Level 3 Award, Certificate and Diploma for Proficiency in Food Industry Skills (1283-30/31/32)

Qualification handbook for centres
1283-30 Award: 600/0765/5
1283-31 Certificate: 600/0766/7
1283-32 Diploma: 600/0767/9
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### Version and date

<table>
<thead>
<tr>
<th>Version and date</th>
<th>Change detail</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0 Jan 2013</td>
<td>Corrected titling and/or credit values on multiple units – Corrected unit content (Unit 062)</td>
<td>Structure/Units</td>
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<td>UnitsError! Reference source not found.</td>
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</tr>
<tr>
<td>4.0 April</td>
<td>Corrected unit content (Unit 023)</td>
<td>Units</td>
</tr>
<tr>
<td>5.0 July 2017</td>
<td>Units 367, 376, 380 and 383 added</td>
<td>Qualification structure and Units</td>
</tr>
<tr>
<td></td>
<td>Rules of combination amended to include units 367, 376, 380 and 383</td>
<td>Rules of combination</td>
</tr>
</tbody>
</table>
# Contents

<table>
<thead>
<tr>
<th></th>
<th>Introduction to the qualifications</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Qualification structure</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Opportunities for progression</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>Centre requirements</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Resource requirements</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Assessors and internal verifiers</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Candidate entry requirements</td>
<td>13</td>
</tr>
<tr>
<td>3</td>
<td>Course design and delivery</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Initial assessment and induction</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Recommended delivery strategies</td>
<td>14</td>
</tr>
<tr>
<td>4</td>
<td>Assessment</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Summary of assessment methods</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Recording forms</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Recognition of prior learning (RPL)</td>
<td>15</td>
</tr>
<tr>
<td>5</td>
<td>Units</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Technical and Management Units</td>
<td>23</td>
</tr>
<tr>
<td>Unit 003</td>
<td>Start up multi-stage operations in food manufacture</td>
<td>24</td>
</tr>
<tr>
<td>Unit 023</td>
<td>Support commissioning of plant, equipment and processes in food operations</td>
<td>27</td>
</tr>
<tr>
<td>Unit 024</td>
<td>Understand how to support commissioning of plant, equipment and processes in food operations</td>
<td>31</td>
</tr>
<tr>
<td>Unit 025</td>
<td>Maintain plant and equipment in food operations</td>
<td>34</td>
</tr>
<tr>
<td>Unit 026</td>
<td>Understand how to maintain plant and equipment in food operations</td>
<td>40</td>
</tr>
<tr>
<td>Unit 027</td>
<td>Diagnose problems in food operations</td>
<td>44</td>
</tr>
<tr>
<td>Unit 028</td>
<td>Understand how to diagnose problems in food operations</td>
<td>48</td>
</tr>
<tr>
<td>Unit 029</td>
<td>Resolve problems in food operations</td>
<td>52</td>
</tr>
<tr>
<td>Unit 030</td>
<td>Understand how to resolve problems in food operations</td>
<td>56</td>
</tr>
<tr>
<td>Unit 031</td>
<td>Carry out sampling for quality control in food operations</td>
<td>60</td>
</tr>
<tr>
<td>Unit 032</td>
<td>Understand how to carry out sampling for quality control in food operations</td>
<td>63</td>
</tr>
<tr>
<td>Unit 033</td>
<td>Carry out testing for quality control in food operations</td>
<td>67</td>
</tr>
<tr>
<td>Unit 034</td>
<td>Understand how to carry out tests for quality control in food operations</td>
<td>70</td>
</tr>
<tr>
<td>Unit 035</td>
<td>Monitor and control quality of work activities in food operations</td>
<td>75</td>
</tr>
<tr>
<td>Unit 036</td>
<td>Monitor and control throughput to achieve targets in food operations</td>
<td>78</td>
</tr>
<tr>
<td>Unit 037</td>
<td>Understand how to monitor and control throughput to achieve targets in food operations</td>
<td>81</td>
</tr>
<tr>
<td>Unit 038</td>
<td>Carry out quality audits in food operations</td>
<td>87</td>
</tr>
<tr>
<td>Unit 039</td>
<td>Understand how to carry out quality audits in food operations</td>
<td>91</td>
</tr>
<tr>
<td>Unit 040</td>
<td>Develop test samples in food manufacture</td>
<td>95</td>
</tr>
<tr>
<td>Unit 041</td>
<td>Understand how to develop test samples in food manufacture</td>
<td>100</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Unit 042</td>
<td>Develop product specifications in food manufacture</td>
<td>104</td>
</tr>
<tr>
<td>Unit 043</td>
<td>Understand how to develop product specifications in food manufacture</td>
<td>108</td>
</tr>
<tr>
<td>Unit 044</td>
<td>Evaluate and improve production in food manufacture</td>
<td>112</td>
</tr>
<tr>
<td>Unit 045</td>
<td>Understand how to evaluate and improve production in food manufacture</td>
<td>117</td>
</tr>
<tr>
<td>Unit 046</td>
<td>Control energy efficiency in food operations</td>
<td>121</td>
</tr>
<tr>
<td>Unit 047</td>
<td>Control waste minimisation in food operations</td>
<td>125</td>
</tr>
<tr>
<td>Unit 048</td>
<td>Understand how to control waste minimisation in food operations</td>
<td>129</td>
</tr>
<tr>
<td>Unit 049</td>
<td>Control water usage in food operations</td>
<td>134</td>
</tr>
<tr>
<td>Unit 050</td>
<td>Understand how to control water usage in food operations</td>
<td>138</td>
</tr>
<tr>
<td>Unit 051</td>
<td>Control transport efficiency in food operations</td>
<td>143</td>
</tr>
<tr>
<td>Unit 052</td>
<td>Understand how to control transport efficiency in food operations</td>
<td>147</td>
</tr>
<tr>
<td>Unit 053</td>
<td>Monitor and control waste disposal in food operations</td>
<td>152</td>
</tr>
<tr>
<td>Unit 054</td>
<td>Understand how to monitor and control waste disposal in food operations</td>
<td>155</td>
</tr>
<tr>
<td>Unit 055</td>
<td>Plan production schedules in food manufacture</td>
<td>159</td>
</tr>
<tr>
<td>Unit 056</td>
<td>Understand how to plan production schedules in food manufacture</td>
<td>165</td>
</tr>
<tr>
<td>Unit 057</td>
<td>Monitor and report on production progress in food manufacture</td>
<td>169</td>
</tr>
<tr>
<td>Unit 058</td>
<td>Understand how to monitor and report on production progress in food manufacture</td>
<td>172</td>
</tr>
<tr>
<td>Unit 059</td>
<td>Carry out process control in food manufacture</td>
<td>175</td>
</tr>
<tr>
<td>Unit 060</td>
<td>Understand how to carry out process control in food manufacture</td>
<td>178</td>
</tr>
<tr>
<td>Unit 061</td>
<td>Produce production specifications in food manufacture</td>
<td>182</td>
</tr>
<tr>
<td>Unit 062</td>
<td>Understand how to produce production specifications in food manufacture</td>
<td>185</td>
</tr>
<tr>
<td>Unit 139</td>
<td>Understand how to start up multi-stage operations in food manufacture</td>
<td>189</td>
</tr>
<tr>
<td>Unit 140</td>
<td>Shut down multi-stage operations in food manufacture</td>
<td>192</td>
</tr>
<tr>
<td>Unit 141</td>
<td>Understand how to shut down multi-stage operations in food manufacture</td>
<td>195</td>
</tr>
<tr>
<td>Unit 067*</td>
<td>Manage customer service in own area of responsibility</td>
<td>197</td>
</tr>
<tr>
<td>Unit 068</td>
<td>Monitor and evaluate customer service in food operations</td>
<td>201</td>
</tr>
<tr>
<td>Unit 069</td>
<td>Understand how to monitor and evaluate customer service in food operations</td>
<td>205</td>
</tr>
<tr>
<td>Unit 070</td>
<td>Monitor and maintain standards of conduct in food manufacture</td>
<td>209</td>
</tr>
<tr>
<td>Unit 071</td>
<td>Understand how to monitor and maintain standards of conduct in food manufacture</td>
<td>214</td>
</tr>
<tr>
<td>Unit 072</td>
<td>Set up and maintain food service operations</td>
<td>218</td>
</tr>
<tr>
<td>Unit 073</td>
<td>Monitor effectiveness of food service operations</td>
<td>221</td>
</tr>
<tr>
<td>Unit 074</td>
<td>Understand how to set up and maintain food service operations</td>
<td>224</td>
</tr>
<tr>
<td>Unit 075</td>
<td>Analyse and report data</td>
<td>227</td>
</tr>
<tr>
<td>Unit 076*</td>
<td>Manage personal development</td>
<td>232</td>
</tr>
<tr>
<td>Unit 077</td>
<td>Set objectives and provide support for team members</td>
<td>237</td>
</tr>
<tr>
<td>Unit 078</td>
<td>Manage or support equality of opportunity, diversity and inclusion in own area of responsibility</td>
<td>242</td>
</tr>
<tr>
<td>Unit 079</td>
<td>Support team members in identifying, developing and implementing new ideas</td>
<td>246</td>
</tr>
<tr>
<td>----------</td>
<td>---------------------------------------------------------------</td>
<td>-----</td>
</tr>
<tr>
<td>Unit 080*</td>
<td>Plan, allocate and monitor work of a team</td>
<td>251</td>
</tr>
<tr>
<td>Unit 081</td>
<td>Manage conflict in a team</td>
<td>257</td>
</tr>
<tr>
<td>Unit 082</td>
<td>Lead and manage meetings</td>
<td>262</td>
</tr>
<tr>
<td>Unit 083*</td>
<td>Make effective decisions</td>
<td>267</td>
</tr>
<tr>
<td>Unit 084</td>
<td>Manage knowledge in own area of responsibility</td>
<td>272</td>
</tr>
<tr>
<td>Unit 367**</td>
<td>Manage customer service in own area of responsibility</td>
<td>277</td>
</tr>
<tr>
<td>Unit 376**</td>
<td>Manage personal development</td>
<td>281</td>
</tr>
<tr>
<td>Unit 380**</td>
<td>Plan, allocate and monitor work of a team</td>
<td>286</td>
</tr>
<tr>
<td>Unit 383**</td>
<td>Make effective decisions</td>
<td>292</td>
</tr>
<tr>
<td><strong>Common Operations Units</strong></td>
<td></td>
<td>297</td>
</tr>
<tr>
<td>Unit 086</td>
<td>Monitor food safety at critical control points in operations</td>
<td>298</td>
</tr>
<tr>
<td>Unit 087</td>
<td>Monitor health, safety and environmental systems in food operations</td>
<td>301</td>
</tr>
<tr>
<td>Unit 088</td>
<td>Understand how to monitor health, safety and environmental management systems in food operations</td>
<td>305</td>
</tr>
<tr>
<td>Unit 089</td>
<td>Maintain, promote and improve environmental good practice in food operations</td>
<td>310</td>
</tr>
<tr>
<td>Unit 090</td>
<td>Understand how to monitor and improve environmental good practice in food operations</td>
<td>313</td>
</tr>
<tr>
<td>Unit 091</td>
<td>Monitor product quality in food operations</td>
<td>317</td>
</tr>
<tr>
<td>Unit 092</td>
<td>Understand how to control product quality in food operations</td>
<td>320</td>
</tr>
<tr>
<td>Unit 093</td>
<td>Manage organisational change for achieving excellence in food operations</td>
<td>324</td>
</tr>
<tr>
<td>Unit 094</td>
<td>Understand how to manage organisational change for achieving excellence in food operations</td>
<td>329</td>
</tr>
<tr>
<td>Unit 095</td>
<td>Develop working relationships with colleagues</td>
<td>333</td>
</tr>
<tr>
<td><strong>Food Operations Knowledge Units</strong></td>
<td></td>
<td>339</td>
</tr>
<tr>
<td>Unit 008</td>
<td>Principles of sensory assessment in food technology</td>
<td>340</td>
</tr>
<tr>
<td>Unit 009</td>
<td>Principles of weights and measures in food technology</td>
<td>343</td>
</tr>
<tr>
<td>Unit 010</td>
<td>Principles of cleaning raw food materials</td>
<td>347</td>
</tr>
<tr>
<td>Unit 011</td>
<td>Principles of sorting and grading produce and food materials</td>
<td>351</td>
</tr>
<tr>
<td>Unit 012</td>
<td>Principles of bulk size reduction of produce and food materials</td>
<td>355</td>
</tr>
<tr>
<td>Unit 013</td>
<td>Principles of freezing methods in food technology</td>
<td>360</td>
</tr>
<tr>
<td>Unit 014</td>
<td>Principles of homogenisation in food technology</td>
<td>365</td>
</tr>
<tr>
<td>Unit 015</td>
<td>Principles of filtration in food technology</td>
<td>370</td>
</tr>
<tr>
<td>Unit 016</td>
<td>Principles of centrifugation in food technology</td>
<td>374</td>
</tr>
<tr>
<td>Unit 017</td>
<td>Principles of blanching in food technology</td>
<td>378</td>
</tr>
<tr>
<td>Unit 018</td>
<td>Principles of irradiation in food technology</td>
<td>382</td>
</tr>
<tr>
<td>Unit 019</td>
<td>Principles of aseptic packaging in food technology</td>
<td>386</td>
</tr>
<tr>
<td>Unit 020</td>
<td>Principles of bar coding in food operations</td>
<td>390</td>
</tr>
<tr>
<td>Unit 021</td>
<td>Principles of paper and board packaging in food operations</td>
<td>394</td>
</tr>
<tr>
<td>Unit 022</td>
<td>Principles of plastic and cellulose films in food and drink</td>
<td>399</td>
</tr>
<tr>
<td>Unit 096</td>
<td>Understanding the principles and practices of assessment</td>
<td>405</td>
</tr>
<tr>
<td>Unit 097</td>
<td>The principles of HACCP for food manufacturing</td>
<td>414</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------------</td>
<td>-----</td>
</tr>
<tr>
<td>Unit 098</td>
<td>The principles of food safety supervision for manufacturing</td>
<td>420</td>
</tr>
<tr>
<td>Unit 099</td>
<td>Principles of monitoring and assessing risks in food operations</td>
<td>425</td>
</tr>
<tr>
<td>Unit 100</td>
<td>Principles of quality sampling and testing in food operations</td>
<td>429</td>
</tr>
<tr>
<td>Unit 101</td>
<td>Principles of quality in food operations</td>
<td>434</td>
</tr>
<tr>
<td>Unit 102</td>
<td>Principles of raw food materials in food operations</td>
<td>438</td>
</tr>
<tr>
<td>Unit 103</td>
<td>Principles of product development in food operations</td>
<td>442</td>
</tr>
<tr>
<td>Unit 104</td>
<td>Principles of engineering maintenance in food operations</td>
<td>448</td>
</tr>
<tr>
<td>Unit 105</td>
<td>Principles of sustainability in food operations</td>
<td>453</td>
</tr>
<tr>
<td>Unit 106</td>
<td>Principles of continuous improvement techniques (Kaizen) in food operations</td>
<td>458</td>
</tr>
<tr>
<td>Unit 107</td>
<td>Principles of food data analysis in food and drink</td>
<td>462</td>
</tr>
<tr>
<td>Unit 108</td>
<td>Principles of appearance and texture in food technology</td>
<td>466</td>
</tr>
<tr>
<td>Unit 109</td>
<td>Principles of flavours in food technology</td>
<td>469</td>
</tr>
<tr>
<td>Unit 110</td>
<td>Principles of rheological characteristics in food technology</td>
<td>473</td>
</tr>
<tr>
<td>Unit 111</td>
<td>Principles of energy transfer in heating food technology</td>
<td>477</td>
</tr>
<tr>
<td>Unit 112</td>
<td>Principles of the dehydration process in food technology</td>
<td>481</td>
</tr>
<tr>
<td>Unit 113</td>
<td>Principles of energy transfer in cooling food technology</td>
<td>485</td>
</tr>
<tr>
<td>Unit 114</td>
<td>Principles of the refrigeration cycle in food technology</td>
<td>488</td>
</tr>
<tr>
<td>Unit 115</td>
<td>Principles of pigments in food technology</td>
<td>493</td>
</tr>
<tr>
<td>Unit 116</td>
<td>Principles of functional food additives in food technology</td>
<td>499</td>
</tr>
<tr>
<td>Unit 117</td>
<td>Principles of yeast biology for food and drink</td>
<td>505</td>
</tr>
<tr>
<td>Unit 118</td>
<td>Principles of microbiology in food technology</td>
<td>510</td>
</tr>
<tr>
<td>Unit 119</td>
<td>Principles of sterile processing in food technology</td>
<td>516</td>
</tr>
<tr>
<td>Unit 120</td>
<td>Principles of canning in food technology</td>
<td>521</td>
</tr>
<tr>
<td>Unit 121</td>
<td>Principles of food labelling in food operations</td>
<td>526</td>
</tr>
<tr>
<td>Unit 122</td>
<td>Principles of achieving excellence in food operations</td>
<td>530</td>
</tr>
<tr>
<td>Unit 123</td>
<td>Principles of improving organisational performance in achieving excellence in food operations</td>
<td>534</td>
</tr>
<tr>
<td>Unit 124</td>
<td>Principles of energy efficiency in food operations</td>
<td>538</td>
</tr>
<tr>
<td>Unit 125</td>
<td>Principles of food policy and regulation</td>
<td>544</td>
</tr>
<tr>
<td>Unit 126</td>
<td>Principles of using Information Communication Technology (ICT) and Management Information Systems (MIS) in food technology</td>
<td>548</td>
</tr>
<tr>
<td>Appendix 1</td>
<td>Sources of general information</td>
<td>551</td>
</tr>
</tbody>
</table>
1 Introduction to the qualifications

This document contains the information that centres need to offer the following qualifications:

<table>
<thead>
<tr>
<th>Qualification title and level</th>
<th>Level 3 Award for Proficiency in Food Industry Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>City &amp; Guilds qualification number</td>
<td>(1283-30)</td>
</tr>
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<thead>
<tr>
<th>Qualification title and level</th>
<th>Level 3 Certificate for Proficiency in Food Industry Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>City &amp; Guilds qualification number</td>
<td>(1283-31)</td>
</tr>
<tr>
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<td>31/12/2018</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Qualification title and level</th>
<th>Level 3 Diploma for Proficiency in Food Industry Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>City &amp; Guilds qualification number</td>
<td>(1283-32)</td>
</tr>
<tr>
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<td>600/0767/9</td>
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</tr>
<tr>
<td>Last certification date</td>
<td>31/12/2018</td>
</tr>
</tbody>
</table>

These qualifications are designed for learners who are working in a range of food operations roles, typically in automated production/processing companies. They offer learners the opportunity to develop skills and knowledge required to prove competence at work. They will also suit learners competent at core production/processing activities, looking to expand their existing skills, perhaps to support multi-skilling or to develop into a specialist area such as quality assurance or laboratory operations.

