 2.5 list people who can provide advice on quality auditing issues.

<b>Learning outcome</b>
The learner will: 3 know how to interpret and action an auditor's report
<b>Assessment criteria</b>
The learner can: 3.1 list the records of the quality audit that are required 3.2 list the people who are authorised to see quality audit reports 3.3 describe how to conduct an audit investigation 3.4 describe how to identify appropriate corrective action and agree a reasonable date for it to be carried out 3.5 explain how to evaluate the risks which audit discrepancies may hold for an organisation.

## Unit 115

# Understand how to carry out sampling for quality control in food operations

<b>UAN:</b>	H/601/8312
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	26
<b>Relationship to NOS:</b>	This unit is linked to the QI.106K Understand how to carry out sampling for quality control in food manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who understand how to carry out sampling for quality control, in a food business.</p> <p>The unit is designed for use primarily by team leaders and others who carry out these workplace activities. The aim of the unit is to assess knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the knowledge and understanding of learners in the workplace context, when carrying out sampling for quality control in food operations. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 know about the principles of sampling

**Assessment criteria**

The learner can:

- 1.1 describe procedures for sampling
- 1.2 describe methods of hygienic sampling
- 1.3 explain the procedures post sampling
- 1.4 describe equipment used to take samples
- 1.5 explain actions to take to deal with defective equipment
- 1.6 explain controls in the sampling process
- 1.7 explain how to check products against specifications.

**Learning outcome**

The learner will:

- 2 know about maintaining sample integrity

**Assessment criteria**

The learner can:

- 2.1 describe traceability principles
- 2.2 describe a sampling plan
- 2.3 describe best practice when storing samples for testing
- 2.4 explain importance of labelling of samples.

**Learning outcome**

The learner will:

- 3 know about factors that influence samples

**Assessment criteria**

The learner can:

- 3.1 describe sample information that may be required prior to sampling
- 3.2 describe environmental factors that may influence sample results
- 3.3 describe intrinsic food properties that may affect sample results
- 3.4 explain why defective equipment may affect sample result.

## Unit 117

# Understand how to carry out tests for quality control in food operations

<b>UAN:</b>	K/502/7406
<b>Level:</b>	3
<b>Credit value:</b>	2
<b>GLH:</b>	18
<b>Relationship to NOS:</b>	This unit is linked to the QI.108K Understand testing for quality control in food manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who understand how to carry out tests for quality control, in a food business.</p> <p>The unit is designed for use primarily by team leaders and others who carry out these workplace activities. The aim of the unit is to assess knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the knowledge and understanding of learners in the workplace context, when carrying out tests for quality control in food operations. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 know about the importance of accurate quality testing

**Assessment criteria**

The learner can:

- 1.1 explain the importance of standard operating procedures for quality control
- 1.2 describe a protocol for ensuring testing equipment is fit for purpose.
- 1.3 describe the content of a typical testing specification
- 1.4 describe how to access and interpret product specifications.

**Learning outcome**

The learner will:

- 2 know about testing protocol for quality

**Assessment criteria**

The learner can:

- 2.1 describe the procedures used to identify suitable samples for testing
- 2.2 explain the importance in ensuring sample integrity
- 2.3 describe a suitable protocol for safe storage of samples prior to and after testing
- 2.4 describe how to assess product against key factors in product specifications using approved methods.

**Learning outcome**

The learner will:

- 3 know about equipment used in quality testing

**Assessment criteria**

The learner can:

- 3.1 describe how to prepare and calibrate testing equipment for use
- 3.2 describe the features of testing equipment
- 3.3 evaluate the importance of calibration checks on equipment are required
- 3.4 explain the importance of ensuring equipment is fit for purpose
- 3.5 explain the importance of reporting defective equipment.

<b>Learning outcome</b>
The learner will: 4 understand how to interpret and communicate test results
<b>Assessment criteria</b>
The learner can: 4.1 describe procedures and actions to take for product non-compliance 4.2 explain how to calculate test results 4.3 summarise acceptable levels of tolerance in quality interpretation 4.4 describe suitable documentation to ensure traceability 4.5 evaluate methods of communicating results both in specification and non compliance.

## Unit 129

# Understand how to control product quality in food operations

<b>UAN:</b>	T/602/5829
<b>Level:</b>	3
<b>Credit value:</b>	2
<b>GLH:</b>	10
<b>Relationship to NOS:</b>	This unit is linked to the QI.104K Understand how to control product quality in food manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who understand how to control product quality, in a food business.</p> <p>The unit is designed for use primarily by team leaders and others who carry out these workplace activities. The aim of the unit is to assess knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the knowledge and understanding of learners in the workplace context, when controlling product quality in food operations. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>



**Learning outcome**

The learner will:

- 1 know about good manufacturing practices (gmps)

**Assessment criteria**

The learner can:

- 1.1 describe relevant company quality policies
- 1.2 describe relevant quality working practices
- 1.3 describe how to obtain quality documentation
- 1.4 evaluate the effectiveness of documentation and data security.