There is a Level 3 IPQ in Specialist Baking Industry Skills, (and Specialist Meat and Poultry Industry Skills is in development) and learners working in these areas should take the IPQ specific to their industry.

For the first time, the qualifications offer the food industry a unique mix of:

- occupational skills and knowledge units covering technical operations and management competencies, combined with
- the detailed knowledge units relevant to all roles.

The flexible choice of units, allows learners to select units that are most relevant to their own employment, learning and progression requirements. The choice of units also reflects the wide variety of jobs which people do in different types of companies in the industry.

The Common Operations units also offer learners the opportunity to take competencies which are generic to the whole food and drink industry, such as food safety, working with others and quality.

Learners may progress to Level 4 qualifications.
1.1 Qualification structure

The tables below indicate the rules of combination needed to achieve the Level 3 Award/Certificate/Diploma for Proficiency in Food Manufacturing Excellence.

<table>
<thead>
<tr>
<th></th>
<th>Award</th>
<th>Certificate</th>
<th>Diploma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total credits required for qualification</td>
<td>10-12</td>
<td>27-36</td>
<td>37-67</td>
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<tr>
<td>Guided Learning Hours range (min-max)</td>
<td>33-88</td>
<td>109-222</td>
<td>143-306</td>
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<tr>
<td>Technical &amp; Management units (Group A)</td>
<td>Mandatory 8-12</td>
<td>Mandatory 21-36</td>
<td>Mandatory 22+</td>
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<tr>
<td>Common Operations units (Group B)</td>
<td>Optional 0-4</td>
<td>Optional 1-4</td>
<td>Optional 1-8</td>
</tr>
<tr>
<td>Food Operations Knowledge units (Group C)</td>
<td>N/a</td>
<td>Optional 2-6</td>
<td>Mandatory 7-15</td>
</tr>
</tbody>
</table>

**Level 3 Award for Proficiency in Food Industry Skills (1283-30)**

To achieve the full level 3 Award, learners must achieve a minimum of 10 credits, comprising of the following combination of credits from each of the two unit groups:
- Group A - minimum of 8 credits
- Group B – it is not mandatory to take any units from this group but up to 4 credits can be achieved.
- Any further credit achieved up to 12 credits will be recorded with all the units that have been achieved towards the qualification.

**Level 3 Certificate for Proficiency in Food Industry Skills (1283-31)**

To achieve the full level 2 Certificate, learners must achieve a minimum of 27 credits, comprising of the following combination of credits from each of the three unit groups:
- Group A - a minimum of 21 credits
- Group B – it is not mandatory to take any units from this group but up to 4 credits can be achieved.
- Group C - it is not mandatory to take any credits from Group C, but up to 6 credits can be achieved.
- Any further credit achieved (up to 36 credits) will be recorded with all the units that have been achieved towards the qualification.

**Level 3 Diploma for Proficiency in Food Industry Skills (1283-32)**

To achieve the full level 2 Diploma, learners must achieve a minimum of 37 credits, comprising of the following combination of credits from each of the three unit groups:
- Group A - minimum of 22 credits
- Group B – it is not mandatory to take any units from this group but up to 8 credits can be achieved.
- Group C – minimum 7 credits.
- Any further credit achieved (up to 67 credits) will be recorded with all the units that have been achieved towards the qualification.
1.2 Opportunities for progression
On completion of these qualifications candidates may progress into employment or to Level 4 qualifications in the same subject.
2 Centre requirements

This section outlines the approval processes for Centres to offer these qualifications and any resources that Centres will need in place to offer the qualifications including qualification-specific requirements for Centre staff.

There is no fast track approval provision for this qualification.

Existing centres wishing to offer this qualification must use the standard Qualification Approval Process.

2.1 Resource requirements

Physical resources and site agreements

It is acceptable for centres to use specially designated areas within a centre to assess. The equipment, systems and machinery must meet industrial standards and be capable of being used under normal working conditions.

Human resources

Staff delivering these qualifications must be able to demonstrate that they meet the following occupational expertise requirements. They should:

- be technically competent in the areas for which they are delivering training and/or have experience of providing training. This knowledge must be at least to the same level as the training being delivered
- hold the Level 3 Diploma for Proficiency in Food Industry Skills, or an equivalent qualification
- have recent relevant experience in the specific area they will be assessing
- be occupationally knowledgeable in the areas of food industry skills for which they are delivering training. This knowledge must be at least to the same level as the training being delivered
- have credible experience of providing training.

Centre staff may undertake more than one role, eg tutor and assessor or internal verifier, but must never internally verify their own assessments.

2.2 Assessors and internal verifiers

The following guidance is taken from the Improve Assessment Strategy for Proficiency Qualifications.

Occupational competence of assessors

The role of an assessor is a demanding and complex one, requiring a high degree of both interpersonal and organisational skills. They are required to make accurate and objective decisions as to whether the learner’s performance meets the assessment requirements laid out in units of assessment.

For assessments to be considered valid, the assessor must meet the following requirements. Any assessments carried out by personnel who do not meet these requirements will be deemed a contribution to workplace testimony.
Assessors are required to:

- Provide current evidence of competence, knowledge and understanding in the areas to be assessed, to the satisfaction of the Awarding Organisation. This will normally be achieved through demonstrating competence in the roles which are to be assessed, which may be recorded in company training records. Alternatively, this can be demonstrated by relevant experience and continuing professional development which may include the achievement of qualifications relevant to the areas being assessed.

- Demonstrate competent practice in workplace assessment methods. They do not need to hold the assessor unit qualification A1, but must demonstrate understanding of the principles and practices of the assessment process. This may in part be demonstrated for example, by the outcomes of formal training in assessment techniques for company based training systems or qualifications, or for auditing against quality criteria for an externally audited quality standard. Assessors with previous unit achievement of A1, D32 and/or D33 satisfy requirements, provided evidence of continuous professional development has updated workplace assessment practice. Recognition of assessors in this way is only valid between a centre and an Awarding Organisation in respect of specific qualifications, and is not transferable to other bodies or qualifications.

- Demonstrate their continuing professional development to ensure they are up to date with work practices in their sector area of expertise and developments in the Proficiency Qualifications they assess.

- Have a full and current understanding of the units of assessment and requirements of the qualifications being assessed.

- Operate safely as an assessor in a food environment, therefore it is strongly recommended that a relevant food safety/hygiene qualification is achieved.

Assessors ‘in training’ who are not fully recognised as competent by Awarding Organisations may carry out assessment practice. For the period in training and working towards recognition, the assessor must have assessment activity monitored and signed off (countersigned) by a fully recognised and competent assessor. The ‘in training’ period should be limited to nine months and have clear development goals set for achieving recognition and competence.

Occupational competence of internal verifiers

Approved centres appoint internal verifiers and their role is to ensure consistency and quality of assessment within the centre. The internal verifier will monitor assessment activities and provide feedback to assessors, coordinate standardisation and provide guidance to assessors.

For assessments and verification to be considered valid, the internal verifier must meet the following requirements:

- Demonstrate sufficient and current understanding of the qualifications to be internally verified, and know how they are applied in the sector area(s) concerned, to the satisfaction of the Awarding organisation. Relevant knowledge and understanding of the workplace areas to be sampled during verification is required. Relevant experience of working in or with the sector area(s) is preferable.

- Demonstrate competent practice in internal verification and assessment. They do not need to hold the unit qualification V1 but must be able to understand the principles and practices of internal verification. This may in part be demonstrated for example, by the outcomes of formal training in assessment and verification techniques for company based training systems or qualifications, or for auditing against quality criteria for an externally audited quality standard. Verifiers with previous unit achievement of V1 or D34 satisfy requirements, provided evidence of continuous professional development has updated verification practice. Recognition of internal verifiers in this way is only valid between a...
centre and an Awarding Organisation in respect of specific qualifications, and is not transferable to other bodies or qualifications.

- Demonstrate their continuing professional development to ensure they are up to date with work practices in their sector and developments in the qualifications they verify.
- Know where and when to access specialist sector advice, where additional specialist or technical knowledge relating to assessment and verification decisions is concerned.
- Operate safely as an internal verifier in a food environment, therefore it is strongly recommended that a relevant food safety/hygiene qualification is achieved.

Internal verifiers ‘in training’ who are not fully recognised as competent by Awarding Organisations may carry out verification practice. For the period in training and working towards recognition, the assessor must have verification activity monitored and signed off (countersigned) by a fully recognised and competent internal verifier. The ‘in training’ period should be limited to nine months and have clear development goals set for achieving recognition and competence.

Continuing professional development (CPD)
Centres are expected to support their staff in ensuring that their knowledge remains current of the occupational area and of best practice in delivery, mentoring, training, assessment and verification, and that it takes account of any national or legislative developments.

2.3 Candidate entry requirements
Candidates should not be entered for a qualification of the same type, content and level as that of a qualification they already hold.
There are no formal entry requirements for candidates undertaking these qualifications. However, centres must ensure that candidates have the potential and opportunity to gain the qualifications successfully.

Age restrictions
These qualifications are not approved for use by candidates under the age of 16, and City & Guilds cannot accept any registrations for candidates in this age group.

Other legal considerations
- There are no legal considerations
3 Course design and delivery

3.1 Initial assessment and induction
Centres will need to make an initial assessment of each candidate prior to the start of their programme to ensure they are entered for an appropriate type and level of qualification.

The initial assessment should identify:
- any specific training needs the candidate has, and the support and guidance they may require when working towards their qualification[s]. This is sometimes referred to as diagnostic testing.
- any units the candidate has already completed, or credit they have accumulated which is relevant to the qualification[s] they are about to begin.

City & Guilds recommends that centres provide an induction programme to ensure the candidate fully understands the requirements of the qualification[s] they will work towards, their responsibilities as a candidate, and the responsibilities of the centre. It may be helpful to record the information on a learning contract.

3.2 Recommended delivery strategies
Centre staff should familiarise themselves with the structure, content and assessment requirements of the qualification[s] before designing a course programme.

Centres may design course programmes of study in any way which:
- best meets the needs and capabilities of their candidates
- satisfies the requirements of the qualification[s].

When designing and delivering the course programme, centres might wish to incorporate other teaching and learning that is not assessed as part of the qualification[s]. This might include the following:
- literacy, language and/or numeracy
- personal learning and thinking
- personal and social development
- employability.

Where applicable, this could involve enabling the candidate to access relevant qualifications covering these skills.
4 Assessment

4.1 Summary of assessment methods
For these qualifications, candidates will be required to complete the following assessments:
- a portfolio of evidence for each unit.

Time constraints
- All portfolio evidence must be completed and assessed within the candidate’s period of registration. Centres should advise candidates of any internal timescales for the completion and marking of individual assignments.

4.2 Recording forms
Candidates and centres may decide to use a paper-based or electronic method of recording evidence.

City & Guilds endorses several ePortfolio systems. Further details are available at: www.cityandguilds.com/eportfolios.

City & Guilds has developed a set of Recording forms including examples of completed forms, for new and existing centres to use as appropriate.

N/SVQ Recording forms are available on the City & Guilds website.

Although it is expected that new centres will use these forms, centres may devise or customise alternative forms, which must be approved for use by the external verifier, before they are used by candidates and assessors at the centre.

Amendable (MS Word) versions of the forms are available on the City & Guilds website.

4.3 Recognition of prior learning (RPL)
Evidence from past achievement may be included as evidence within assessment methods for these qualifications. Evidence of knowledge and understanding can be presented as supplementary evidence, provided it is a measurable assessed outcome of learning which links to outcomes detailed in the units of assessment and confirms current competence.

Assessors should make best use of all the assessment methods available to them in ensuring the most reliable and effective use is made of claims of prior learning and experience which relate to the individual learner’s circumstances.

All learners, presenting evidence from past achievements, must also be able to demonstrate current competence.
5 Units

Structure of units
The units in these qualifications are written in a standard format and comprise the following:

- City & Guilds reference number
- unit accreditation number
- 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.

Summary of units

Technical and Management Units

<table>
<thead>
<tr>
<th>City &amp; Guilds unit number</th>
<th>Title</th>
<th>Unit number</th>
<th>Credit Value</th>
<th>GLH</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>003</td>
<td>Start up multi-stage operations in food manufacture</td>
<td>T/502/7490</td>
<td>2</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>023</td>
<td>Support commissioning of plant, equipment and processes in food operations</td>
<td>J/502/7428</td>
<td>3</td>
<td>21</td>
<td>3</td>
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<tr>
<td>024</td>
<td>Understand how to support commissioning of plant, equipment and processes in food operations</td>
<td>F/502/7427</td>
<td>2</td>
<td>12</td>
<td>3</td>
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<tr>
<td>025</td>
<td>Maintain plant and equipment in food operations</td>
<td>D/602/5811</td>
<td>4</td>
<td>26</td>
<td>3</td>
</tr>
<tr>
<td>026</td>
<td>Understand how to maintain plant and equipment in food operations</td>
<td>K/602/5830</td>
<td>3</td>
<td>23</td>
<td>3</td>
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<tr>
<td>027</td>
<td>Diagnose problems in food operations</td>
<td>A/602/4617</td>
<td>3</td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>028</td>
<td>Understand how to diagnose problems in food operations</td>
<td>F/602/4618</td>
<td>3</td>
<td>16</td>
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<tr>
<td>029</td>
<td>Resolve problems in food operations</td>
<td>J/602/4619</td>
<td>3</td>
<td>16</td>
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<td>030</td>
<td>Understand how to resolve problems in food operations</td>
<td>A/602/4620</td>
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<td>031</td>
<td>Carry out sampling for quality control in food operations</td>
<td>D/601/8311</td>
<td>2</td>
<td>8</td>
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<tr>
<td>032</td>
<td>Understand how to carry out sampling for quality control in food operations</td>
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<td>033</td>
<td>Carry out testing for quality control in</td>
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<td>Unit number</td>
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<tr>
<td>034</td>
<td>food operations</td>
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<tr>
<td>035</td>
<td>Understand how to carry out tests for quality control in food operations</td>
<td>K/502/7406</td>
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<td>18</td>
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<td>036</td>
<td>Monitor and control quality of work activities in food operations</td>
<td>M/502/7407</td>
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<td>037</td>
<td>Monitor and control throughput to achieve targets in food operations</td>
<td>F/602/4697</td>
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<td>038</td>
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<td>039</td>
<td>Carry out quality audits in food operations</td>
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<td>Understand how to carry out quality audits in food operations</td>
<td>T/602/4700</td>
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<td>041</td>
<td>Develop test samples in food manufacture</td>
<td>T/502/7408</td>
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<td>Understand how to develop test samples in food manufacture</td>
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<td>043</td>
<td>Develop product specifications in food manufacture</td>
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<td>044</td>
<td>Understand how to develop product specifications in food manufacture</td>
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<td>045</td>
<td>Evaluate and improve production in food manufacture</td>
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<td>047</td>
<td>Control energy efficiency in food operations</td>
<td>A/602/4701</td>
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<td>048</td>
<td>Control waste minimisation in food operations</td>
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<td>049</td>
<td>Understand how to control waste minimisation in food operations</td>
<td>J/602/4703</td>
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<td>Control water usage in food operations</td>
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<td>Understand how to control water usage in food operations</td>
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<td>054</td>
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<td>056</td>
<td>Plan production schedules in food manufacture</td>
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<tr>
<td>057</td>
<td>Understand how to plan production schedules in food manufacture</td>
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<td>057</td>
<td>Monitor and report on production progress in food manufacture</td>
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<td>Understand how to monitor and report on production progress in food manufacture</td>
<td>Y/502/7417</td>
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<td>059</td>
<td>Carry out process control in food manufacture</td>
<td>D/502/7418</td>
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<td>060</td>
<td>Understand how to carry out process control in food manufacture</td>
<td>H/502/7419</td>
<td>2</td>
<td>15</td>
<td>3</td>
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<tr>
<td>061</td>
<td>Produce product specifications in food manufacture</td>
<td>Y/502/7420</td>
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<td>14</td>
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<td>062</td>
<td>Understand how to produce production specifications in food manufacture</td>
<td>M/502/7584</td>
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<td>13</td>
<td>3</td>
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<td>139</td>
<td>Understand how to start up multi-stage operations in food manufacture</td>
<td>K/502/7471</td>
<td>2</td>
<td>11</td>
<td>3</td>
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<td>140</td>
<td>Shut down multi-stage operations in food manufacture</td>
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<td>9</td>
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<tr>
<td>141</td>
<td>Understand how to shut down multi-stage operations in food manufacture</td>
<td>F/502/7475</td>
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<td>9</td>
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<tr>
<td>067*</td>
<td>Manage customer services in own area of responsibility</td>
<td>D/600/9804</td>
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<td>25</td>
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<tr>
<td>068</td>
<td>Monitor and evaluate customer service in food operations</td>
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<td>4</td>
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<td>069</td>
<td>Understand how to monitor and evaluate customer service in food operations</td>
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<td>070</td>
<td>Monitor and maintain standards of conduct in food operations</td>
<td>H/502/7422</td>
<td>2</td>
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<td>071</td>
<td>Understand how to monitor and maintain standards of conduct in food operations</td>
<td>D/502/7421</td>
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<td>072</td>
<td>Set up and maintain food service operations</td>
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<td>14</td>
<td>3</td>
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<td>073</td>
<td>Monitor effectiveness of food service operations</td>
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<tr>
<td>074</td>
<td>Understand how to set up and maintain food service operations</td>
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<tr>
<td>075</td>
<td>Analyse and report data</td>
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<td>6</td>
<td>30</td>
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<tr>
<td>076*</td>
<td>Manage personal development</td>
<td>F/600/9469</td>
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<td>077</td>
<td>Set objectives and provide support for team members</td>
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<td>078</td>
<td>Manage or support equality of opportunity, diversity and inclusion in own area of responsibility</td>
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<td>Support team members in identifying, developing and implementing new ideas</td>
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<td>367**</td>
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* Learners registered before 1st July 2017 should use this unit.
** Learners registered after 1st July 2017 should use this unit.

### Common Operations Units

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<td>Monitor health, safety and environmental systems in food operations</td>
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<td>Develop working relationships with colleagues</td>
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### Food Operations Knowledge Units
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<td>Principles of sensory assessment in food technology</td>
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20 Level 3 Award, Certificate and Diploma for Proficiency in Food Industry Skills (1283-30/31/32)
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Technical and Management Units
Unit 003  Start up multi-stage operations in food manufacture

Level: 3  
Credit value: 2  
UAN number: T/502/7490

Unit aim:  
This unit supports workforce development for those who start up multi-stage operation in a food business. 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.

Learning outcomes  
There are two learning outcomes to this unit. The learner will:
1. Be able to prepare to start up multi-stage operations  
2. Be able to start up multi-stage operations

Guided learning hours  
It is recommended that 9 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit PO.1215 Start up multi-stage operations in food manufacture.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
This unit is designed to assess the skills of learners in the workplace, starting up multi-stage operations in food manufacture. 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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 003  Start up multi-stage operations in food manufacture

Outcome 1  Be able to prepare to start up multi-stage operations

Assessment Criteria
The learner can:

1. Evaluate the effectiveness of start-up procedures
2. Make recommendations for improvements to procedures to the relevant people
3. Establish and maintain communication with managers and colleagues
4. Ensure that all necessary plant, equipment, materials and services are available and fit for use.
Unit 003  
**Start up multi-stage operations in food manufacture**

**Outcome 2**  
Be able to start up multi-stage operations

**Assessment Criteria**

The learner can:

1. Ensure that required instrumentation is working to specifications and take relevant action in response to any faults
2. Ensure that plant is configured to achieve optimum performance
3. Ensure that start-up is in accordance with procedures and uses resources efficiently
4. Evaluate faults for impact on operations and take appropriate action within the limits of own authority
5. Complete necessary documentation and process it according to specified procedures.
Unit 023  Support commissioning of plant, equipment and processes in food operations

Level: 3  
Credit value: 3  
UAN number: J/502/7428

Unit aim:
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit EM.103S Support commissioning of plant, equipment and processes in food manufacture.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Be able to prepare to commission plant, equipment and processes
2. Be able to contribute to commissioning
3. Be able to report on the commissioning activity

Guided learning hours
It is recommended that 21 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit EM.103S Support commissioning of plant, equipment and processes in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the skills of learners in the workplace, supporting commissioning of plant, equipment and processes 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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 023  
**Support commissioning of plant, equipment and processes in food operations**

Outcome 1  
Be able to prepare to commission plant, equipment and processes

**Assessment Criteria**

The learner can:

1. Monitor and adhere to procedures affecting commissioning, including:
   - environmental issues
   - health and safety
   - food safety issues
2. Report requirements identified for new procedures to relevant people
3. Identify staff training needs to operate new and modified equipment and report to relevant people
4. Prepare plant for operation
Unit 023  Support commissioning of plant, equipment and processes in food operations

Outcome 2  Be able to contribute to commissioning

**Assessment Criteria**
The learner can:

1. Establish the status of all relevant items of equipment
2. Record the operational responses of the plant, equipment and materials
3. Check operational responses data against specifications
4. Take action to correct any deviations in performance
Unit 023  Support commissioning of plant, equipment and processes in food operations

Outcome 3  Be able to report on the commissioning activity

Assessment Criteria

The learner can:

1. Report deviations to relevant personnel
2. Establish and maintain effective communication with managers and colleagues to report on:
   - quality of product
   - health and safety issues
   - food safety issues
   - Environmental issues
   - training needs
   - advice provided
3. Complete and process the necessary commissioning documentation.
Unit 024  Understand how to support commissioning of plant, equipment and processes in food operations

Level: 3
Credit value: 2
UAN number: F/502/7427

Unit aim:
This unit supports workforce development for those who understand how to support commissioning of plant, equipment and processes, in a food business. 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.

Learning outcomes
There are two learning outcomes to this unit. The learner will:
1. Know about preparation prior to commissioning of plant, equipment and processes
2. Know about commissioning plant

Guided learning hours
It is recommended that 12 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit EM.104K Understand how to support commissioning of plant, equipment and processes in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the knowledge and understanding of learners in the workplace context, when supporting commissioning of plant, equipment and processes in food operations. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 024  **Understand how to support commissioning of plant, equipment and processes in food operations**

Outcome 1  Know about preparation prior to commissioning of plant, equipment and processes

**Assessment Criteria**

The learner can:

1. Evaluate relevant standards of health and safety and food safety associated with commissioning
2. Describe how a commissioning plan can be communicated to relevant parties
3. Describe the importance of meeting documentation requirements for commissioning
4. Explain how to access and interpret relevant guidelines and specifications
5. Describe the components, and process for conducting a training needs analysis.
Unit 024  Understand how to support commissioning of plant, equipment and processes in food operations

Outcome 2  Know about commissioning plant

Assessment Criteria
The learner can:

1. Describe limits of authority and competence for commissioning operators
2. Describe the relevant plant, process and equipment specifications
3. Evaluate the impact on operations that commissioning may have
4. Describe when the range of options available for corrective action should be used
5. Describe the process capability of newly installed plant and equipment
6. Describe how a process is validated.
Unit 025  Maintain plant and equipment in food operations

Level: 3  
Credit value: 4  
UAN number: D/602/5811

Unit aim:  
This unit supports workforce development for those who maintain plant and equipment in a food business. 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.

Learning outcomes  
There are five learning outcomes to this unit. The learner will:
1. Be able to plan maintenance activities  
2. Be able to prepare for maintenance activities  
3. Be able to communicate plans to the relevant people  
4. Be able to undertake maintenance activities  
5. Be able to report on maintenance activities

Guided learning hours  
It is recommended that 26 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit EM.105S Maintain plant and equipment in food manufacture.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
This unit is designed to assess the skills of learners in the workplace, maintaining plant and equipment 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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 025  Maintain plant and equipment in food operations
Outcome 1  Be able to plan maintenance activities

Assessment Criteria
The learner can:

1. Access and interpret relevant information and instructions
2. Evaluate the impact of instructions on operations
3. Prioritise own work activities
4. Interpret maintenance log
5. Refer to planned maintenance schedule.
Unit 025

Maintain plant and equipment in food operations

Outcome 2

Be able to prepare for maintenance activities

Assessment Criteria

The learner can:

1. Identify resources that will be required
2. Ensure resources are fit for purpose
3. Prepare work area for maintenance activity.
Unit 025  Maintain plant and equipment in food operations
Outcome 3  Be able to communicate plans to the relevant people

Assessment Criteria
The learner can:

1. Check that maintenance activities are correctly authorised
2. Report maintenance events to relevant colleagues
3. Complete and process required documentation.
**Unit 025**  
**Maintain plant and equipment in food operations**

**Outcome 4**  
Be able to undertake maintenance activities

**Assessment Criteria**

The learner can:

1. Monitor and adhere to procedures
2. Use tools, materials, equipment and techniques that are fit for purpose
3. Identify defects and discrepancies in components
4. Take the necessary corrective action
5. Minimise the wastage of consumable items
6. Dispose of non-reusable items
7. Leave plant and equipment safe, tidy and fit for future use.
Unit 025  

Maintain plant and equipment in food operations

Outcome 5  
Be able to report on maintenance activities

Assessment Criteria
The learner can:

1. Ensure uncompleted work is recorded and reported to relevant people
2. Evaluate the effectiveness of maintenance activities
3. Communicate with managers and colleagues
4. Complete and process required documentation.
Unit 026  Understand how to maintain plant and equipment in food operations

Level: 3  
Credit value: 3  
UAN number: K/602/5830

Unit aim:  
This unit supports workforce development for those who understand how to maintain plant and equipment, in a food business. 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.

Learning outcomes  
There are three learning outcomes to this unit. The learner will:
1. Know about planned maintenance
2. Know how to carry out maintenance
3. Know how to carry out and remedial maintenance

Guided learning hours  
It is recommended that 23 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit EM.106K Understand how to maintain plant and equipment in food manufacture.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
This unit is designed to assess the knowledge and understanding of learners in the workplace context, when maintaining plant and equipment in food operations. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 026  Understand how to maintain plant and equipment in food operations

Outcome 1  Know about planned maintenance

Assessment Criteria
The learner can:

1. Outline the importance of monitoring and adhering to procedures, to include:
   - health and safety
   - food safety
   - environmental
2. Explain how to assess the maintenance requirements of plant and equipment
3. Describe limits of own authority when carrying out maintenance and the importance of working within them
4. Evaluate the effectiveness of planned maintenance
5. Describe the implications of not carrying out maintenance
6. Outline how to evaluate the effectiveness of maintenance
7. Evaluate the materials selection process
8. Describe typical defects and discrepancies due to ineffective maintenance.
Unit 026  Understand how to maintain plant and equipment in food operations

Outcome 2  Know how to carry out maintenance

**Assessment Criteria**

The learner can:

1. Describe the importance of documentation required for maintenance
2. Describe how plant operating systems work
3. Explain the impact of maintenance on operations
4. Describe how to leave plant and equipment safe, tidy and fit for use
5. Describe information and resources required for maintenance.
Unit 026  Understand how to maintain plant and equipment in food operations
Outcome 3  Know how to carry out and remedial maintenance

Assessment Criteria
The learner can:

1. Explain what to do if maintenance uncovers unexpected problems
2. Describe what to do if resources are not fit for purpose
3. Evaluate effective waste minimisation procedures
4. Describe how to communicate remedial actions to relevant people
5. Explain how to evaluate the effectiveness of maintenance activities.
Unit 027  Diagnose problems in food operations

Level: 3  
Credit value: 3  
UAN number: A/602/4617

**Unit aim:**  
This unit supports workforce development for those who diagnose problems in food operations within a food business. 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.

**Learning outcomes**  
There are three learning outcomes to this unit. The learner will:
1. Be able to identify problems
2. Be able to diagnose problems
3. Be able to report problems

**Guided learning hours**  
It is recommended that 14 hours should be allocated for this unit, although patterns of delivery are likely to vary.

**Details of the relationship between the unit and relevant national standards**  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit PO.117S Diagnose problems in a food environment.

**Support of the unit by a sector or other appropriate body**  
This unit is endorsed by Improve.

**Assessment**  
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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 027  Diagnose problems in food operations
Outcome 1  Be able to identify problems

Assessment Criteria
The learner can:

1. Identify differences from normal operating conditions quickly
2. Assess the impact of problems
3. Take action to ensure safety of self and colleagues.
Unit 027  Diagnose problems in food operations
Outcome 2  Be able to diagnose problems

Assessment Criteria
The learner can:

1. Check and follow legal or regulatory requirements for;
   - hygiene
   - health and safety
   - environmental standards
2. Establish the nature, cause and the effect of the problems
3. Investigate problems in a safe and cost-effective manner, with minimum delay or wastage.
Unit 027  Diagnose problems in food operations
Outcome 3  Be able to report problems

Assessment Criteria
The learner can:

1. Communicate problems to the relevant person
2. Complete and process all records.
Unit 028  
Understand how to diagnose problems in food operations

Level: 3  
Credit value: 3  
UAN number: F/602/4618

Unit aim:  
This unit supports workforce development for those who need to know how to diagnose problems in a food business. 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.

Learning outcomes  
There are three learning outcomes to this unit. The learner will:
1. Know how to identify problems  
2. Know how to diagnose problems  
3. Know how to communicate problems

Guided learning hours  
It is recommended that 16 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit PO.118K Understand how to diagnose problems in a food environment.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 028 Understand how to diagnose problems in food operations

Outcome 1 Know how to identify problems

Assessment Criteria

The learner can:

1. Outline standards of health, safety and hygiene that are required and the importance of applying them
2. Explain the business's need for problem solving
3. Evaluate the benefits of formalised problem solving
4. Summarise operating procedures, standards and critical control factors in own work area
5. Clarify limits of own authority and reporting arrangements in the event of problems that cannot be resolved.
Unit 028 Understand how to diagnose problems in food operations

Outcome 2 Know how to diagnose problems

**Assessment Criteria**

The learner can:

1. Summarise how plant, equipment, tools, and testing equipment work and are used
2. Explain product and process specifications and how to identify deviations from them
3. Outline typical operating problems in own work area and their possible effect on other operations
4. Explain how to investigate problems in a safe and cost-effective manner and the importance of doing so
5. Explain how to define and verify the root cause of problems
6. Outline methods that can be used to gather evidence about problems
7. Outline how to analyse problems to determine their nature, cause and effects.
Unit 028  Understand how to diagnose problems in food operations
Outcome 3  Know how to communicate problems

Assessment Criteria
The learner can:

1. Explain lines and methods of effective communication and the importance of using them
2. Summarise the documentation requirements and the importance of meeting them.
Unit 029  Resolve problems in food operations

Level: 3  
Credit value: 3  
UAN number: J/602/4619

Unit aim:
The unit supports workforce development for those who resolve problems in a food business. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Be able to establish what the problems are
2. Be able to implement solutions
3. Be able to report on further action to be taken

Guided learning hours
It is recommended that 16 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit PO.119S Resolve problems in a food environment.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 029  Resolve problems in food operations
Outcome 1  Be able to establish what the problems are

Assessment Criteria
The learner can:

1. Check and follow legal or regulatory requirements for;
   • hygiene
   • health and safety
   • environmental standards
2. Check the available information and clarify or seek further information.
Unit 029
Resolve problems in food operations
Outcome 2
Be able to implement solutions

Assessment Criteria
The learner can:

1. Select solutions which are effective in relation to operational requirements
2. Ensure that the corrective actions determined meet with organisational requirements
3. Implement own chosen solution to restore operating conditions safely and effectively
4. Monitor operations to ensure that correct operating conditions are met and maintained
5. Communicate the results of own actions to the relevant person.
Unit 029  Resolve problems in food operations
Outcome 3  Be able to report on further action to be taken

Assessment Criteria
The learner can:

1. Identify the need for further work and report this to the relevant person in sufficient detail for action to be taken
2. Make suggestions to prevent the problem from happening again and ways to improve operations to managers and colleagues
3. Complete and process all records.
Unit 030  Understand how to resolve problems in food operations

Level: 3
Credit value: 4
UAN number: A/602/4620

Unit aim:
This unit supports workforce development for those who need to know how to resolve problems in a food business. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Know how to establish what the problems are
2. Know how to implement solutions
3. Know how to report on further action to be taken

Guided learning hours
It is recommended that 22 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit PO.120K Understand how to resolve problems in a food environment.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 030  Understand how to resolve problems in food operations

Outcome 1  Know how to establish what the problems are

Assessment Criteria
The learner can:

1. Outline standards of health, safety and hygiene and the importance of applying them
2. Explain how the plant and equipment works
3. Summarise the product and process specifications, the operating procedures, and standards in the area of work
4. Detail where further information can be sourced
5. Explain typical operating problems that occur in own work area and their possible effect on other operations
6. Outline how to analyse problems in a systematic way and why it is important to do so
7. Clarify the limits of own authority and reporting arrangements in the event of problems that cannot be resolved.
Unit 030  Understand how to resolve problems in food operations

Outcome 2  Know how to implement solutions

Assessment Criteria

The learner can:

1. Outline the action to take in response to operating problems
2. Summarise the factors to take into consideration when selecting solutions
3. Outline how to assess the impact of solutions on other operations
4. Explain how and when to use temporary and permanent solutions to restore operations in an effective way
5. Explain how to monitor product integrity during and after overcoming problems and the importance of this
6. Explain how to evaluate the effectiveness of solutions implemented.
Unit 030  

Understand how to resolve problems in food operations

Outcome 3  
Know how to report on further action to be taken

Assessment Criteria

The learner can:

1. Outline the lines and methods of effective communication and the importance of using them
2. Summarise the recording and communication needs, and the importance of using them correctly.
Unit 031  Carry out sampling for quality control in food operations

Level: 3
Credit value: 2
UAN number: D/601/8311

Unit aim:
This unit supports workforce development for those who carry out sampling for quality control in a food business. 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.

Learning outcomes
There are two learning outcomes to this unit. The learner will:
1. Be able to sample food products to meet sampling requirements
2. Be able to maintain integrity of sample

Guided learning hours
It is recommended that 8 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit QI.105S Carry out sampling for quality control in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 031  Carry out sampling for quality control in food operations

Outcome 1  Be able to sample food products to meet sampling requirements

Assessment Criteria
The learner can:

1. Prepare sampling resources
2. Carry out hygienic sampling
3. Label the samples for traceability
4. Store sample prior to testing
5. Clean sampling tools and equipment.
Unit 031  Carry out sampling for quality control in food operations
Outcome 2  Be able to maintain integrity of sample

Assessment Criteria
The learner can:

1. Record information about the sample for traceability purposes
2. Follow instructions to maintain the condition of the sample
3. Protect the sample from sources of contamination.
Unit 032  Understand how to carry out sampling for quality control in food operations

Level: 3  
Credit value: 3  
UAN number: H/601/8312

Unit aim: This unit supports workforce development for those who understand how to carry out sampling for quality control, in a food business. 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.

Learning outcomes There are three learning outcomes to this unit. The learner will:
1. Know about the principles of sampling  
2. Know about maintaining sample integrity  
3. Know about factors that influence samples

Guided learning hours It is recommended that 26 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit QI.106K Understand how to carry out sampling for quality control in food manufacture.

Support of the unit by a sector or other appropriate body This unit is endorsed by Improve.