**Learning outcome**

The learner will:

- 2 know how to evaluate quality issues in own area of work

**Assessment criteria**

The learner can:

- 2.1 explain how quality control affects efficiency of work activities
- 2.2 explain how to evaluate quality issues in own area of work
- 2.3 evaluate common quality issues across the workplace.

**Learning outcome**

The learner will:

- 3 know about requirements for good communications

**Assessment criteria**

The learner can:

- 3.1 describe the methods used to keep documentation up to date
- 3.2 appraise communication of quality within the working environment
- 3.3 describe own limits of authority when controlling product quality.

## Unit 133

# Understand how to control transport efficiency in food operations

<b>UAN:</b>	D/602/4707
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	25
<b>Relationship to NOS:</b>	This unit is linked to the SF.118K Understand how to control transport efficiency in a food environment National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who control transport efficiency in food operations.</p> <p>The unit is designed for use primarily by team leaders/supervisors and others who carry out these workplace activities. The aim of the unit is to assess knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the knowledge and understanding of learners in the workplace context, when controlling energy efficiency in food operations. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 know what the requirements are for controlling transport efficiency in food operations
<b>Assessment criteria</b>
The learner can: 1.1 explain how legislation impacts on organisational transport usage 1.2 describe the impact of transport on carbon emissions 1.3 explain how transport efficiency supports sustainable food manufacture 1.4 describe the sources of advice and guidance regarding transport efficiency 1.5 describe the environmental, economic and social cost of food miles 1.6 explain how food miles are determined.

<b>Learning outcome</b>
The learner will: 2 know how to control transport efficient within the organisation
<b>Assessment criteria</b>
The learner can: 2.1 explain how organisational transport efficiency can help reduce the organisation's carbon footprint 2.2 describe the opportunities available to an organisation for reducing food miles 2.3 describe the organisation's targets and standards for reducing transport usage 2.4 describe the measures used within the organisation to reduce transport usage 2.5 explain how failure to meet the organisation's quality specifications can impact on transport usage.

<b>Learning outcome</b>
The learner will: 3 know how to promote transport efficiency within the organisation
<b>Assessment criteria</b>
The learner can: 3.1 describe the benefits of transport efficiency to the organisation 3.2 describe how others can impact on transport usage 3.3 describe the roles and responsibilities for all those involved in improving transport efficiency 3.4 explain how staff training and development can help improve transport efficiency.

<b>Learning outcome</b>
The learner will: 4 know how to maintain transport efficiency within the organisation
<b>Assessment criteria</b>
The learner can: 4.1 explain how the management and organisation of transport can help minimise energy usage 4.2 explain how to monitor transport usage efficiency 4.3 describe the barriers that can limit the impact of energy reduction initiatives and how these barriers can be overcome.

## Unit 135

# Understand how to control water usage in food operations

<b>UAN:</b>	R/602/4705
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	25
<b>Relationship to NOS:</b>	This unit is linked to the SF.116K Understand how to control water usage in a food environment National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who control water usage in food operations.</p> <p>The unit is designed for use primarily by team leaders/supervisors and others who carry out these workplace activities. The aim of the unit is to assess knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the knowledge and understanding of learners in the workplace context, when controlling water usage in food operations. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 know what the requirements are for controlling water usage in food operations
<b>Assessment criteria</b>
The learner can: 1.1 explain how legislation impacts on the organisation's water usage and disposal 1.2 describe the impact of water usage on the environment 1.3 explain how the management of water supports sustainable food manufacture.

<b>Learning outcome</b>
The learner will: 2 know how to control the use of water within the organisation
<b>Assessment criteria</b>
The learner can: 2.1 explain how, within the organisation, water is: a. obtained b. treated c. used d. recycled e. re-used f. discharged 2.2 describe the organisation's water quality standards 2.3 describe the organisation's targets for water usage 2.4 explain how water usage is controlled and minimised within own area of responsibility 2.5 explain how failure to meet the organisation's quality specifications can impact on water usage.

<b>Learning outcome</b>
The learner will: 3 know how to promote the efficient use of water within the organisation
<b>Assessment criteria</b>
The learner can: 3.1 explain how others can impact on water usage 3.2 explain how staff training and development can help to maintain the efficient use of water.

**Learning outcome**

The learner will:

- 4 know how to maintain efficient water usage measures within the organisation

**Assessment criteria**

The learner can:

- 4.1 explain how the management and organisation of work can help minimise water usage
- 4.2 explain how and why water usage is monitored and controlled within own area of responsibility
- 4.3 describe how to identify potential sources of water pollution within own area of responsibility
- 4.4 describe the barriers that can limit the impact of water management and how these barriers can be overcome.

## Unit 137

# Understand how to design and develop fresh produce products

<b>UAN:</b>	L/503/1609
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	18
<b>Relationship to NOS:</b>	This unit is linked to the PP.127K Understand how to design and develop fresh produce products National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who need to understand how to design and develop fresh produce products in a food or related business.</p> <p>The unit is designed for use primarily by managers, technicians and others who carry out these workplace activities. The aim of the unit is to assess knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the knowledge and understanding of learners in the workplace context, when designing and developing fresh produce products. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>



<b>Learning outcome</b>
The learner will: 1 understand the product design and research considerations
<b>Assessment criteria</b>
The learner can: 1.1 explain why it is important to design products to meet specified food safety requirements 1.2 summarise the characteristics of fresh produce and the opportunities available for product development 1.3 clarify the processes being tested and the expected outcome from them 1.4 describe the market/customer demands in respect of fresh produce 1.5 explain the methods used to research information for designs, techniques and materials.

<b>Learning outcome</b>
The learner will: 2 understand the product development and testing considerations
<b>Assessment criteria</b>
The learner can: 2.1 describe the formulation and accurate recording of design and development ideas 2.2 summarise the applications and limitations of production techniques and materials 2.3 outline the tools and equipment required to apply production techniques and materials 2.4 explain the application of testing methods 2.5 explain why it is essential to consider management of food safety as part of product design.

<b>Learning outcome</b>
The learner will: 3 understand how to record, test and specify products
<b>Assessment criteria</b>
The learner can: 3.1 summarise how to record research findings 3.2 outline the methods available to test designs, techniques and materials 3.3 explain how to construct and present a product specification 3.4 explain how copyright controls the design and development of products.

## Unit 138

## Understand how to diagnose problems in food operations

<b>UAN:</b>	F/602/4618
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	16
<b>Relationship to NOS:</b>	This unit is linked to the PO.118K Understand how to diagnose problems in a food environment National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who need to know how to diagnose problems in a food business.</p> <p>The unit is designed for use primarily by operatives, team leaders, supervisors, technicians and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the knowledge and understanding of learners in the workplace context, when applying workplace organisation techniques for achieving excellence in food operations. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 know how to identify problems
<b>Assessment criteria</b>
The learner can: 1.1 outline standards of health, safety and hygiene that are required and the importance of applying them 1.2 explain the business's need for problem solving 1.3 evaluate the benefits of formalised problem solving 1.4 summarise operating procedures, standards and critical control factors in own work area 1.5 clarify limits of own authority and reporting arrangements in the event of problems that cannot be resolved.

<b>Learning outcome</b>
The learner will: 2 know how to diagnose problems
<b>Assessment criteria</b>
The learner can: 2.1 summarise how plant, equipment, tools, and testing equipment work and are used 2.2 explain product and process specifications and how to identify deviations from them 2.3 outline typical operating problems in own work area and their possible effect on other operations 2.4 explain how to investigate problems in a safe and cost-effective manner and the importance of doing so 2.5 explain how to define and verify the root cause of problems 2.6 outline methods that can be used to gather evidence about problems 2.7 outline how to analyse problems to determine their nature, cause and effects.

<b>Learning outcome</b>
The learner will: 3 know how to communicate problems
<b>Assessment criteria</b>
The learner can: 3.1 explain lines and methods of effective communication and the importance of using them 3.2 summarise the documentation requirements and the importance of meeting them.

## Unit 145

# Understand how to manage organisational change for achieving excellence in food operations

<b>UAN:</b>	R/602/5076
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	17
<b>Relationship to NOS:</b>	This unit is linked to the QI.225K Understand how to manage organisational change for achieving excellence in a food environment National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who need to understand how to manage organisational change for achieving excellence in a food business.</p> <p>The unit is designed for use primarily by operatives, team leaders, supervisors, technicians and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the knowledge and understanding of learners in the workplace context, when managing organisational change for achieving excellence in food operations. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 know how to prepare for managing organisational change
<b>Assessment criteria</b>
The learner can: 1.1 outline the plans for change agreed in line with the strategy for achieving excellence 1.2 summarise the theories for understanding teams/team-building techniques and their application 1.3 explain how to assess the risks and benefits associated with implementation of change 1.4 summarise business and operational critical activities and their interdependencies 1.5 assess those factors that need to be changed along with the associated priorities and reasons 1.6 define the theory and application of the change/performance curve 1.7 summarise stakeholder and line management expectations and how they influence the process.