Assessment 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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 032  Understand how to carry out sampling for quality control in food operations

Outcome 1  Know about the principles of sampling

Assessment Criteria
The learner can:

1. Describe procedures for sampling
2. Describe methods of hygienic sampling
3. Explain the procedures post sampling
4. Describe equipment used to take samples
5. Explain actions to take to deal with defective equipment
6. Explain controls in the sampling process
7. Explain how to check products against specifications.
Unit 032  
Understand how to carry out sampling for quality control in food operations

Outcome 2  
Know about maintaining sample integrity

**Assessment Criteria**

The learner can:

1. Describe traceability principles
2. Describe a sampling plan
3. Describe best practice when storing samples for testing
4. Explain importance of labelling of samples.
Unit 032  Understand how to carry out sampling for quality control in food operations

Outcome 3  Know about factors that influence samples

Assessment Criteria
The learner can:

1. Describe sample information that may be required prior to sampling
2. Describe environmental factors that may influence sample results
3. Describe intrinsic food properties that may affect sample results
4. Explain why defective equipment may affect sample result.
Unit 033  Carry out testing for quality control in food operations

Level: 3
Credit value: 3
UAN number: L/502/7365

Unit aim:
This unit supports workforce development for those who carry out testing for quality control in a food business. 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.

Learning outcomes
There are two learning outcomes to this unit. The learner will:
1. Be able to prepare for quality testing
2. Be able to carry out testing for quality

Guided learning hours
It is recommended that 11 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit QI.107S Carry out testing for quality control in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 033  Carry out testing for quality control in food operations
Outcome 1  Be able to prepare for quality testing

Assessment Criteria
The learner can:

1. Assemble resources for testing
2. Ensure equipment is ready and calibrated for testing
3. Report variances in equipment or testing
4. Confirm specification for the testing application.
Unit 033  Carry out testing for quality control in food operations

Outcome 2  Be able to carry out testing for quality

Assessment Criteria

The learner can:

1. Check integrity of sample
2. Document sample information
3. Perform tests within agreed specification
4. Record test results
5. Investigate out of specification results
Unit 034  
Understand how to carry out tests for quality control in food operations

Level: 3  
Credit value: 2  
UAN number: K/502/7406

Unit aim:  
This unit supports workforce development for those who understand how to carry out tests for quality control, in a food business. 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.

Learning outcomes  
There are four learning outcomes to this unit. The learner will:
1. Know about the importance of accurate quality testing  
2. Know about testing protocol for quality  
3. Know about equipment used in quality testing  
4. Understand how to interpret and communicate test results

Guided learning hours  
It is recommended that 18 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit QI.108K Understand testing for quality control in food manufacture.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 034 Understand how to carry out tests for quality control in food operations

Outcome 1 Know about the importance of accurate quality testing

Assessment Criteria
The learner can:

1. Explain the importance of standard operating procedures for quality control
2. Describe a protocol for ensuring testing equipment is fit for purpose.
3. Describe the content of a typical testing specification
4. Describe how to access and interpret product specifications.
Unit 034  
**Understand how to carry out tests for quality control in food operations**

Outcome 2  
Know about testing protocol for quality

**Assessment Criteria**

The learner can:

1. Describe the procedures used to identify suitable samples for testing
2. Explain the importance in ensuring sample integrity
3. Describe a suitable protocol for safe storage of samples prior to and after testing.
4. Describe how to assess product against key factors in product specifications using approved methods.
Unit 034  Understand how to carry out tests for quality control in food operations
Outcome 3  Know about equipment used in quality testing

Assessment Criteria
The learner can:

1. Describe how to prepare and calibrate testing equipment for use
2. Describe the features of testing equipment
3. Evaluate the importance of calibration checks on equipment are required
4. Explain the importance of ensuring equipment is fit for purpose
5. Explain the importance of reporting defective equipment.
Unit 034  Understand how to carry out tests for quality control in food operations

Outcome 4  Understand how to interpret and communicate test results

Assessment Criteria
The learner can:

1. Describe procedures and actions to take for product non-compliance
2. Explain how to calculate test results
3. Summarise acceptable levels of tolerance in quality interpretation
4. Describe suitable documentation to ensure traceability
5. Evaluate methods of communicating results both in specification and non compliance.
Unit 035 Monitor and control quality of work activities in food operations

Level: 3  
Credit value: 2  
UAN number: M/502/7407

Unit aim:  
This unit supports workforce development for those who monitor and control quality of work activities in a food business. 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.

Learning outcomes  
There are two learning outcomes to this unit. The learner will:  
1. Be able to carry out activities to ensure quality results are achieved  
2. Be able to report on quality of work activities against specifications

Guided learning hours  
It is recommended that 18 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit QI.109S Monitor and control quality of work activities in food manufacture.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
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.  
The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 035  Monitor and control quality of work activities in food operations

Outcome 1  Be able to carry out activities to ensure quality results are achieved

Assessment Criteria
The learner can:

1. Check that there are sufficient resources available to complete work activities within own area of responsibility
2. Monitor consistently the variances in work activities against specifications
3. Complete all relevant quality checks.
Unit 035  Monitor and control quality of work activities in food operations

Outcome 2  Be able to report on quality of work activities against specifications

Assessment Criteria
The learner can:

1. Report all instances of non-compliance accurately and promptly to relevant people
2. Action opportunities for improvement in work activities to relevant people
3. Assess implications of changes on quality control mechanisms
4. Access information from appropriate sources to support your report and recommendations
5. Complete quality records accurately and in line with operational procedures.
Unit 036  Monitor and control throughput to achieve targets in food operations

Level: 3
Credit value: 2
UAN number: F/602/4697

Unit aim:
This unit supports workforce development for those who monitor and control throughput to achieve targets in a food business. 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.

Learning outcomes
There are two learning outcomes to this unit. The learner will:
1. Be able to monitor and control throughput to achieve targets
2. Be able to take action to resolve problems affecting volume of throughput

Guided learning hours
It is recommended that 9 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit QI.1105 Monitor and control throughput to achieve targets in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 036  Monitor and control throughput to achieve targets in food operations

Outcome 1  Be able to monitor and control throughput to achieve targets

Assessment Criteria
The learner can:

1. Organise work to meet predetermined schedules, targets and make effective use of resources
2. Record the volume of throughput in line with operational requirements
3. Record production run output targets within the agreed operational parameters
4. Investigate output targets within the operational parameters.
Unit 036  

Monitor and control throughput to achieve targets in food operations

Outcome 2  

Be able to take action to resolve problems affecting volume of throughput

Assessment Criteria

The learner can:

1. Identify problems affecting the volume of throughput
2. Take corrective action to rectify and minimise the effects of the problems
3. Report problems, which exceed the limits of own authority, to the relevant people
4. Resolve problems that fall within own limits of responsibility.
Unit 037 Understand how to monitor and control throughput to achieve targets in food operations

Level: 3  
Credit value: 3  
UAN number: J/602/4698

Unit aim:  
This unit supports workforce development for those who understand how to monitor quality of work activities, in a food business. 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.

Learning outcomes  
There are five learning outcomes to this unit. The learner will:  
1. Know about the best advice and guidance surrounding monitoring quality  
2. Know about monitoring procedures for quality of work  
3. Know about monitoring procedures for throughput  
4. Know how to record quality of work issues  
5. Know about solving problems affecting throughput

Guided learning hours  
It is recommended that 15 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit QI.111K Understand how to monitor quality of work activities in food manufacture.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 037  Understand how to monitor and control throughput to achieve targets in food operations

Outcome 1  Know about the best advice and guidance surrounding monitoring quality

Assessment Criteria
The learner can:

1. Describe the importance of conforming to statutory regulation
2. Evaluate current practices for compliance with standard operating procedures
3. Explain the importance of organising work to meet pre-determined schedules.
Unit 037  Understand how to monitor and control throughput to achieve targets in food operations

Outcome 2  Know about monitoring procedures for quality of work

Assessment Criteria
The learner can:

1. List the procedures for monitoring quality of work
2. Evaluate the lines of reporting
3. State where to obtain advice and support to monitor quality
4. Explain why it is important to make recommendations for continuous improvement.
Unit 037  Understand how to monitor and control throughput to achieve targets in food operations

Outcome 3  Know about monitoring procedures for throughput

Assessment Criteria
The learner can:

1. Explain the importance of monitoring throughput
2. Describe types of monitoring systems and how they are used to monitor throughput
3. Describe actions that can be taken to minimise problems affecting throughput
4. Describe how to identify and solve problems which affect throughput
5. Explain why monitoring and control systems are used.
Unit 037  Understand how to monitor and control throughput to achieve targets in food operations

Outcome 4  Know how to record quality of work issues

Assessment Criteria
The learner can:

1. Explain why it is important to keep accurate and complete records
2. Describe how to record problems
3. Describe why corrective action plans are important.
Unit 037  
Understand how to monitor and control throughput to achieve targets in food operations

Outcome 5  
Know about solving problems affecting throughput

Assessment Criteria

The learner can:

1. Describe how to identify and solve problems which affect throughput
2. Evaluate how operational parameters affect the achievement of output targets
3. Summarise the consequences of ineffective monitoring, control systems and processes.
Unit 038  Carry out quality audits in food operations

Level: 3  
Credit value: 3  
UAN number: L/602/4699

Unit aim:  
This unit supports workforce development for those who carry out quality audits in a food business. 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.

Learning outcomes  
There are three learning outcomes to this unit. The learner will:
1. Be able to prepare for quality audits  
2. Be able to audit compliance against quality systems  
3. Be able to complete post quality audit actions

Guided learning hours  
It is recommended that 9 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit QI.119S Carry out quality audits in food manufacture.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 038  
**Carry out quality audits in food operations**

**Outcome 1**  
Be able to prepare for quality audits

**Assessment Criteria**

The learner can:

1. Give auditees the required notice period of the intention to audit
2. Confirm responsibilities and procedures which apply to the work of an auditor.
Unit 038  Carry out quality audits in food operations
Outcome 2  Be able to audit compliance against quality systems

Assessment Criteria
The learner can:

1. Carry out quality audits according to an agreed plan and schedule
2. Agree corrective action and the date by which it should be carried out with auditees
3. Complete records in accordance with agreed procedures
4. Make appropriate recommendations for improvements to procedures to relevant people.
Unit 038  Carry out quality audits in food operations
Outcome 3  Be able to complete post quality audit actions

Assessment Criteria
The learner can:

1. Make quality audit reports to authorised people in accordance with procedures
2. Report discrepancies which hold serious or immediate risks for the business or organisation to relevant people
3. Check with auditees that corrective action has been carried out by the agreed dates
4. Report any persistent problems in achieving compliance with quality systems to relevant people.
Unit 039 Understand how to carry out quality audits in food operations

Level: 3
Credit value: 3
UAN number: T/602/4700

Unit aim:
This unit supports workforce development for those who understand how to carry out quality audits, in a food business. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Know about quality auditing best practice
2. Know how to communicate audit results and recommendations
3. Know how to interpret and action an auditor’s report

Guided learning hours
It is recommended that 15 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit QI.120K Understand quality audits in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 039  Understand how to carry out quality audits in food operations

Outcome 1  Know about quality auditing best practice

Assessment Criteria
The learner can:

1. Describe the principles of quality auditing
2. Describe current trends and development in auditing listing examples of good industry practice
3. Outline the impact of relevant legal, regulatory and ethical requirements impacting on auditing systems
4. Outline the importance of conduct in auditing
5. Describe the importance of an organisation’s quality policies and procedures in auditing
6. Describe how to evaluate actual practice against procedures in order to identify discrepancies
7. Explain the organisation's plan and schedule for carrying out quality audits.
Unit 039  Understand how to carry out quality audits in food operations

Outcome 2  Know how to communicate audit results and recommendations

Assessment Criteria
The learner can:

1. Describe how to apply the principles and processes of effective communication
2. Explain how to make recommendations for improvements
3. List people who need to receive reports, presentations and recommendations
4. Explain organisational procedures and timing for communication and reporting
5. List people who can provide advice on quality auditing issues.
Unit 039  Understand how to carry out quality audits in food operations

Outcome 3  Know how to interpret and action an auditor’s report

Assessment Criteria
The learner can:

1. List the records of the quality audit that are required
2. List the people who are authorised to see quality audit reports
3. Describe how to conduct an audit investigation
4. Describe how to identify appropriate corrective action and agree a reasonable date for it to be carried out
5. Explain how to evaluate the risks which audit discrepancies may hold for an organisation.
Unit 040  Develop test samples in food manufacture

Level: 3  
Credit value: 3  
UAN number: T/502/7408

Unit aim:  
This unit supports workforce development for those who develop test samples in a food business. 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.

Learning outcomes  
There are four learning outcomes to this unit. The learner will:  
1. Be able to plan development activities  
2. Be able to manage production of test samples  
3. Be able to measure and record development activities  
4. Be able to present final test samples

Guided learning hours  
It is recommended that 16 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit PD.103S Develop test samples in food manufacture.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
This unit is designed to assess the skills of learners in the workplace, developing test samples in food manufacture. 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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 040  Develop test samples in food manufacture
Outcome 1  Be able to plan development activities

Assessment Criteria
The learner can:

1. Evaluate ideas for the product
2. Produce clear objectives for the product
3. Include relevant factors about the product in a realistic programme
4. Bring together all resources identified to achieve the specification
5. Plan accurate specifications for the product trials
6. Agree scheduling of product tests with the relevant people.
Unit 040 Develop test samples in food manufacture
Outcome 2 Be able to manage production of test samples

Assessment Criteria
The learner can:

1. Implement the tests in a systematic manner within an agreed timescale
2. Make necessary adjustments during the trials to ensure compliance with requirements
3. Amend provisional specifications in accordance with feedback from test samples
4. Accurately establish the resource requirements for the product test samples.
Unit 040  Develop test samples in food manufacture
Outcome 3  Be able to measure and record development activities

Assessment Criteria
The learner can:

1. Monitor the tests to obtain accurate and comprehensive feedback
2. Record the outcomes of the product test samples.
Unit 040  Develop test samples in food manufacture
Outcome 4  Be able to present final test samples

Assessment Criteria
The learner can:

1. Accurately establish how much the test samples conform with requirements
2. Collate all outcomes of the product test samples.
Unit 041 Understand how to develop test samples in food manufacture

Level: 3  
Credit value:  2  
UAN number: A/502/7409

Unit aim:  
This unit supports workforce development for those who understand how to develop test samples, in a food business. 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.

Learning outcomes  
There are three learning outcomes to this unit. The learner will:
1. Know about product development activities
2. Know about the development of food products
3. Know about test samples

Guided learning hours  
It is recommended that 15 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit PD.104K Understand how to develop test samples in food manufacture.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
This unit is designed to assess the knowledge and understanding of learners in the workplace context, when developing test samples in food manufacture. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 041  Understand how to develop test samples in food manufacture

Outcome 1  Know about product development activities

Assessment Criteria

The learner can:

1. Outline legislative and ethical issues that may affect the project
2. Describe how to assess the effect that new products could have on existing products
3. Explain why effective planning is essential to project management
4. Describe how to access and evaluate resources in terms of reliability, relevance and sufficiency
5. Describe why it is important to agree project plans with those involved and the processes which may be used to achieve agreement
6. Describe methods to communicate results at each stage of the process.
Unit 041  Understand how to develop test samples in food manufacture

Outcome 2  Know about the development of food products

Assessment Criteria
The learner can:

1. Explain how to develop and use technical specification
2. Describe the principles of processing techniques, in relation to the product being developed
3. Describe how to develop and use technical specifications
4. Explain how to work out costings
5. Describe possible interactions between raw materials
6. Evaluate the effect of raw materials to the product formulation
7. Explain how functional ingredients contribute to the final product
8. Explain packaging technology and how this affects the development of new products.
Unit 041  Understand how to develop test samples in food manufacture

Outcome 3  Know about test samples

Assessment Criteria
The learner can:

1. Evaluate the shelf life of different products and ingredients
2. Explain the factors that influence shelf life
3. Describe shelf life assessment and how to carry this out
4. Describe the cooking characteristics of end products.
Unit 042  Develop product specifications in food manufacture

Level: 3
Credit value: 2
UAN number: M/502/7410

Unit aim:
This unit supports workforce development for those who develop product specifications in a food business. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Be able to construct a final specification
2. Be able to produce a production plan
3. Be able to communicate the final specification to all relevant people

Guided learning hours
It is recommended that 14 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit PD.1075 Develop product specifications in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the skills of learners in the workplace, developing product specifications in food manufacture. 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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 042  Develop product specifications in food manufacture

Outcome 1  Be able to construct a final specification

**Assessment Criteria**
The learner can:

1. Construct a specification on an accurate evaluation of the outcomes from product trials
2. Define the production methods which will be used
3. Define the production sequences which will be used.
Unit 042  Develop product specifications in food manufacture

Outcome 2  Be able to produce a production plan

**Assessment Criteria**
The learner can:

1. Agree the material, components and equipment requirements with the relevant people
2. Specify all the necessary quality requirements and measure them
3. Specify all the necessary methods to achieve and measure them
4. Assess production costs
5. Estimate final wholesale price of product.
Unit 042  Develop product specifications in food manufacture

Outcome 3  Be able to communicate the final specification to all relevant people

Assessment Criteria
The learner can:

1. Clearly define the final product characteristics
2. Develop specifications that are clear and unambiguous
3. Communicate the recommendations relating to manufacture to the relevant people.
Unit 043  
Understand how to develop product specifications in food manufacture

Level: 3  
Credit value: 2  
UAN number: T/502/7411

Unit aim:  
This unit supports workforce development for those who understand how to develop product specifications, in a food business. 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.

Learning outcomes  
There are three learning outcomes to this unit. The learner will:
1. Know about final product specification  
2. Know about developing product plans  
3. Know about communicating the final specification to all relevant people

Guided learning hours  
It is recommended that 12 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit PD.108K Understand how to develop product specifications in food manufacture.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
This unit is designed to assess the knowledge and understanding of learners in the workplace context, when developing product specifications in food manufacture. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 043  Understand how to develop product specifications in food manufacture

Outcome 1  Know about final product specification

Assessment Criteria
The learner can:

1. Describe the typical components of a specification
2. Outline how to define and compile specifications
3. Describe the relationship between quality assurance and a specification
4. Outline the impact of legal issues on product specifications
5. Describe how HACCP is used to augment the specification.
Unit 043  Understand how to develop product specifications in food manufacture

Outcome 2  Know about developing product plans

Assessment Criteria
The learner can:

1. Describe systems that enable the development process
2. State the reasons for accepting or rejecting specifications
3. Describe how to analyse data from the trials
4. Evaluate methods to measure outcomes of product trials
5. Agree the material, components and equipment requirements with the relevant people
6. Describe the factors involved in calculating production costs
7. Describe the factors involved in estimating the final wholesale price of product
8. Describe methods to agree the shelf life of the product
9. Explain why hazard analysis and risk assessment should be included in the final specification.
Unit 043  Understand how to develop product specifications in food manufacture

Outcome 3  Know about communicating the final specification to all relevant people

Assessment Criteria
The learner can:

1. State which people need to receive technical data about product manufacture
2. Outline how to make recommendations relating to manufacture promptly
3. Describe how to communicate technical data to relevant people and the importance of doing this.
Unit 044  Evaluate and improve production in food manufacture

Level: 3  
Credit value: 3  
UAN number: A/502/7412

Unit aim:  
This unit supports workforce development for those who evaluate and improve production in a food manufacturing business. 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.