<b>Learning outcome</b>
The learner will: 2 know how to manage organisational change
<b>Assessment criteria</b>
The learner can: 2.1 summarise the main models and methods for managing change and their strengths and weaknesses 2.2 describe the importance of contingency planning and how to do so effectively 2.3 explain how to make critical decisions 2.4 evaluate the range of information sources available to support achieving excellence 2.5 outline the internal and resource barriers to change, and techniques to overcome them.

<b>Learning outcome</b>
The learner will: 3 know how to review and communicate organisational change
<b>Assessment criteria</b>
The learner can: 3.1 assess the techniques used to monitor, control and review progress during organisational change 3.2 explain how to evaluate the success of change implementation 3.3 differentiate between formal and informal channels of communication 3.4 explain how to give and receive feedback about change management 3.5 explain how to evaluate consultation arrangements that are best suited to implement achieving excellence.

## Unit 146

# Understand how to manage the fresh produce ripening process

<b>UAN:</b>	A/503/1606
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	18
<b>Relationship to NOS:</b>	This unit is linked to the PP.123K Understand how to manage the fresh produce ripening process National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who need to understand how to manage the fresh produce ripening process in a food or related business.</p> <p>The unit is designed for use primarily by managers and others who carry out these workplace activities. The aim of the unit is to assess knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the knowledge and understanding of learners in the workplace context, when managing the fresh produce ripening process. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 understand how to plan and deal with the ripening process

**Assessment criteria**

The learner can:

- 1.1 outline the regulatory and organisational requirements and the consequences of non-compliance
- 1.2 summarise what the business rationale is for commercially ripening produce
- 1.3 describe how to plan ripening based on forecasts
- 1.4 explain how country of origin, produce variety and seasonality can affect the ripening yield
- 1.5 describe the ripening process and the facilities that are used to support its implementation
- 1.6 explain how the design of ripening facilities provide the environmental conditions required to support ripening including:
  - a. temperature
  - b. humidity
  - c. presence of enhancers.

**Learning outcome**

The learner will:

- 2 understand the capabilities and resources to monitor ripening of produce

**Assessment criteria**

The learner can:

- 2.1 summarise the production capabilities and characteristics of the ripening facilities in operation
- 2.2 describe the storage, handling and preparation requirements of un-ripe produce
- 2.3 summarise the resources required to support the ripening process including:
  - a. people
  - b. equipment
  - c. power
  - d. storage
- 2.4 how to monitor and maintain the ripening process to achieve forecasted ripening.

<b>Learning outcome</b>
The learner will: 3 understand how to identify and investigate ripening of produce
<b>Assessment criteria</b>
The learner can: 3.1 outline how the condition of the produce can impact on the ripening process 3.2 summarise how to identify ripeness in fresh produce 3.3 explain how to investigate potential or actual variations from planned ripening, and actions that can be taken to minimise disruption to the ripening process 3.4 outline the importance of organisational requirements for storage, handling and packaging of ripe produce 3.5 describe how to minimise and control the disposal of waste according to organisational procedures 3.6 explain how to carry out the recording, reporting and communication needed and the importance of complying with these requirements.



## Unit 147

# Understand how to manage the long term storage of fresh produce

<b>UAN:</b>	M/503/1618
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	18
<b>Relationship to NOS:</b>	This unit is linked to the PP.132K Understand how to manage the long term storage of fresh produce National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who need to understand how to manage the long term storage of fresh produce in a food or related business.</p> <p>The unit is designed for use primarily by managers and others who carry out these workplace activities. The aim of the unit is to assess knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the knowledge and understanding of learners in the workplace context, when managing the long term storage of fresh produce. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 understand long term storage specifications and quality arrangements

**Assessment criteria**

The learner can:

- 1.1 explain the regulatory and organisational requirements are and the consequences of non-compliance
- 1.2 summarise the role of long term storage in the fresh produce sector
- 1.3 describe how to locate and interpret storage specifications for fresh produce
- 1.4 explain how the storage specification is influenced by marketing strategy
- 1.5 outline the quality requirements for produce to be placed in long term storage
- 1.6 summarise the typical characteristics of produce suitable for storage
- 1.7 summarise how to assess the quality of fresh produce.

**Learning outcome**

The learner will:

- 2 understand the capabilities and resources required to store produce

**Assessment criteria**

The learner can:

- 2.1 summarise how produce needs to be prepared ready for long term storage
- 2.2 describe the design, layout and operation of storage facilities
- 2.3 explain the environmental conditions required to support long term storage and how these are provided by storage facilities
- 2.4 summarise the production capabilities and characteristics of the storage facilities in operation
- 2.5 outline the resources required to support long term storage
- 2.6 explain why it is important to ensure the on-going compliance with required storage conditions.

**Learning outcome**

The learner will:

- 3 understand how to solve problems, despatch and record storage of produce

**Assessment criteria**

The learner can:

- 3.1 summarise the problem solving techniques used to investigate both potential or actual variations from planned storage
- 3.2 outline the actions to take to correct any variations from planned storage
- 3.3 explain how to control the despatch of produce from storage
- 3.4 outline the processes used to gather management information about storage
- 3.5 outline the reasons for keeping storage records and the importance of their accuracy.

## Unit 148

# Understand how to control waste minimisation in food operations

<b>UAN:</b>	J/602/4703
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	24
<b>Relationship to NOS:</b>	This unit is linked to the SF.114K Understand how to minimise waste in a food environment National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who minimise waste, in a food environment.</p> <p>The unit is designed for use primarily by team leaders/supervisors and others who carry out these workplace activities. The aim of the unit is to assess knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the knowledge and understanding of learners in the workplace context, when minimising waste. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 know what the requirements are for minimising waste in a food environment
<b>Assessment criteria</b>
The learner can: 1.1 describe the impact of waste on the environment 1.2 explain how waste minimisation supports sustainable food manufacture 1.3 explain how legislation impacts on the management and disposal of waste 1.4 describe the sources of advice and guidance regarding waste reduction 1.5 explain why segregation is important in the management of waste.

<b>Learning outcome</b>
The learner will: 2 know how to minimise waste produced by the organisation
<b>Assessment criteria</b>
The learner can: 2.1 describe the organisation's targets for: a. waste reduction b. re-use c. recycling 2.2 explain how product and process design can have an impact on the generation of waste 2.3 describe the different types of waste generated within own area of responsibility 2.4 describe the opportunities available for reducing waste within own area of responsibility 2.5 describe the factors that limit recycling and re-use within own area of responsibility 2.6 explain how failure to meet organisational quality specifications can impact on waste targets.

<b>Learning outcome</b>
The learner will: 3 know how to promote waste minimisation by the organisation
<b>Assessment criteria</b>
The learner can: 3.1 describe the potential benefits of waste minimisation to the organisation 3.2 explain how others can impact on the generation of waste 3.3 explain how staff training and development at work can help minimise waste.

<b>Learning outcome</b>
The learner will: 4 know how to maintain waste minimisation within the organisation
<b>Assessment criteria</b>
The learner can: 4.1 explain how the management and organisation of work can help minimise waste 4.2 describe how to monitor waste within own area of responsibility 4.3 describe the barriers that can limit the impact on the management of waste and how these barriers can be overcome 4.4 explain how to assess the effectiveness of waste management systems.

## Unit 149

# Understand how to monitor and control throughput to achieve targets in food operations

<b>UAN:</b>	J/602/4698
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	15
<b>Relationship to NOS:</b>	This unit is linked to the QI.111K Understand how to monitor quality of work activities in food manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who understand how to monitor quality of work activities, in a food business.</p> <p>The unit is designed for use primarily by team leaders and others who carry out these workplace activities. The aim of the unit is to assess knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the knowledge and understanding of learners in the workplace context, when understanding how to monitor quality of work activities in food operations. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 know about the best advice and guidance surrounding monitoring quality

**Assessment criteria**

The learner can:

- 1.1 describe the importance of conforming to statutory regulation
- 1.2 evaluate current practices for compliance with standard operating procedures
- 1.3 explain the importance of organising work to meet pre-determined schedules.

**Learning outcome**

The learner will:

- 2 know about monitoring procedures for quality of work

**Assessment criteria**

The learner can:

- 2.1 list the procedures for monitoring quality of work
- 2.2 evaluate the lines of reporting
- 2.3 state where to obtain advice and support to monitor quality
- 2.4 explain why it is important to make recommendations for continuous improvement.

**Learning outcome**

The learner will:

- 3 know about monitoring procedures for throughput

**Assessment criteria**

The learner can:

- 3.1 explain the importance of monitoring throughput
- 3.2 describe types of monitoring systems and how they are used to monitor throughput
- 3.3 describe actions that can be taken to minimise problems affecting throughput
- 3.4 describe how to identify and solve problems which affect throughput
- 3.5 explain why monitoring and control systems are used.

**Learning outcome**

The learner will:

- 4 know how to record quality of work issues

**Assessment criteria**

The learner can:

- 4.1 explain why it is important to keep accurate and complete records
- 4.2 describe how to record problems
- 4.3 describe why corrective action plans are important.



<b>Learning outcome</b>
The learner will: 5 know about solving problems affecting throughput
<b>Assessment criteria</b>
The learner can: 5.1 describe how to identify and solve problems which affect throughput 5.2 evaluate how operational parameters affect the achievement of output targets 5.3 summarise the consequences of ineffective monitoring, control systems and processes.