Learning outcomes  
There are four learning outcomes to this unit. The learner will:
1. Be able to evaluate assessments of the performance of operations within a food or drink manufacturing business  
2. Be able to agree objectives for an improvement programme  
3. Be able to implement and evaluate an improvement programme  
4. Be able to report on the outcomes of the improvement programme

Guided learning hours  
It is recommended that 16 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit PM.103S Evaluate and improve production in food manufacture.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
This unit is designed to assess the skills of learners in the workplace, when evaluating and improving production in food manufacture. 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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 044 Evaluate and improve production in food manufacture

Outcome 1 Be able to evaluate assessments of the performance of operations within a food or drink manufacturing business

Assessment Criteria
The learner can:

1. Gather the relevant assessments
2. Arrange for presentations and/or discussions to further understanding of the assessment of operational performance
3. Use knowledge of operations-monitoring, trends and developments to review the assessment evidence
4. Analyse evidence to make judgements about operational performance
5. Encourage and take into account input from colleagues when evaluating operational performance
6. Present evaluation to the relevant people at an appropriate level and pace, giving opportunities for them to respond.
Unit 044 Evaluate and improve production in food manufacture

Outcome 2 Be able to agree objectives for an improvement programme

Assessment Criteria
The learner can:

1. Consider relevant outcomes that have resulted from the evaluation of operational performance
2. Monitor operational activities at times most likely to identify potential improvements
3. Encourage colleagues to contribute to ideas for improvements
4. Present plans for implementing change to the relevant people
5. Agree an improvement plan with the relevant people.
Unit 044  Evaluate and improve production in food manufacture

Outcome 3  Be able to implement and evaluate an improvement programme

Assessment Criteria

The learner can:

1. Initiate the improvement programme in a planned manner
2. Confirm that those who will be affected understand the implications of change and their commitment to it
3. Co-ordinate the activities necessary to implement the improvement programme, maintaining communication with those involved
4. Monitor change, gathering sufficient information to evaluate the effectiveness of the improvements
5. Report results of the change to the relevant people as required
6. Enable agreed improvements to be incorporated into standard working practice.
Unit 044 Evaluate and improve production in food manufacture

Outcome 4 Be able to report on the outcomes of the improvement programme

Assessment Criteria

The learner can:

1. Report improvements based upon information resulting from achieved operational change and other relevant information
2. Report improvements in a way which shows how they have contributed to the achievement of the organisation's mission, aims and objectives
3. Present the outcomes to the relevant people
4. Engage in constructive discussions.
Unit 045  Understand how to evaluate and improve production in food manufacture

Level: 3  
Credit value: 2  
UAN number: F/502/7413

Unit aim:  
This unit supports workforce development for those who evaluate and improve production in a food business. 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.

Learning outcomes  
There are four learning outcomes to this unit. The learner will:  
1. Know how to evaluate assessments of production  
2. Know how to make recommendations for improvements  
3. Know how to plan improvements

Guided learning hours  
It is recommended that 15 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit PM.104K Understand how to evaluate and improve production in food manufacture.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
This unit is designed to assess the knowledge and understanding of learners in the workplace context, when evaluating and improving production in food manufacture. It can be assessed on or off the job. 

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. 

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 045  

Understand how to evaluate and improve production in food manufacture

Outcome 1  

Know how to evaluate assessments of production

Assessment Criteria

The learner can:

1. Explain how to evaluate assessments, reports and work activities to identify areas for improvement
2. Describe the best means of monitoring organisational activity and gathering information
3. Describe the key technical measures which contribute best to review and evaluation of production.
Unit 045 Understand how to evaluate and improve production in food manufacture

Outcome 2 Know how to make recommendations for improvements

Assessment Criteria
The learner can:

1. Explain how to recommend improvements and construct a case for change
2. Describe how to communicate and make recommendations
3. Describe how to encourage and enable colleagues to make recommendations
4. Explain how to motivate others to be committed to change and improvements
5. Describe the types of information which inform reliable recommendations to plans.
Unit 045  Understand how to evaluate and improve production in food manufacture

Outcome 3 Know how to plan improvements

**Assessment Criteria**

The learner can:

1. Explain the principles of organisational planning and its effectiveness
2. Explain how to handle discussions and actual and potential disagreements in a constructive manner
3. Describe the organisation’s mission, aims and objectives and how to plan within their framework
4. Explain how to plan for change in a way that minimises adverse organisational effects
5. Explain how to identify the broader implications of change
6. Describe the current industry operational trends and developments.
Unit 046  Control energy efficiency in food operations

Level: 3
Credit value: 3
UAN number: A/602/4701

Unit aim:
This unit supports workforce development for those who control energy efficiency in food operations. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Be able to maintain measures that support sustainable energy usage
2. Be able to promote measures that support sustainable energy usage
3. Be able to promote the development of sustainable energy usage

Guided learning hours
It is recommended that 13 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit SF.111S Control energy efficiency in a food environment.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 046  Control energy efficiency in food operations
Outcome 1  Be able to maintain measures that support sustainable energy usage

Assessment Criteria
The learner can:

1. Obtain and interpret the organisation’s sustainability targets for own area of responsibility
2. Ensure production processes and working practices comply with:
   - organisational targets
   - quality specifications
   - legal requirements
3. Ensure production processes and working practices make efficient use of resources
4. Monitor the working practices and evaluate energy usage and efficiency.
Unit 046  Control energy efficiency in food operations
Outcome 2  Be able to promote measures that support sustainable energy usage

Assessment Criteria
The learner can:

1. Inform others of their responsibilities in relation to organisational targets to promote energy efficiency
2. Support others in avoiding energy wastage
3. Encourage others to overcome barriers, improve working practices and energy efficiency
4. Provide training to improve energy efficiency.
Unit 046  Control energy efficiency in food operations
Outcome 3  Be able to promote the development of sustainable energy usage

Assessment Criteria
The learner can:

1. Identify and make opportunities to encourage others to adopt more energy-efficient working practices
2. Develop and communicate to others recommendations for efficiency improvements
3. Present recommendations that support the further development of sustainable practice:
   - at an appropriate time
   - with the right level of detail.
Unit 047  Control waste minimisation in food operations

Level: 3  
Credit value: 3  
UAN number: F/602/4702

Unit aim:
This unit supports workforce development for those who control waste minimisation in food operations. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Be able to maintain measures that support waste minimisation
2. Be able to promote measures that support waste minimisation
3. Be able to promote the development of sustainability through waste minimisation

Guided learning hours
It is recommended that 16 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit SF.113S Control waste minimisation in a food environment.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 047  Control waste minimisation in food operations
Outcome 1  Be able to maintain measures that support waste minimisation

Assessment Criteria
The learner can:

1. Obtain and interpret organisational sustainability targets for own area of responsibility
2. Ensure production processes and working practices comply with:
   - organisational targets
   - quality specifications
   - legal requirements
3. Ensure production processes and working practices make efficient use of resources and avoid waste
4. Monitor the working practices and evaluate waste levels within own area of responsibility.
Unit 047  Control waste minimisation in food operations
Outcome 2  Be able to promote measures that support waste minimisation

Assessment Criteria
The learner can:

1. Inform others of their responsibilities in relation to organisational targets that promote waste minimisation
2. Support others to avoid and minimise waste
3. Encourage others to overcome barriers, improve working practices and reduce waste
4. Provide training to minimise waste in own area of responsibility.
Unit 047  Control waste minimisation in food operations
Outcome 3 Be able to promote the development of sustainability through waste minimisation

**Assessment Criteria**
The learner can:

1. Identify and make opportunities to encourage others to adopt more sustainable working practices
2. Develop and communicate to others recommendations for waste reduction
3. Present recommendations that support the further development of sustainable practice:
   - at an appropriate time
   - with the right level of detail.
Unit 048  Understand how to control waste minimisation in food operations

Level: 3  Credit value: 3  UAN number: J/602/4703

Unit aim:
This unit supports workforce development for those who minimise waste, in a food environment. 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.

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Know what the requirements are for minimising waste in a food environment
2. Know how to minimise waste produced by the organisation
3. Know how to promote waste minimisation by the organisation
4. Know how to maintain waste minimisation within the organisation

Guided learning hours
It is recommended that 24 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit SF.114K Understand how to minimise waste in a food environment.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 048  Understand how to control waste minimisation in food operations

Outcome 1  Know what the requirements are for minimising waste in a food environment

Assessment Criteria
The learner can:

1. Describe the impact of waste on the environment
2. Explain how waste minimisation supports sustainable food manufacture
3. Explain how legislation impacts on the management and disposal of waste
4. Describe the sources of advice and guidance regarding waste reduction
5. Explain why segregation is important in the management of waste.
Unit 048  Understand how to control waste minimisation in food operations

Outcome 2  Know how to minimise waste produced by the organisation

Assessment Criteria
The learner can:

1. Describe the organisation’s targets for:
   - waste reduction
   - re-use
   - recycling
2. Explain how product and process design can have an impact on the generation of waste
3. Describe the different types of waste generated within own area of responsibility
4. Describe the opportunities available for reducing waste within own area of responsibility
5. Describe the factors that limit recycling and re-use within own area of responsibility
6. Explain how failure to meet organisational quality specifications can impact on waste targets.
Unit 048  Understand how to control waste minimisation in food operations

Outcome 3  Know how to promote waste minimisation by the organisation

Assessment Criteria

The learner can:

1. Describe the potential benefits of waste minimisation to the organisation
2. Explain how others can impact on the generation of waste
3. Explain how staff training and development at work can help minimise waste.
Unit 048  Understand how to control waste minimisation in food operations

Outcome 4  Know how to maintain waste minimisation within the organisation

Assessment Criteria
The learner can:

1. Explain how the management and organisation of work can help minimise waste
2. Describe how to monitor waste within own area of responsibility
3. Describe the barriers that can limit the impact on the management of waste and how these barriers can be overcome
4. Explain how to assess the effectiveness of waste management systems.
Unit 049  Control water usage in food operations

Level: 3  
Credit value: 3  
UAN number: L/602/4704

Unit aim: 
This unit supports workforce development for those who control water usage in food operations. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Be able to maintain measures that support sustainable water usage
2. Be able to promote measures that support sustainable water usage
3. Be able to promote the development of sustainable water usage

Guided learning hours
It is recommended that 16 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit SF.115S Control water usage in a food environment.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 049  Control water usage in food operations
Outcome 1  Be able to maintain measures that support sustainable water usage

Assessment Criteria
The learner can:

1. Obtain and interpret organisational sustainability targets for own area of responsibility
2. Ensure production processes and working practices comply with:
   • organisational targets
   • quality specifications
   • legal requirements
3. Ensure production processes and working practices make efficient use of resources in own area of responsibility
4. Monitor the working practices and evaluate water usage and efficiency in own area of responsibility.
Unit 049  Control water usage in food operations
Outcome 2  Be able to promote measures that support sustainable water usage

Assessment Criteria
The learner can:

1. Inform others of their responsibilities in relation to organisational targets that promote efficient water usage
2. Support others to avoid wasting water
3. Encourage others to overcome barriers and improve working practices and water efficiency
4. Provide training to improve water efficiency.
Unit 049  Control water usage in food operations

Outcome 3  Be able to promote the development of sustainable water usage

Assessment Criteria
The learner can:

1. Identify and make opportunities to encourage others to adopt more water efficient working practices
2. Develop and communicate to others recommendations for efficiency improvements
3. Present recommendations that support the further development of sustainable practice:
   • at an appropriate time
   • with the right level of detail.
Unit 050  
Understand how to control water usage in food operations

Level: 3  
Credit value: 3  
UAN number: R/602/4705

Unit aim:
This unit supports workforce development for those who control water usage in food operations. 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.

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Know what the requirements are for controlling water usage in food operations
2. Know how to control the use of water within the organisation
3. Know how to promote the efficient use of water within the organisation
4. Know how to maintain efficient water usage measures within the organisation

Guided learning hours
It is recommended that 25 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit SF.116.K Understand how to control water usage in a food environment.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 050  Understand how to control water usage in food operations

Outcome 1  Know what the requirements are for controlling water usage in food operations

Assessment Criteria
The learner can:

1. Explain how legislation impacts on the organisation’s water usage and disposal
2. Describe the impact of water usage on the environment
3. Explain how the management of water supports sustainable food manufacture.
Unit 050 Understand how to control water usage in food operations

Outcome 2 Know how to control the use of water within the organisation

Assessment Criteria
The learner can:

1. Explain how, within the organisation, water is:
   - obtained
   - treated
   - used
   - recycled
   - re-used
   - discharged
2. Describe the organisation’s water quality standards
3. Describe the organisation’s targets for water usage
4. Explain how water usage is controlled and minimised within own area of responsibility
5. Explain how failure to meet the organisation’s quality specifications can impact on water usage.
Unit 050 Understand how to control water usage in food operations

Outcome 3 Know how to promote the efficient use of water within the organisation

Assessment Criteria
The learner can:

1. Explain how others can impact on water usage
2. Explain how staff training and development can help to maintain the efficient use of water.
**Unit 050**  
Understand how to control water usage in food operations

**Outcome 4**  
Know how to maintain efficient water usage measures within the organisation

**Assessment Criteria**

The learner can:

1. Explain how the management and organisation of work can help minimise water usage
2. Explain how and why water usage is monitored and controlled within own area of responsibility
3. Describe how to identify potential sources of water pollution within own area of responsibility
4. Describe the barriers that can limit the impact of water management and how these barriers can be overcome.
Unit 051  Control transport efficiency in food operations

Level: 3  
Credit value: 3  
UAN number: Y/602/4706

Unit aim:
This unit supports workforce development for those who control transport efficiency in food operations. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Be able to maintain measures that support sustainable transport usage
2. Be able to promote measures that support sustainable transport usage
3. Be able to promote the development of sustainable transport

Guided learning hours
It is recommended that 16 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit SF.117S Control transport efficiency in a food environment.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 051  Control transport efficiency in food operations
Outcome 1  Be able to maintain measures that support sustainable transport usage

Assessment Criteria
The learner can:

1. Obtain and interpret organisational sustainability targets for own area of responsibility
2. Ensure working practices comply with:
   • organisational targets
   • quality specifications
   • legal requirements
3. Ensure transportation makes efficient use of resources
4. Monitor the working practices and evaluate energy usage and efficiency.
Unit 051  Control transport efficiency in food operations
Outcome 2  Be able to promote measures that support sustainable transport usage

Assessment Criteria
The learner can:

1. Inform others of their responsibilities in relation to organisational targets that promote transport efficiency
2. Support others to avoid waste
3. Encourage others to overcome barriers and improve working practices and transport efficiency
4. Provide training to encourage transport efficiency.
Unit 051  
Control transport efficiency in food operations

Outcome 3  
Be able to promote the development of sustainable transport

Assessment Criteria
The learner can:

1. Identify and make opportunities to encourage others to adopt more efficient working practices
2. Develop and communicate to others recommendations for efficiency improvements
3. Present recommendations that support the further development of sustainable practice:
   • at an appropriate time
   • with the right level of detail.
Unit 052

Understand how to control transport efficiency in food operations

Level: 3
Credit value: 3
UAN number: D/602/4707

Unit aim:
This unit supports workforce development for those who control transport efficiency in food operations. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Know what the requirements are for controlling transport efficiency in food operations
2. Know how to control transport efficient within the organisation
3. Know how to promote transport efficiency within the organisation
4. Know how to maintain transport efficiency within the organisation

Guided learning hours
It is recommended that 25 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit SF.118K Understand how to control transport efficiency in a food environment.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 052  Understand how to control transport efficiency in food operations

Outcome 1 Know what the requirements are for controlling transport efficiency in food operations

Assessment Criteria

The learner can:

1. Explain how legislation impacts on organisational transport usage
2. Describe the impact of transport on carbon emissions
3. Explain how transport efficiency supports sustainable food manufacture
4. Describe the sources of advice and guidance regarding transport efficiency
5. Describe the environmental, economic and social cost of food miles
6. Explain how food miles are determined.
Unit 052  Understand how to control transport efficiency in food operations

Outcome 2  Know how to control transport efficient within the organisation

Assessment Criteria
The learner can:

1. Explain how organisational transport efficiency can help reduce the organisation’s carbon footprint
2. Describe the opportunities available to an organisation for reducing food miles
3. Describe the organisation’s targets and standards for reducing transport usage
4. Describe the measures used within the organisation to reduce transport usage
5. Explain how failure to meet the organisation’s quality specifications can impact on transport usage.
Unit 052  Understand how to control transport efficiency in food operations

Outcome 3  Know how to promote transport efficiency within the organisation

Assessment Criteria

The learner can:

1. Describe the benefits of transport efficiency to the organisation
2. Describe how others can impact on transport usage
3. Describe the roles and responsibilities for all those involved in improving transport efficiency
4. Explain how staff training and development can help improve transport efficiency.
Unit 052  Understand how to control transport efficiency in food operations

Outcome 4  Know how to maintain transport efficiency within the organisation

Assessment Criteria
The learner can:

1. Explain how the management and organisation of transport can help minimise energy usage
2. Explain how to monitor transport usage efficiency
3. Describe the barriers that can limit the impact of energy reduction initiatives and how these barriers can be overcome.
Unit 053    Monitor and control waste disposal in food operations

Level: 3  
Credit value: 3  
UAN number: T/602/0646

Unit aim:  
This unit supports workforce development for those who monitor and control waste disposal in a food business. 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.