## Unit 150

# Understand how to monitor and control waste disposal in food operations

<b>UAN:</b>	M/602/4517
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	29
<b>Relationship to NOS:</b>	This unit is linked to the SO.306K Understand how to monitor and control the recovery of by-products and waste disposal in food manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who understand how to monitor and control waste disposal, in a food business.</p> <p>The unit is designed for use primarily by team leaders and others who carry out these workplace activities. The aim of the unit is to assess knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the knowledge and understanding of learners in the workplace context, when monitoring and controlling waste disposal in food operations. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 know how to monitor and control waste disposal in food operations
<b>Assessment criteria</b>
The learner can: 1.1 outline the work practices to adopt and policies, procedures and instructions to follow when controlling waste disposal 1.2 explain how operational requirements affect work practices 1.3 explain the statutory regulations, applicable to the control and disposal of waste, and the importance of conforming to them 1.4 describe how to complete documentation and explain why accurate records are important 1.5 outline the recording and reporting procedures 1.6 state who problems should be reported to.

<b>Learning outcome</b>
The learner will: 2 know how to control and organise waste separation
<b>Assessment criteria</b>
The learner can: 2.1 explain how to identify and solve problems 2.2 explain what cross-contamination is and its effects on waste separation 2.3 explain how to evaluate the risks of cross-contamination and how to reduce them 2.4 explain what constitutes environmental nuisance and how it can be minimised or avoided 2.5 explain how to maximise yield and minimise waste and the effect this has on the product and on the organisation.

<b>Learning outcome</b>
The learner will: 3 know how to control and organise the storage and handling of waste
<b>Assessment criteria</b>
The learner can: 3.1 describe how to handle and dispose of waste 3.2 describe how to deposit waste in the specified storage locations and the importance of this 3.3 outline the storage requirements of waste and how to check they are met 3.4 describe the monitoring requirements relating to storing waste 3.5 describe how to monitor the waste storage areas and the implications of poor maintenance 3.6 explain the potential effects of storing waste above specified levels and the importance of not doing so 3.7 explain the quality specifications to achieve and how handling and storage techniques affect them.

## Unit 151

# Understand how to monitor and improve environmental good practice in food operations

<b>UAN:</b>	K/602/1714
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	18
<b>Relationship to NOS:</b>	This unit is linked to the HS.204K Understand how to monitor and improve environmental practice in food manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who understand how to monitor and improve environmental good practice, in a food business.</p> <p>The unit is designed for use primarily by team leaders and others who carry out these workplace activities. The aim of the unit is to assess knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the knowledge and understanding of learners in the workplace context, when monitoring and improving environmental good practice in food operations. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 know how to follow organisational procedures for environmental good practice

**Assessment criteria**

The learner can:

- 1.1 explain organisational and legislative requirements relating to environmental damage
- 1.2 describe organisational policy relating to environmental good practice
- 1.3 describe levels of responsibilities of individual team members in relation to maintaining environmental good practice
- 1.4 explain why it is important not to exceed the limits of own authority.

**Learning outcome**

The learner will:

- 2 know how to recognise environmental good practice

**Assessment criteria**

The learner can:

- 2.1 describe the types of pressures on the environment that may occur
- 2.2 explain how environmental pressures should be taken into account when planning work
- 2.3 describe the methods that can be used to minimise environmental damage
- 2.4 explain how the efficient use of resources contributes to maintaining environmental good practice.

**Learning outcome**

The learner will:

- 3 know how to improve environmental good practice

**Assessment criteria**

The learner can:

- 3.1 explain why it is important to follow reporting procedures for environmental accidents and near misses
- 3.2 describe methods of presenting recommendations
- 3.3 explain how to create systems for presenting recommendations
- 3.4 explain why evaluating and reflecting on feedback concerning recommendations is important
- 3.5 describe how feedback can be used to shape further recommendations
- 3.6 describe how environmental good practice can be adopted or improved.

## Unit 152

# Understand how to monitor health, safety and environmental management systems in food operations

<b>UAN:</b>	M/602/5828
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	20
<b>Relationship to NOS:</b>	This unit is linked to the HS.308K Understand how to monitor health, safety and environmental systems in food manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who understand how to monitor health, safety and environmental management systems in a food business.</p> <p>The unit is designed for use primarily by team leaders and others who carry out these workplace activities. The aim of the unit is to assess knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the knowledge and understanding of learners in the workplace context, when monitoring health, safety and environmental management systems in food operations. It can be assessed on or off the job but in the workplace context.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

**Learning outcome**

The learner will:

- 1 know current relevant legislation

**Assessment criteria**

The learner can:

- 1.1 explain the principles of current legislation for health, safety and environmental management
- 1.2 describe relevant statutory body requirements
- 1.3 detail the enforcement structure of regulatory bodies.