Learning outcomes  
There are two learning outcomes to this unit. The learner will:
1. Be able to organise and control the storage and handling of waste
2. Be able to organise and control the disposal of waste and despatch of by-products

Guided learning hours  
It is recommended that 15 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit SO.305S Monitor and control the recovery of by-products and waste disposal in food manufacture.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 053  Monitor and control waste disposal in food operations

Outcome 1  Be able to organise and control the storage and handling of waste

Assessment Criteria
The learner can:

1. Deposit separated waste into the specified storage locations in accordance with operational and statutory requirements
2. Maintain waste storage areas and monitor them so that the specified levels are not exceeded
3. Check that storage conforms to operational and statutory requirements
4. Handle separated waste in ways which eradicate:
   - the risks of cross-contamination
   - environmental nuisance
   - reduction of the commercial value of the waste
   - breach of statutory requirements
5. Complete the documentation and make it available to the relevant people.
Unit 053  Monitor and control waste disposal in food operations

Outcome 2  Be able to organise and control the disposal of waste and despatch of by-products

Assessment Criteria
The learner can:

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. Take corrective action when problems occur within the limits of own authority, and report the actions taken to the relevant people
3. Dispatch by-products to their specified destinations in accordance with operational and statutory requirements
4. Dispose of waste in accordance with operational and statutory requirements
5. Handle by-products and waste in ways which eradicate the risks of cross-contamination and non-conformance to operational and statutory requirements
6. Complete the documentation and make it available to the relevant people.
Unit 054  Understand how to monitor and control waste disposal in food operations

Level: 3
Credit value: 3
UAN number: M/602/4517

Unit aim:
This unit supports workforce development for those who understand how to monitor and control waste disposal, in a food business. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Know how to monitor and control waste disposal in food operations
2. Know how to control and organise waste separation
3. Know how to control and organise the storage and handling of waste

Guided learning hours
It is recommended that 29 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit SO.306K Understand how to monitor and control the recovery of by-products and waste disposal in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 054  Understand how to monitor and control waste disposal in food operations

Outcome 1  Know how to monitor and control waste disposal in food operations

Assessment Criteria
The learner can:

1. Outline the work practices to adopt and policies, procedures and instructions to follow when controlling waste disposal
2. Explain how operational requirements affect work practices
3. Explain the statutory regulations, applicable to the control and disposal of waste, and the importance of conforming to them
4. Describe how to complete documentation and explain why accurate records are important
5. Outline the recording and reporting procedures
6. State who problems should be reported to.
Unit 054 Understand how to monitor and control waste disposal in food operations

Outcome 2 Know how to control and organise waste separation

Assessment Criteria
The learner can:

1. Explain how to identify and solve problems
2. Explain what cross-contamination is and its effects on waste separation
3. Explain how to evaluate the risks of cross-contamination and how to reduce them
4. Explain what constitutes environmental nuisance and how it can be minimised or avoided
5. Explain how to maximise yield and minimise waste and the effect this has on the product and on the organisation.
Unit 054 Understand how to monitor and control waste disposal in food operations

Outcome 3 Know how to control and organise the storage and handling of waste

Assessment Criteria
The learner can:

1. Describe how to handle and dispose of waste
2. Describe how to deposit waste in the specified storage locations and the importance of this
3. Outline the storage requirements of waste and how to check they are met
4. Describe the monitoring requirements relating to storing waste
5. Describe how to monitor the waste storage areas and the implications of poor maintenance
6. Explain the potential effects of storing waste above specified levels and the importance of not doing so
7. Explain the quality specifications to achieve and how handling and storage techniques affect them.
Unit 055 Plan production schedules in food manufacture

Level: 3
Credit value: 3
UAN number: J/502/7414

Unit aim:
This unit supports workforce development for those who plan production schedules in a food manufacturing business. 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.

Learning outcomes
There are five learning outcomes to this unit. The learner will:
1. Be able to manage work in teams
2. Be able to allocate resources to meet production plans
3. Be able to ensure availability of resources to meet production plans
4. Be able to avoid production problems
5. Be able to maintain accurate and clear records

Guided learning hours
It is recommended that 21 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit PM.105S Plan production schedules in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 055  Plan production schedules in food manufacture

Outcome 1  Be able to manage work in teams

Assessment Criteria
The learner can:

1. Set work objectives for the team
2. Give the team opportunities to take responsibility for their own work and assist with the planning process.
Unit 055  Plan production schedules in food manufacture

Outcome 2  Be able to allocate resources to meet production plans

Assessment Criteria
The learner can:

1. Ensure the requirements of the production plans are clear
2. Produce schedules which are consistent with:
   - production plans
   - management priorities and objectives
   - legal and standard operating requirements
3. Produce schedules which make cost-effective use of available resources within given constraints
4. Seek advice from the relevant people if production schedules appear to conflict with legal requirements and/or organisational objectives.
Unit 055 Plan production schedules in food manufacture

Outcome 3 Be able to ensure availability of resources to meet production plans

Assessment Criteria
The learner can:

1. Keep colleagues informed of production schedules, and particularly any changes, to ensure they can plan their work
2. Confirm that equipment required is available and in good working order before production starts
3. Confirm that the specified type and volume of materials are available, in the specified location for production
4. Ensure that all equipment and materials are ready for use and conform to legal and standard operational requirements
5. Confirm that the required number of staff, with the appropriate skills and knowledge, are available
6. Inform the relevant people immediately if lack of resources will affect production output.
Unit 055  Plan production schedules in food manufacture

Outcome 4  Be able to avoid production problems

Assessment Criteria
The learner can:

1. Report all damage and faults, with recommendations for corrective action
2. Manage risk and ensure a hazard-free workplace.
Unit 055  Plan production schedules in food manufacture

Outcome 5  Be able to maintain accurate and clear records

Assessment Criteria
The learner can:

1. Maintain all records relating to resources and ensure they are available to management
2. Monitor record and report on all instances of non-compliance with quality requirements.
Unit 056  Understand how to plan production schedules in food manufacture

Level: 3  
Credit value: 2  
UAN number: L/502/7415

Unit aim:
This unit supports workforce development for those who plan production schedules in a food manufacturing business. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Know how to assess production requirements and capabilities
2. Know how to plan production schedules
3. Know how to maintain production schedules

Guided learning hours
It is recommended that 14 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit PM.106K Understand how to plan production schedules in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 056  Understand how to plan production schedules in food manufacture

Outcome 1  Know how to assess production requirements and capabilities

Assessment Criteria
The learner can:

1. Describe the operational status of resources and why this is important
2. Describe how to analyse the availability and use of resources
3. Describe the requirements for storage, moving and delivery to production locations of:
   - raw materials
   - ingredients
   - non-food materials
4. Explain the hazard and risk that may arise in food and drink operations
5. Explain the contingencies and corrective actions to be taken.
Unit 056  
Understand how to plan production schedules in food manufacture

Outcome 2  
Know how to plan production schedules

Assessment Criteria
The learner can:

1. Describe the production forecasting and planning processes
2. Describe the systems and procedures for production scheduling
3. Explain the importance of production scheduling and the potential impact of inadequate scheduling
4. Explain how to form and manage work in teams
5. Explain how to set and review work objectives
6. Describe the key features of legal and standard operating requirements.
Unit 056  Understand how to plan production schedules in food manufacture
Outcome 3  Know how to maintain production schedules

Assessment Criteria
The learner can:

1. Explain the need to update and amend schedules and adapt resource requirements to meet changing customer demands
2. Explain the importance of liaison with colleagues and what would happen if they were not kept informed
3. Describe different communication methods and styles.
Unit 057  Monitor and report on production progress in food manufacture

Level:  3
Credit value:  2
UAN number:  R/502/7416

Unit aim:
This unit supports workforce development for those who monitor and report on production progress in a food business. 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.

Learning outcomes
There are two learning outcomes to this unit. The learner will:
1. Be able to monitor production progress
2. Be able to report and maintain records on production progress

Guided learning hours
It is recommended that 9 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit PM.107S Monitor and report on production progress in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the skills of learners in the workplace, monitoring and reporting on production progress in food manufacture. 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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 057  Monitor and report on production progress in food manufacture

Outcome 1  Be able to monitor production progress

Assessment Criteria
The learner can:

1. Monitor the use of tools and equipment throughout the production process according to specified procedures
2. Ensure use of tools and equipment complies with legal and standard operational procedures and the production schedule
3. Monitor the operation of safety devices and security locks according to specified procedures.
Unit 057  Monitor and report on production progress in food manufacture

Outcome 2  Be able to report and maintain records on production progress

Assessment Criteria
The learner can:

1. Report on production issues affecting the progress of production or the quality of the product or safety of personnel
2. Complete production and equipment records and documentation
3. File records in the appropriate place to ensure that authorised personnel have access to current and accurate production information.
Unit 058 Understand how to monitor and report on production progress in food manufacture

Level: 3
Credit value: 2
UAN number: Y/502/7417

Unit aim:
This unit supports workforce development for those who need to understand how to monitor and report on production progress, in a food business. 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.

Learning outcomes
There are two learning outcomes to this unit. The learner will:
1. Know how to monitor production progress
2. Know how to report and maintain records on production progress

Guided learning hours
It is recommended that 12 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National occupational Standard) knowledge unit PM.109K Understand how to monitor production and solve production problems in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the knowledge and understanding of learners in the workplace context, when monitoring and reporting on production progress in food manufacture. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 058  Understand how to monitor and report on production progress in food manufacture

Outcome 1  Know how to monitor production progress

Assessment Criteria
The learner can:

1. Explain the importance of monitoring and reporting production progress
2. Outline the key features of legal and operational requirements
3. Explain how to use and interpret standard operational procedures and schedules
4. Explain how to deal with non-compliance issues
5. Outline operational limits and tolerances of equipment and machinery
6. Describe how to diagnose faults within the limits of own responsibility for tools, equipment and products.
Unit 058  Understand how to monitor and report on production progress in food manufacture

Outcome 2  Know how to report and maintain records on production progress

Assessment Criteria
The learner can:

1. Describe the requirements for and use of scheduling and equipment maintenance
2. Explain how to access and interpret equipment maintenance records
3. Explain how to report and make recommendations resulting from fault diagnosis
4. Describe the requirements for and use of quality control documentation.
Unit 059 Carry out process control in food manufacture

Level: 3  
Credit value: 2  
UAN number: D/502/7418

Unit aim:  
This unit supports workforce development for those who carry out process control in a food business. 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.

Learning outcomes  
There are two learning outcomes to this unit. The learner will:
1. Be able to carry out quantitative checking procedures
2. Be able to carry out instrumentation checks

Guided learning hours  
It is recommended that 11 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit PM.110S Carry out process control of production in food manufacture.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
This unit is designed to assess the skills of learners in the workplace, carrying out process control in food manufacture. 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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 059  Carry out process control in food manufacture
Outcome 1  Be able to carry out quantitative checking procedures

Assessment Criteria
The learner can:

1. Prepare equipment and materials to carry out quantitative checks
2. Collect the items, products or materials to be checked
3. Carry out checking procedures following legal and standard operating requirements
4. Record the results of the checks carried out immediately after each check is completed
5. Follow standard operating procedures to deal with any problems revealed by the checks
6. Pass the results of checks to the relevant people.
Unit 059  Carry out process control in food manufacture
Outcome 2  Be able to carry out instrumentation checks

Assessment Criteria
The learner can:

1. Assemble the equipment and documentation to carry out instrumentation checks
2. Identify the checks to be made on instruments and when and where they should be checked
3. Check the instruments are working and take accurate readings
4. Record readings taken or observations made
5. Follow standard operating procedures to deal with situations when instrument readings do not meet specifications.
Unit 060  Understand how to carry out process control in food manufacture

Level: 3  
Credit value: 2  
UAN number: H/502/7419

Unit aim:
This unit supports workforce development for those who need to understand how to carry out process control, in a food business. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Understand the requirements of process control
2. Understand how to carry out quantitative checking procedures
3. Understand how to carry out instrument checks

Guided learning hours
It is recommended that 15 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit PM.111K Understand how to carry out process control in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the knowledge and understanding of learners in the workplace context, when carrying out process control in food manufacture. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 060  
Understand how to carry out process control in food manufacture

Outcome 1  
Understand the requirements of process control

Assessment Criteria
The learner can:

1. Describe the controls relating to checking operations
2. Explain why it is important to record information for process control checks
3. Explain why it is important to validate processing and production
4. Explain why the tolerances set are important
5. Detail the legislation relating to process and production control.
Unit 060  Understand how to carry out process control in food manufacture

Outcome 2  Understand how to carry out quantitative checking procedures

Assessment Criteria
The learner can:

1. Describe the equipment used in quantitative checking operations
2. Explain how to prepare equipment to carry out quantitative checks
3. Explain the definition and extent of process controls
4. Outline the key quantitative controls
5. Describe the type of information that can be gathered from process control checks and its uses
6. Describe the action to be taken when results are out of line with specification.
Unit 060  Understand how to carry out process control in food manufacture
Outcome 3  Understand how to carry out instrument checks

Assessment Criteria
The learner can:

1. Describe the instrumentation used in processing operations
2. Explain how to read instruments
3. Explain how to check that instruments are working
4. State how often instruments should be checked and who should check them.
Unit 061 Produce production specifications in food manufacture

Level: 3
Credit value: 3
UAN number: Y/502/7420

Unit aim:
This unit supports workforce development for those who produce production specifications in a food business. The unit is designed for use primarily by team leaders/managers and others who carry out these workplace activities. The aim of the unit is to determine competent performance to recognised National Occupational Standards.

Learning outcomes
There are two learning outcomes to this unit. The learner will:
1. Be able to check and assess criteria
2. Be able to develop and confirm validity of specifications

Guided learning hours
It is recommended that 14 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit PM.113S Produce production specifications in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the skills of learners in the workplace, producing production specifications in food manufacture. 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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 061  Produce production specifications in food manufacture

Outcome 1  Be able to check and assess criteria

Assessment Criteria
The learner can:

1. Obtain and record the opinions of relevant people on the appropriateness and validity of criteria
2. Assess the criteria incorporated in the specification
3. Identify the inputs, outputs and intermediate stages of products and processes.
Unit 061 Produce production specifications in food manufacture

Outcome 2 Be able to develop and confirm validity of specifications

Assessment Criteria

The learner can:

1. Develop specifications which are:
   - cost-effective and make best use of resources
   - contain accurate, legible and consistent information
   - allow for acceptable deviations and concessions based on justifiable reasons
   - conform to statutory and operational requirements.

2. Confirm the validity of the sampling, checking and testing procedures to be used

3. Check and confirm that the specification is achievable

4. Identify problems and take relevant corrective action.
Unit 062 Understand how to produce production specifications in food manufacture

Level: 3
Credit value: 2
UAN number: M/502/7584

Unit aim:
This unit supports workforce development for those who need to understand how to produce production specifications in a food business. The unit is designed for use primarily by team leaders/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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Know how to develop production specifications
2. Know how to monitor specifications
3. Know how to deal with problems, deviations and concessions

Guided learning hours
It is recommended that 13 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit PM.114K Understand how to contribute to the development of production specifications in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the knowledge and understanding of learners in the workplace context, when contributing to the development of production specifications in food manufacture. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 062  Understand how to produce production specifications in food manufacture

Outcome 1  Know how to develop production specifications

Assessment Criteria
The learner can:

1. Summarise the key statutory regulations that affect specification development
2. Explain who to consult with during the development of production specifications and the importance of this
3. Outline methods used to consult with others during specification development.
4. Explain how to select, develop and check the validity of criteria to be included in specifications and how to ensure they are relevant to customer, product and process requirements
5. Outline how to develop specifications for approval.
Unit 062  Understand how to produce production specifications in food manufacture

Outcome 2  Know how to monitor specifications

Assessment Criteria
The learner can:

1. Explain sampling methods and techniques used to check specifications and how to assess their validity
2. Explain how to assess criteria and identify inputs, outputs, and intermediate stages of products and processes
3. Outline how to check the specification is achievable
4. Outline how to assess the cost and resource effectiveness of specifications.
Unit 062  
Understand how to produce production specifications in food manufacture

Outcome 3  
Know how to deal with problems, deviations and concessions

Assessment Criteria
The learner can:

1. Summarise actions to be taken when specifications fail to meet customer product and process requirements
2. Outline the effect of deviations and concessions in specifications
3. Explain what constitutes acceptable deviations and concessions and how to incorporate them into specifications.
Unit 139 Understand how to start up multi-stage operations in food manufacture

Level: 3  
Credit value: 2  
UAN number: K/502/7471

Unit aim:
This unit supports workforce development for those who understand how to start up multi-stage operations in a food business. 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.

Learning outcomes
There are two learning outcomes to this unit. The learner will:
1. Know how to start up multi-stage operations
2. Know how to deal with problems arising during the start-up of operations

Guided learning hours
It is recommended that 11 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit PO.122K Understand how to start up multi-stage operations in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the knowledge and understanding of learners in the workplace context, when starting up multi-stage operations in food manufacture. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 139  
Understand how to start up multi-stage operations in food manufacture

Outcome 1  
Know how to start up multi-stage operations

Assessment Criteria
The learner can:

1. Explain how the start up process works
2. Describe the procedures for start-up and explain why it is important to follow them
3. Explain how to access and interpret the relevant plant, process, equipment and materials specifications
4. Explain the lines and methods of communication and importance of using them
5. Explain the documentation requirements why it is important to meet them
6. Outline limits of own authority and competence and why it is important to work within them.
Unit 139 Understand how to start up multi-stage operations in food manufacture

Outcome 2 Know how to deal with problems arising during the start-up of operations

Assessment Criteria
The learner can:

1. Describe the main types of equipment malfunction
2. Explain how to use problem-solving and diagnostic techniques and the importance of this
3. Explain how faults can impact on operations.
Unit 140 Shut down multi-stage operations in food manufacture

Level: 3
Credit value: 2
UAN number: M/502/7472

Unit aim:
This unit supports workforce development for those who shut down multi-stage operations in a food business. 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.

Learning outcomes
There are two learning outcomes to this unit. The learner will:
1. Be able to prepare to shut down multi-stage operations
2. Be able to shut down multi-stage operations

Guided learning hours
It is recommended that 9 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit PO.1235 Shut down multi-stage operations in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the skills of learners in the workplace, shutting down multi-stage operations in food manufacture. 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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 140  Shut down multi-stage operations in food manufacture

Outcome 1  Be able to prepare to shut down multi-stage operations

Assessment Criteria
The learner can:

1. Maintain communication with managers and colleagues
2. Ensure that plant shut-down times and durations optimise efficiency
3. Ensure that the plant is shut down efficiently.
Unit 140  Shut down multi-stage operations in food manufacture

Outcome 2  Be able to shut down multi-stage operations

Assessment Criteria
The learner can:

1. Shut down designated plant, equipment and associated services in accordance with procedures
2. Deal with residual materials in a manner which optimises their future use
3. Ensure that plant and equipment are safe, secure and fit for purpose so that operations can continue when necessary
4. Evaluate the effectiveness of shut-down procedures for effectiveness
5. Make recommendations for improvements to procedures to relevant people
6. Complete documentation and process it according to specified procedures.
Unit 141 Understand how to shut down multi-stage operations in food manufacture

Level: 3  
Credit value: 2  
UAN number: F/502/7475

Unit aim:  
This unit supports workforce development for those who understand how to shut down multi-stage operations in a food business. 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.

Learning outcomes  
There is one learning outcome to this unit. The learner will:

1. Know how to shut down multi-stage operations in food manufacture

Guided learning hours  
It is recommended that 9 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit PO.124K Understand how to shut down multi-stage operations in food manufacture.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
This unit is designed to assess the knowledge and understanding of learners in the workplace context, when shutting down multi-stage operations in food manufacture. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 141  Understand how to shut down multi-stage operations in food manufacture

Outcome 1  Know how to shut down multi-stage operations in food manufacture

Assessment Criteria
The learner can:

1. Outline the limits of own authority and competence and why it is important to work within them
2. Explain why it is important to use the lines and methods of communication available
3. Outline the importance of meeting documentation requirements
4. Outline the procedures for dealing with residual materials and the importance of following them
5. Describe what happens after shut-down and how this influences actions
6. Explain the procedures for shut-down and the importance of following them.
Unit 067*  Manage customer service in own area of responsibility

This unit has been replaced by unit 367. Learners registered before 1st July 2017 should use this unit. Learners registered after 1st July 2017 should use unit 367.

Level: 3
Credit value: 4
UAN number: D/600/9804

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Be able to establish and communicate measurable customer service standards for own area of responsibility
2. Be able to support staff in meeting customer service standards
3. Be able to monitor and evaluate customer service performance, systems and processes

Guided learning hours
It is recommended that 25 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.
Unit 067*  Manage customer service in own area of responsibility

Outcome 1  Be able to establish and communicate measurable customer service standards for own area of responsibility

Assessment Criteria
The learner can:

1. State organisational, legal and regulatory requirements for customer service standards
2. Explain expected standards for customer service performance to employees in own area of responsibility
3. Describe measurement criteria to monitor customer service performance
Unit 067* Manage customer service in own area of responsibility

Outcome 2 Be able to support staff in meeting customer service standards

Assessment Criteria

The learner can:

1. Identify staff and other resources to meet customer service standards.
2. Communicate roles and responsibilities to employees and provide support.
3. Describe how to resolve customer service queries within own organisation’s policy.
Unit 067*  Manage customer service in own area of responsibility

Outcome 3  Be able to monitor and evaluate customer service performance, systems and processes

Assessment Criteria
The learner can:

1. Monitor customer service performance against established criteria
2. Analyse feedback from staff and customers on the quality of customer service
3. Evaluate customer feedback and identify areas for improvement
4. Recommend changes to customer service processes or standards based on performance evaluation
Unit 068  Monitor and evaluate customer service in food operations

Level: 3  
Credit value: 4  
UAN number: K/502/7423

Unit aim:  
This unit supports workforce development for those who monitor and evaluate customer service in a food business. 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.

Learning outcomes  
There are three learning outcomes to this unit. The learner will:
1. Be able to plan to ensure reliable customer service in food operations
2. Be able to monitor sales and evaluate customer service in food operations
3. Be able to maintain effective and efficient customer service in food operations

Guided learning hours  
It is recommended that 19 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit SM.203S Monitor and evaluate customer service in food manufacture.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
This unit is designed to assess the skills of learners in the workplace, monitoring and evaluating customer service 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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 068  Monitor and evaluate customer service in food operations

Outcome 1  Be able to plan to ensure reliable customer service in food operations

Assessment Criteria

The learner can:

1. Develop and agree workplans and schedules with relevant people
2. Organise others to respond to the needs of customers
3. Provide information and advice to team members to support the provision of reliable customer service
4. Identify and meet product knowledge needs of team members
5. Seek advice when decisions about ensuring customer service are needed
6. Organise supplies of materials and products to meet customer needs.
Unit 068  Monitor and evaluate customer service in food operations

Outcome 2 Be able to monitor sales and evaluate customer service in food operations

Assessment Criteria
The learner can:

1. Analyse sales and customer service records to identify opportunities for improvements
2. Produce and agree plans and criteria for evaluating customer service
3. Assess customer feedback to identify potential improvements in products and services
4. Collect feedback on service from customers and colleagues
5. Evaluate customer feedback and suggestions from colleagues for the improvement to customer service
6. Recommend improvements in customer service.
Unit 068  Monitor and evaluate customer service in food operations

Outcome 3  Be able to maintain effective and efficient customer service in food operations

Assessment Criteria
The learner can:

1. Organise team members' work to meet customer service expectations
2. Give practical support to colleagues to provide effective customer service during busy periods
3. Monitor stocks of materials and products in order to ensure that adequate supplies are available to meet customer demand
4. Implement improvements in customer service.
Unit 069  
Understand how to monitor and evaluate customer service in food operations

Level: 3 
Credit value: 3 
UAN number: M/502/7424

Unit aim: 
This unit supports workforce development for those who understand how to monitor and evaluate customer service, in a food business. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Know how to contribute to sales through ensuring reliable customer service
2. Know how to monitor sales and evaluate customer service in food operations
3. Know how to maintain effective and efficient customer service in food operations

Guided learning hours
It is recommended that 21 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit SM.204K Understand how to monitor and evaluate customer service in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the knowledge and understanding of learners in the workplace context, when monitoring and evaluating customer service. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 069  Understand how to monitor and evaluate customer service in food operations

Outcome 1  Know how to contribute to sales through ensuring reliable customer service

Assessment Criteria
The learner can:

1. Explain why and how work schedules and workloads are planned to meet customer needs
2. Explain how to ensure that supplies of materials and products are available
3. Describe how to identify customer needs in food operations and how to organise the work of team members to respond to those needs
4. Describe how to provide information and advice about customer service
5. Explain how to seek advice about customer service decisions
6. Describe how to identify and resolve a lack of required customer service knowledge or skills among others.
Unit 069  Understand how to monitor and evaluate customer service in food operations

Outcome 2  Know how to monitor sales and evaluate customer service in food operations

Assessment Criteria
The learner can:

1. Describe how to complete documentation about customer service to make it available for others
2. Explain the purpose of monitoring the volume of customer service complaints
3. Describe how to monitor and assess customer feedback and the importance of doing so
4. Describe how to identify potential improvements in customer service
5. Outline ways in which feedback can be obtained from customers
6. Explain the importance of ensuring that recommendations for improvements in customer service offer benefits for customers and the organisation.
Unit 069  Understand how to monitor and evaluate customer service in food operations

Outcome 3  Know how to maintain effective and efficient customer service in food operations

Assessment Criteria
The learner can:

1. Define how statutory regulations affect customer service delivery
2. Explain how to implement improvements in customer service
3. Describe the product and material types that should be monitored to improve customer service in food operations
4. Explain how to monitor product and material stocks in food operations
5. Describe how to assess and revise customer service policies and procedures.
Unit 070  Monitor and maintain standards of conduct in food manufacture

Level: 3  
Credit value: 2  
UAN number: H/502/7422

Unit aim:
This unit supports workforce development for those who maintain required standards of conduct in a food manufacture business.

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.

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Be able to promote the required standards of conduct
2. Be able to communicate the required standards of conduct and what will happen if those standards are not met
3. Be able to allow staff opportunities to give feedback
4. Be able to record and report on issues relating to standards of conduct

Guided learning hours
It is recommended that 9 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit PL.405S Monitor and maintain required standards of conduct in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the skills of learners in the workplace when monitoring and maintaining standards of conduct in food manufacture. 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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 070  Monitor and maintain standards of conduct in food manufacture

Outcome 1  Be able to promote the required standards of conduct

Assessment Criteria
The learner can:

1. Set a good example with the way you behave by complying with the required standards of conduct
2. Treat all matters relating to staff conduct with the necessary level of confidentiality
3. Ensure the importance of meeting the required standards of conduct are communicated to staff
4. Take action which is designed to be positive and encourage improvement on the part of the individual or team.
Unit 070  Monitor and maintain standards of conduct in food manufacture

Outcome 2  Be able to communicate the required standards of conduct and what will happen if those standards are not met

Assessment Criteria
The learner can:

1. Keep staff informed of the required standards of conduct in a manner and at a level and pace appropriate to the individual and the situation
2. Offer advice in a positive manner
3. Arrange further support where it is required
4. Inform staff of the current disciplinary and grievance procedures relevant to them in a manner and at a level and pace appropriate to the individual and the situation.
Unit 070  Monitor and maintain standards of conduct in food manufacture

Outcome 3  Be able to allow staff opportunities to give feedback

Assessment Criteria
The learner can:

1. Provide opportunities for individuals to discuss problems which directly or indirectly affect their conduct
2. Provide opportunities for staff to contribute suggestions for improvements in staff conduct
3. Respond to concerns about staff conduct in a manner which is designed to encourage improvement on the part of individuals.
Unit 070  Monitor and maintain standards of conduct in food manufacture

Outcome 4  Be able to record and report on issues relating to standards of conduct

**Assessment Criteria**

The learner can:

1. Establish any potential difference from the required standards
2. Keep records which are accessible to the relevant people of discussions, action taken and outcomes
3. Present recommendations to the relevant people for further action and improvement to staff conduct.
Unit 071  Understand how to monitor and maintain standards of conduct in food manufacture

Level: 3  
Credit value: 3  
UAN number: D/502/7421

Unit aim:
This unit supports workforce development for those who understand how to monitor and maintain standards of conduct, in a food business. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Know what the requirements are for monitoring standards of conduct
2. Know how to maintain standards of conduct
3. Know how to deal with unacceptable conduct

Guided learning hours
It is recommended that 13 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit PL.406K Understand how to monitor and maintain required standards of conduct in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the knowledge and understanding of learners in the workplace context, when monitoring and maintaining standards of conduct in food manufacture. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 071  

**Understand how to monitor and maintain standards of conduct in food manufacture**

**Outcome 1**

Know what the requirements are for monitoring standards of conduct

**Assessment Criteria**

The learner can:

1. Outline the organisational standards
2. Explain how to communicate taking into account the needs and requirements of others
3. Explain why confidentiality is important and ways to maintain it
4. Explain why it is important to demonstrate impartiality and equality of opportunity
Unit 071  Understand how to monitor and maintain standards of conduct in food manufacture

Outcome 2  Know how to maintain standards of conduct

Assessment Criteria
The learner can:

1. Describe how to motivate others
2. Describe own level of responsibility and competence
3. Explain how to provide leadership and its importance
4. Explain why it is important to lead by example
5. Explain how to take action that encourages people to improve
6. Describe how to recognise people’s needs for help and ways to respond to those needs.
Unit 071  
Understand how to monitor and maintain standards of conduct in food manufacture

Outcome 3  
Know how to deal with unacceptable conduct

Assessment Criteria

The learner can:

1. Explain why it is important to report differences from the required standards of conduct to relevant people
2. Describe how to deal with conflict and stressful situations
3. Outline the disciplinary and grievance procedures
4. Outline what the organisational and legal requirements are and their application to an actual situation.
Unit 072  Set up and maintain food service operations

Level: 3
Credit value: 2
UAN number: F/602/4585

Unit aim:
This unit supports workforce development for those who set up and maintain food service operations in a food business. 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.

Learning outcomes
There are two learning outcomes to this unit. The learner will:
1. Be able to prepare for food service operations
2. Be able to maintain the effectiveness and efficiency of food service operations

Guided learning hours
It is recommended that 14 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit SO.513S Set up and maintain food service operations in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the skills of learners in the workplace, setting up and maintaining food service 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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 072  Set up and maintain food service operations
Outcome 1  Be able to prepare for food service operations

Assessment Criteria
The learner can:

1. Agree and confirm standards and targets for food service operations to meet business requirements
2. Allocate tasks and instruct relevant people to ensure that standards and targets are met
3. Provide support and supervision to enable the team to meet specified targets and standards
4. Allocate resources to ensure that standards and targets are met.
**Unit 072**  
**Set up and maintain food service operations**

**Outcome 2**  
Be able to maintain the effectiveness and efficiency of food service operations

**Assessment Criteria**

The learner can:

1. Check that standards and targets are being met
2. Identify and resolve problems in food service operations within the limit of own responsibilities
3. Measure work outputs and achievements against targets to identify potential improvements
4. Ensure that all records and documentation are legible, accurate and complete.
Unit 073  Monitor effectiveness of food service operations

Level: 3  Credit value: 2  UAN number: J/602/4586

Unit aim:
This unit supports workforce development for those who monitor effectiveness of food service operations in a food business. 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.

Learning outcomes
There are two learning outcomes to this unit. The learner will:
1. Be able to monitor food service operations
2. Be able to control risk in the workplace

Guided learning hours
It is recommended that 14 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit SO.514S Monitor effectiveness of food service operations in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the skills of learners in the workplace, monitoring effectiveness of food service 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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 073  Monitor effectiveness of food service operations

Outcome 1  Be able to monitor food service operations

Assessment Criteria
The learner can:

1. Monitor food service operations against targets
2. Check that the quality of the products and customer service are maintained
3. Adapt allocation of work activities to meet changing priorities and targets
4. Report to the relevant people factors influencing effectiveness which are outside own area of responsibility
5. Make recommendations to the relevant people to improve food service operations.
Unit 073  Monitor effectiveness of food service operations

Outcome 2  Be able to control risk in the workplace

Assessment Criteria
The learner can:

1. Monitor safe use of all tools and equipment to minimise risk
2. Identify potential and actual hazards and take corrective action to deal with them
3. Ensure food safety operations comply with organisational and legal requirements.
Unit 074  Understand how to set up and maintain food service operations

Level: 3  
Credit value: 2  
UAN number: L/602/4587

Unit aim:  
This unit supports workforce development for those who understand how to set up and maintain food service operations, in a food business. 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.

Learning outcomes  
There are two learning outcomes to this unit. The learner will:
1. Know how to set up food service operations  
2. Know how to maintain food service operations

Guided learning hours  
It is recommended that 16 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit SO.515K Understand how to co-ordinate food service operations in food manufacture.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
This unit is designed to assess the knowledge and understanding of learners in the workplace context, when setting up and maintaining food service operations. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 074  Understand how to set up and maintain food service operations
Outcome 1  Know how to set up food service operations

Assessment Criteria
The learner can:

1. Outline the key features of legal and operational requirements
2. Outline the standard operating procedures for food service operations
3. Explain how to set and agree targets for food service operations.
**Unit 074**  
**Understand how to set up and maintain food service operations**

**Outcome 2**  
Know how to maintain food service operations

**Assessment Criteria**

The learner can:

1. Explain why it is important to have cost-effective and efficient food service operations
2. Explain why it is important to work to targets and standards
3. Describe what action to take on variances and non-compliance in maintaining conditions
4. Describe the corrective action and procedures to follow when dealing with contingencies.
Unit 075  Analyse and report data

Level: 3
Credit value: 6
UAN number: Y/601/2538

Learning outcomes
There are two learning outcomes to this unit. The learner will:
1. Understand how to organise and evaluate data that has been researched
2. Understand how to report data that has been researched
3. Be able to analyse and evaluate data
4. Be able to report data

Guided learning hours
It is recommended that 30 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.
Unit 075  Analyse and report data
Outcome 1  Understand how to organise and evaluate data that has been researched

Assessment Criteria
The learner can:

1. Describe purpose and benefits of organising data so that it can be analysed
2. Explain how to evaluate the relevance, validity and reliability of data
3. Explain how to analyse and prepare researched data so results will be accurate and free from bias
4. Explain the differences between primary and secondary research methods
5. Explain the differences between quantitative and qualitative research methods
6. Describe how to search for relevant data sources
Unit 075  Analyse and report data
Outcomes 2  Understand how to report data that has been researched

Assessment Criteria
The learner can:

1. Describe ways of reporting data so that it
   a) meets agreed aims and objectives
   b) is accurate and free from bias
Unit 075  Analyse and report data
Outcome 3  Be able to analyse and evaluate data

Assessment Criteria
The learner can:

1. Organise data so that it can be analysed and reported
2. Select relevant, valid and reliable data to analyse
3. Apply analysis and evaluation techniques, as required
4. Review data to produce accurate, unbiased results and conclusions
5. Check the accuracy of the analysis, and make adjustments, if required
6. Obtain feedback on data analysis, if required
Unit 075  Analyse and report data
Outcome 4  Be able to report data

Assessment Criteria
The learner can:

1. Present data in agreed format
2. Present data to agreed timescale
Unit 076*  Manage personal development

This unit has been replaced by unit 376. Learners registered before 1st July 2017 should use this unit. Learners registered after 1st July 2017 should use unit 376.