**Learning outcome**

The learner will:

- 2 understand communication and recording methods

**Assessment criteria**

The learner can:

- 2.1 explain how to communicate with relevant people
- 2.2 explain how to recognise ideas and views
- 2.3 describe how to make presentations
- 2.4 outline methods of reporting and recording.

**Learning outcome**

The learner will:

- 3 understand organisational procedures and policies

**Assessment criteria**

The learner can:

- 3.1 explain the principles of organisational policies and systems
- 3.2 evaluate tangible and intangible benefits of health and safety to the organisation and the external environment
- 3.3 describe the organisations' procedures for the following:
  - a. health systems
  - b. safety systems
  - c. environmental systems
  - d. dealing with emergencies
  - e. environmental issues
  - f. health screening
- 3.4 describe the organisations' procedures for the prevention, investigation and reporting of incidents and accidents
- 3.5 assess the implications of current health, safety and environmental legislation on the business and individuals
- 3.6 analyse, review and validate internal and external information.

**Learning outcome**

The learner will:

- 4 understand organisational compliance

**Assessment criteria**

The learner can:

- 4.1 explain the importance of compliance with systems and legislation
- 4.2 describe the consequences of non-compliance
- 4.3 explain how to ensure compliance with current statutory requirements
- 4.4 detail system requirements that monitor and maintain a healthy and safe environment
- 4.5 explain how to carry out a risk assessment
- 4.6 detail methods of risk assessments
- 4.7 detail risks and hazards specific to own area of responsibility
- 4.8 evaluate the need for involvement of health, safety and environmental specialists



## Unit 155

# Understand how to plan production schedules in food manufacture

<b>UAN:</b>	L/502/7415
<b>Level:</b>	3
<b>Credit value:</b>	2
<b>GLH:</b>	14
<b>Relationship to NOS:</b>	This unit is linked to the PM.106K Understand how to plan production schedules in food manufacture National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who plan production schedules in a food manufacturing business.</p> <p>The unit is designed for use primarily by food manufacturing supervisors and others who carry out these workplace activities. The aim of the unit is to assess knowledge and understanding to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the knowledge and understanding of learners in the workplace context, when planning production schedules in food manufacture. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 know how to assess production requirements and capabilities
<b>Assessment criteria</b>
The learner can: 1.1 describe the operational status of resources and why this is important 1.2 describe how to analyse the availability and use of resources 1.3 describe the requirements for storage, moving and delivery to production locations of: a. raw materials b. ingredients c. non-food materials 1.4 explain the hazard and risk that may arise in food and drink operations 1.5 explain the contingencies and corrective actions to be taken.

<b>Learning outcome</b>
The learner will: 2 know how to plan production schedules
<b>Assessment criteria</b>
The learner can: 2.1 describe the production forecasting and planning processes 2.2 describe the systems and procedures for production scheduling 2.3 explain the importance of production scheduling and the potential impact of inadequate scheduling 2.4 explain how to form and manage work in teams 2.5 explain how to set and review work objectives 2.6 describe the key features of legal and standard operating requirements.

<b>Learning outcome</b>
The learner will: 3 know how to maintain production schedules
<b>Assessment criteria</b>
The learner can: 3.1 explain the need to update and amend schedules and adapt resource requirements to meet changing customer demands 3.2 explain the importance of liaison with colleagues and what would happen if they were not kept informed 3.3 describe different communication methods and styles.

## Unit 160

## Understand how to resolve problems in food operations

<b>UAN:</b>	A/602/4620
<b>Level:</b>	3
<b>Credit value:</b>	4
<b>GLH:</b>	22
<b>Relationship to NOS:</b>	This unit is linked to the PO.120K Understand how to resolve problems in a food environment National Occupational Standard.
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	<p>This unit supports workforce development for those who need to know how to resolve problems in a food business.</p> <p>The unit is designed for use primarily by operatives, team leaders, supervisors, technicians and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.</p>
<b>Assessment</b>	<p>This unit is designed to assess the knowledge and understanding of learners in the workplace context, when applying workplace organisation techniques for achieving excellence in food operations. It can be assessed on or off the job.</p> <p>The learner must demonstrate their current knowledge and understanding, to meet all assessment criteria. Assessment methods appropriate to the needs of the learner must be used to generate satisfactory evidence of knowledge and understanding.</p> <p>The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.</p>

<b>Learning outcome</b>
The learner will: 1 know how to establish what the problems are
<b>Assessment criteria</b>
The learner can: 1.1 outline standards of health, safety and hygiene and the importance of applying them 1.2 explain how the plant and equipment works 1.3 summarise the product and process specifications, the operating procedures, and standards in the area of work 1.4 detail where further information can be sourced 1.5 explain typical operating problems that occur in own work area and their possible effect on other operations 1.6 outline how to analyse problems in a systematic way and why it is important to do so 1.7 clarify the limits of own authority and reporting arrangements in the event of problems that cannot be resolved.

<b>Learning outcome</b>
The learner will: 2 know how to implement solutions
<b>Assessment criteria</b>
The learner can: 2.1 outline the action to take in response to operating problems 2.2 summarise the factors to take into consideration when selecting solutions 2.3 outline how to assess the impact of solutions on other operations 2.4 explain how and when to use temporary and permanent solutions to restore operations in an effective way 2.5 explain how to monitor product integrity during and after overcoming problems and the importance of this 2.6 explain how to evaluate the effectiveness of solutions implemented.

<b>Learning outcome</b>
The learner will: 3 know how to report on further action to be taken
<b>Assessment criteria</b>
The learner can: 3.1 outline the lines and methods of effective communication and the importance of using them 3.2 summarise the recording and communication needs, and the importance of using them correctly.

## Unit 170

## Understanding the principles and practices of assessment

<b>UAN:</b>	D/601/5313
<b>Level:</b>	3
<b>Credit value:</b>	3
<b>GLH:</b>	24
<b>Endorsement by a sector or regulatory body:</b>	This unit is endorsed by Improve the Sector Skills Council for food and drink manufacturing.
<b>Aim:</b>	This unit assesses a candidate assessor's knowledge of the principles and practices of assessment in a learning and development context.
<b>Assessment</b>	Evidence for this unit could take the form of: <ul style="list-style-type: none"><li>• written statements or answers by the candidate assessor</li><li>• oral statements or answers by the candidate assessor</li><li>• discussions between the candidate assessor and their own assessor</li><li>• assignments</li><li>• projects.</li></ul>

<b>Learning outcome</b>
The learner will: 1 understand the principles and requirements of assessment
<b>Assessment criteria</b>
The learner can: 1.1 explain the function of assessment in learning and development 1.2 define the key concepts and principles of assessment 1.3 explain the responsibilities of the assessor 1.4 identify the regulations and requirements relevant to the assessment in own area of practice.

<b>Learning outcome</b>
The learner will: 2 understand different types of assessment method
<b>Assessment criteria</b>
The learner can: 2.1 compare the strengths and limitations of a range of assessment methods with reference to the needs of individual learners.

<b>Learning outcome</b>
The learner will: 3 understand how to plan assessment
<b>Assessment criteria</b>
The learner can: 3.1 summarise key factors to consider when planning assessment 3.2 evaluate the benefits of using a holistic approach to assessment 3.3 explain how to plan a holistic approach to assessment 3.4 summarise the types of risks that may be involved in assessment in own area of responsibility 3.5 explain how to minimise risks through the planning process.

<b>Learning outcome</b>
The learner will: 4 understand how to involve learners and others in assessment
<b>Assessment criteria</b>
The learner can: 4.1 explain the importance of involving the learner and others in the assessment process 4.2 summarise types of information that should be made available to learners and others involved in the assessment process 4.3 explain how peer and self-assessment can be used effectively to promote learner involvement and personal responsibility in the assessment of learning 4.4 explain how assessment arrangements can be adapted to meet the needs of individual learners.

<b>Learning outcome</b>
The learner will: 5 understand how to make assessment decisions
<b>Assessment criteria</b>
The learner can: 5.1 explain how to judge whether evidence is: <ul style="list-style-type: none"> <li>a. sufficient</li> <li>b. authentic</li> <li>c. current</li> </ul> 5.2 explain how to ensure that assessment decisions are: <ul style="list-style-type: none"> <li>a. made against specified criteria</li> <li>b. valid</li> <li>c. reliable</li> <li>d. fair.</li> </ul>

<b>Learning outcome</b>
The learner will: 6 understand quality assurance of the assessment process
<b>Assessment criteria</b>
The learner can: 6.1 evaluate the importance of quality assurance in the assessment process 6.2 summarise quality assurance and standardisation procedures in own area of practice 6.3 summarise the procedures to follow when there are disputes concerning assessment in own area of practice.

<b>Learning outcome</b>
The learner will: 7 understand how to manage information relating to assessment
<b>Assessment criteria</b>
The learner can: 7.1 explain the importance of following procedures for the management of information relating to assessment 7.2 explain how feedback and questioning contribute to the assessment process.

**Learning outcome**

The learner will:

- 8 understand the legal and good practice requirements in relation to assessment

**Assessment criteria**

The learner can:

- 8.1 explain legal issues, policies and procedures relevant to assessment, including those for confidentiality, health, safety and welfare
- 8.2 explain the contribution that technology can make to the assessment process
- 8.3 evaluate requirements for equality and diversity and, where appropriate, bilingualism in relation to assessment
- 8.4 explain the value of reflective practice and continuing professional development in the assessment process.



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