Level:  2  
Credit value:  4  
UAN number:  F/600/9469

Unit aim: 
TBC

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Be able to identify and agree performance requirements of own work role  
2. Be able to measure and progress against objectives  
3. Be able to identify gaps in skills and knowledge in own performance  
4. Be able to carry out and assess activities within own development plan

Guided learning hours
It is recommended that 20 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards 
TBC

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
TBC
Unit 076  Manage personal development
Outcome 1  Be able to identify and agree performance requirements of own work role

Assessment Criteria
The learner can:

1. Outline work role performance requirements with those they report to
Unit 076  Manage personal development
Outcome 2  Be able to measure and progress against objectives

Assessment Criteria
The learner can:

1. Identify ways that progress will be measured against own work objectives
Unit 076  Manage personal development
Outcome 3  Be able to identify gaps in skills and knowledge in own performance

Assessment Criteria
The learner can:

1. Explain knowledge and skills required for own work role.
2. Identify opportunities and resources available for personal development.
3. Produce a development plan to address own needs and agree with line manager.
Unit 076  Manage personal development
Outcome 4  Be able to carry out and assess activities within own development plan

Assessment Criteria
The learner can:

1. Plan activities in own development plan that address identified needs
2. Collect feedback from colleagues on the result of development activities on own performance
3. Assess the success of activities carried out as part of own development plan
Unit 077  Set objectives and provide support for team members

Level: 3
Credit value: 5
UAN number: M/600/9600

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Be able to communicate a team’s purpose and objectives to the team members
2. Be able to develop a plan with team members showing how team objectives will be met
3. Be able to support team members identifying opportunities and providing support
4. Be able to monitor and evaluate progress and recognise individual and team achievement

Guided learning hours
It is recommended that 35 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.
Unit 077  Set objectives and provide support for team members

Outcome 1 Be able to communicate a team’s purpose and objectives to the team members

Assessment Criteria

The learner can:

1. Describe the purpose of a team.
2. Set team objectives with its members which are SMART (Specific, Measurable, Achievable, Realistic and Time-bound).
3. Communicate the team’s purpose and objectives to its members
Unit 077  Set objectives and provide support for team members

Outcome 2  Be able to develop a plan with team members showing how team objectives will be met

Assessment Criteria
The learner can:

1. Discuss with team members how team objectives will be met
2. Ensure team members participate in the planning process and think creatively
3. Develop plans to meet team objectives
4. Set SMART personal work objectives with team members
Unit 077  Set objectives and provide support for team members
Outcome 3  Be able to support team members identifying opportunities and providing support

Assessment Criteria
The learner can:

1. Identify opportunities and difficulties faced by team members.
2. Discuss identified opportunities and difficulties with team members.
3. Provide advice and support to team members to overcome identified difficulties and challenges.
4. Provide advice and support to team members to make the most of identified opportunities.
Unit 077  Set objectives and provide support for team members

Outcome 4  Be able to monitor and evaluate progress and recognise individual and team achievement

Assessment Criteria
The learner can:

1. Monitor and evaluate individual and team activities and progress
2. Provide recognition when individual and team objectives have been achieved
Unit 078  Manage or support equality of opportunity, diversity and inclusion in own area of responsibility

Level: 3
Credit value: 4
UAN number: M/600/9628

Unit aim:
TBC

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Understand own responsibilities under equality legislation, relevant codes of practice and own organisational policies
2. Be able to communicate an organisation's written equality, diversity and inclusion policy and procedures in own area of responsibility
3. Be able to monitor equality, diversity and inclusion within own area of responsibility

Guided learning hours
It is recommended that 20 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
TBC

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
TBC
**Unit 078** Manage or support equality of opportunity, diversity and inclusion in own area of responsibility

**Outcome 1** Understand own responsibilities under equality legislation, relevant codes of practice and own organisational policies

**Assessment Criteria**

The learner can:

1. Explain how equality of opportunity, diversity and inclusion relate to legal, industry requirements and organisational policies.
2. Describe how equality of opportunity, diversity and inclusion are considered in planning in own area of responsibility.
Unit 078  Manage or support equality of opportunity, diversity and inclusion in own area of responsibility

Outcome 2  Be able to communicate an organisation’s written equality, diversity and inclusion policy and procedures in own area of responsibility

Assessment Criteria
The learner can:

1. Outline an organisation’s equality, diversity and inclusion policy and procedures
Unit 078 Manage or support equality of opportunity, diversity and inclusion in own area of responsibility

Outcome 3 Be able to monitor equality, diversity and inclusion within own area of responsibility

Assessment Criteria
The learner can:

1. Monitor how equality, diversity and inclusion activities in own area of responsibility are in line with own organisation
Unit 079  Support team members in identifying, developing and implementing new ideas

Level: 3  
Credit value: 4  
UAN number: L/600/9636

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Be able to develop team ideas and develop the creativity of team members
2. Be able to assess the viability of team members' ideas
3. Be able to support team members to implement ideas
4. Be able to implement team ideas

Guided learning hours
It is recommended that 20 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.
Unit 079 Support team members in identifying, developing and implementing new ideas

Outcome 1 Be able to develop team ideas and develop the creativity of team members

Assessment Criteria
The learner can:

1. Encourage team members to identify ideas
2. Record team members’ ideas
Unit 079  Support team members in identifying, developing and implementing new ideas

Outcome 2  Be able to assess the viability of team members’ ideas

Assessment Criteria
The learner can:

1. Assess with team members the potential benefits and risks associated with an idea, and the resources required
Unit 079  Support team members in identifying, developing and implementing new ideas

Outcome 3  Be able to support team members to implement ideas

Assessment Criteria
The learner can:

1. Explain how to support team members in submitting formal proposals for approval
2. Explain to team members how to identify and overcome barriers to implementing an idea
Unit 079
Support team members in identifying, developing and implementing new ideas

Outcome 4
Be able to implement team ideas

Assessment Criteria
The learner can:

1. Monitor the implementation of ideas by own team
2. Communicate the progress of implementation to relevant others own organisation
Unit 080*  Plan, allocate and monitor work of a team

This unit has been replaced by unit 380. Learners registered before 1st July 2017 should use this unit. Learners registered after 1st July 2017 should use unit 380.

Level: 3
Credit value: 5
UAN number: Y/600/9669

Learning outcomes
There are five learning outcomes to this unit. The learner will:
1. Be able to plan work for a team
2. Be able to allocate work across a team
3. Be able to manage team members to achieve team objectives
4. Be able to monitor and evaluate the performance of team members
5. Be able to improve the performance of a team

Guided learning hours
It is recommended that 25 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.
Unit 080*  Plan, allocate and monitor work of a team
Outcome 1  Be able to plan work for a team

Assessment Criteria
The learner can:

1. Agree team objectives with own manager.
2. Develop a plan for a team to meet agreed objectives, taking into account capacity and capabilities of the team.
**Unit 080**

**Plan, allocate and monitor work of a team**

**Outcome 2**

Be able to allocate work across a team

**Assessment Criteria**

The learner can:

1. Discuss team plans with a team
2. Agree work allocation and SMART (Specific, Measurable, Achievable, Realistic and Time-bound) objectives with team members
3. Agree standard of work required by team
Unit 080* Plan, allocate and monitor work of a team
Outcome 3 Be able to manage team members to achieve team objectives

Assessment Criteria
The learner can:

1. Support all team members in order to achieve team objectives
Unit 080*  Plan, allocate and monitor work of a team
Outcome 4  Be able to monitor and evaluate the performance of team members

Assessment Criteria
The learner can:

1. Assess team members’ work against agreed standards and objectives
2. Identify and monitor conflict within a team
3. Identify causes for team members not meeting team objectives
Unit 080*  Plan, allocate and monitor work of a team
Outcome 5  Be able to improve the performance of a team

Assessment Criteria
The learner can:

1. Identify ways of improving team performance
2. Provide constructive feedback to team members to improve their performance
3. Implement identified ways of improving team performance
Unit 081  Manage conflict in a team

Level: 3  Credit value: 3  UAN number: R/600/9685

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Be able to support team members’ understanding of their role and position within a team
2. Be able to take measures to minimise conflict within a team
3. Be able to understand how to encourage team members to resolve their own conflicts
4. Be able to understand legal and organisational requirements concerning conflict

Guided learning hours
It is recommended that 20 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.
Unit 081

Manage conflict in a team

Outcome 1

Be able to support team members’ understanding of their role and position within a team

Assessment Criteria

The learner can:

1. Communicate to team members the standards of work and behaviour expected of them.
2. Explain how team members can work together and support each other
Unit 081  Manage conflict in a team
Outcome 2  Be able to take measures to minimise conflict within a team

Assessment Criteria
The learner can:

1. Identify issues with organisational structures, systems or procedures that are likely to give rise to conflict
2. Identify potential conflict between team members
3. Explain action required to avoid potential conflict and agree strategies for conflict resolution
Unit 081  Manage conflict in a team
Outcome 3  Be able to understand how to encourage team members to resolve their own conflicts

Assessment Criteria
The learner can:

1. Explain how team members can be encouraged to identify and resolve their own problems and conflicts.
2. Explain how respect can be developed and maintained between team members.
Unit 081  Manage conflict in a team
Outcome 4  Be able to understand legal and organisational requirements concerning conflict

Assessment Criteria
The learner can:

1. Explain legal and organisational requirements concerning conflict in own team
2. Explain how to maintain complete, accurate and confidential records of conflicts and their outcomes
Unit 082  
Lead and manage meetings

Level: 3
Credit value: 4
UAN number: Y/600/9686

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Be able to prepare to lead a meeting
2. Be able to manage meeting procedures
3. Be able to chair a meeting
4. Be able to undertake post-meeting tasks

Guided learning hours
It is recommended that 20 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.
Unit 082  Lead and manage meetings
Outcome 1  Be able to prepare to lead a meeting

Assessment Criteria
The learner can:

1. Perform activities needed to be carried out in preparation for leading a meeting
2. Produce documentation in support of activities
Unit 082  
Outcome 2  
**Lead and manage meetings**

Be able to manage meeting procedures

**Assessment Criteria**

The learner can:

1. Identify any formal procedures that apply in own organisation
Unit 082  Lead and manage meetings
Outcome 3  Be able to chair a meeting

Assessment Criteria
The learner can:

1. Manage the agenda in co-operation with participants to ensure meeting objectives are met.
2. Produce minutes of the meeting and allocate action points after discussions
Unit 082  Lead and manage meetings
Outcome 4  Be able to undertake post-meeting tasks

Assessment Criteria
The learner can:

1. Explain that the minutes of the meeting provide an accurate record of proceedings
2. Communicate and follow up meeting outcomes to relevant individuals
3. Evaluate whether the meeting’s objectives were met and identify potential improvements
Unit 083*  Make effective decisions

This unit has been replaced by unit 383. Learners registered before 1st July 2017 should use this unit. Learners registered after 1st July 2017 should use unit 383.

Level: 3
Credit value: 3
UAN number: F/600/9715

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Be able to identify circumstances that require a decision to be made
2. Be able to collect information to inform decision-making
3. Be able to analyse information to inform decision-making
4. Be able to make a decision

Guided learning hours
It is recommended that 10 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.
Unit 083*   Make effective decisions
Outcome 1   Be able to identify circumstances that require a decision to be made

Assessment Criteria
The learner can:

1. Explain the circumstances requiring a decision to be made
2. State the desired objective(s) for making a decision
3. Establish criteria on which to base the decision, in line with own organisation
Unit 083*  
**Make effective decisions**

**Outcome 2**  
Be able to collect information to inform decision-making

**Assessment Criteria**

The learner can:

1. Identify information needed to inform the decision-making process
2. Communicate with stakeholders affected by the decision
3. Explain how to inform stakeholders about the decision-making process
**Unit 083**

**Make effective decisions**

Outcome 3

Be able to analyse information to inform decision-making

**Assessment Criteria**

The learner can:

1. Identify information for validity and relevance to the decision-making process
2. Analyse information and against established criteria
Unit 083*
Outcome 4
Make effective decisions
Be able to make a decision

Assessment Criteria
The learner can:

1. Apply decision-making technique(s) to determine a decision
2. Explain the decision made in line with desired objectives
3. Communicate the decision taken to relevant stakeholders
Unit 084  Manage knowledge in own area of responsibility

Level: 3
Credit value: 4
UAN number: T/600/9730

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Be able to understand existing knowledge management in own area of responsibility.
2. Be able to develop knowledge
3. Be able to share knowledge
4. Be able to monitor and evaluate knowledge management in own area of responsibility

Guided learning hours
It is recommended that 15 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.
Unit 084 Manage knowledge in own area of responsibility

Outcome 1 Be able to understand existing knowledge management in own area of responsibility

Assessment Criteria
The learner can:

1. Describe how knowledge is gained and applied in own area of responsibility
2. Explain how knowledge is shared in own area of responsibility
3. Outline how intellectual property is protected in own area of responsibility
Unit 084    Manage knowledge in own area of responsibility

Outcome 2    Be able to develop knowledge

Assessment Criteria
The learner can:

1. Identify established processes and procedures which can develop knowledge
2. Explain how to support individuals to ensure knowledge development processes are followed
Unit 084  Manage knowledge in own area of responsibility
Outcome 3  Be able to share knowledge

Assessment Criteria

The learner can:

1. Communicate established processes and procedures which share knowledge across own area of responsibility
2. Explain how to support individuals to ensure knowledge-sharing processes are followed
Unit 084  Manage knowledge in own area of responsibility
Outcome 4  Be able to monitor and evaluate knowledge management in own area of responsibility

Assessment Criteria
The learner can:

1. Assess the knowledge development process in own area of responsibility.
2. Implement any changes to improve knowledge management.
3. Monitor change and development in the knowledge development process
Unit 367**  Manage customer service in own area of responsibility

This unit has replaced unit 067. Learners registered before 1st July 2017 should use unit 067. Learners registered after 1st July 2017 should use this unit.

Level: 3  
Credit value: 4  
UAN number: T/615/8557

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Establish and communicate measurable customer service standards for own area of responsibility
2. Support staff in meeting customer service standards
3. Monitor and evaluate customer service performance, systems and processes

Guided learning hours
It is recommended that 25 hours should be allocated for this unit, although patterns of delivery are likely to vary.
Unit 367** Manage customer service in own area of responsibility

Outcome 1 Establish and communicate measurable customer service standards for own area of responsibility

Assessment Criteria
The learner can:

1. State organisational, legal and regulatory requirements for customer service standards
2. Explain expected standards for customer service performance to employees in own area of responsibility
3. Describe measurement criteria to monitor customer service performance
Unit 367** Manage customer service in own area of responsibility

Outcome 2 Support staff in meeting customer service standards

Assessment Criteria
The learner can:

1. Identify staff and resources to meet customer service standards.
2. Communicate roles and responsibilities to employees and provide support in own area of responsibility.
3. Describe how to resolve customer service queries within own organisation’s policy.
Unit 367**  Manage customer service in own area of responsibility

Outcome 3  Monitor and evaluate customer service performance, systems and processes

Assessment Criteria
The learner can:

1. Monitor customer service performance against established criteria
2. Analyse staff and customers feedback on the quality of customer service
3. Evaluate customer feedback identifying areas requiring improvement
4. Recommend changes to customer service processes or standards based on performance evaluation
Unit 376**  Manage personal development

This unit has replaced unit 076. Learners registered before 1st July 2017 should use unit 076. Learners registered after 1st July 2017 should use this unit.

Level: 2
Credit value: 4
UAN number: F/615/8559

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Identify and agree performance requirements of own work role
2. Measure and progress against objectives
3. Identify gaps in skills and knowledge in own performance
4. Carry out and assess activities within own development plan

Guided learning hours
It is recommended that 20 hours should be allocated for this unit, although patterns of delivery are likely to vary.
Unit 376**
Manage personal development
Outcome 1
Identify and agree performance requirements of own work role

Assessment Criteria
The learner can:

1. Identify own work role performance requirements with line manager
Unit 376**  Manage personal development
Outcome 2  Measure and progress against objectives

Assessment Criteria
The learner can:

1. Identify how progress will be measured against own work objectives
Unit 376** Manage personal development
Outcome 3 Identify gaps in skills and knowledge in own performance

Assessment Criteria
The learner can:

1. Describe knowledge and skills required for own work role.
2. Identify opportunities and resources available for personal development.
3. Produce a development plan to address own needs and agree with line manager.
Unit 376** Manage personal development
Outcome 4 Carry out and assess activities within own development plan

Assessment Criteria
The learner can:

1. Plan activities in own development plan that address identified needs
2. Gather feedback from colleagues on the result of development activities on own performance
3. Assess the success of activities carried out as part of own development plan
Unit 380** Plan, allocate and monitor work of a team

This unit has replaced unit 080. Learners registered before 1st July 2017 should use unit 080. Learners registered after 1st July 2017 should use this unit.

Level: 3  
Credit value: 5  
UAN number: F/615/8562

Unit aim  
This unit is about how learners plan and allocate the work of a team effectively and fairly amongst the team members taking into account capacity and capabilities it also involves checking progress and quality of the work produced by team members, ensuring improvement in team performance.

Learning outcomes  
There are five learning outcomes to this unit. The learner will:
1. Be able to plan work for a team  
2. Be able to allocate work to team members  
3. Be able to manage team members to achieve objectives  
4. Be able to monitor and evaluate the performance of team members  
5. Be able to improve the performance of a team

Guided learning hours  
It is recommended that 25 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Assessment  
This unit is assessed by portfolio.
Unit 380** Plan, allocate and monitor work of a team
Outcome 1 Be able to plan work for a team

Assessment Criteria
The learner can:

1. Prepare and agree team objectives with line manager.
2. Develop a team plan to meet agreed objectives, considering team capacity and capabilities.
Unit 380**  Plan, allocate and monitor work of a team
Outcome 2  Be able to allocate work to team members

Assessment Criteria
The learner can:

1. Discuss team plans with a team members
2. Agree work allocation and SMART (Specific, Measurable, Achievable, Realistic and Time-bound) objectives with team members
3. Agree standard of work required from team members
Unit 380**  Plan, allocate and monitor work of a team
Outcome 3 Be able to manage team members to achieve objectives

Assessment Criteria
The learner can:

1. Support team members to achieve team objectives
**Unit 380**

**Outcome 4**

**Plan, allocate and monitor work of a team**

Be able to monitor and evaluate the performance of team members

**Assessment Criteria**

The learner can:

1. Assess team members work against agreed standards and objectives
2. Identify and monitor any conflict within a team
3. Identify causes for team members not meeting team objectives
Unit 380** 
Outcome 5 
Plan, allocate and monitor work of a team 
Be able to improve the performance of a team 

Assessment Criteria 
The learner can:

1. Identify methods of improving team performance 
2. Provide constructive feedback to team members to order to improve performance 
3. Implement agreed methods for improving team performance
Unit 383** Make effective decisions

This unit has replaced unit 083. Learners registered before 1st July 2017 should use unit 083. Learners registered after 1st July 2017 should use this unit.

Level: 3
Credit value: 3
UAN number: K/615/8555

Unit aim
This unit is about developing learners understanding of the process of decision-making, identifying and analysing information to enable them to make a final decision.

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Be able to identify situations where a decision needs to be made
2. Be able to gather factual information to inform the decision-making process
3. Be able to analyse valid information to inform decision-making
4. Be able to make a decision

Guided learning hours
It is recommended that 10 hours should be allocated for this unit, although patterns of delivery are likely to vary.
Unit 383**  Make effective decisions
Outcome 1  Be able to identify situations where a decision needs to be made

Assessment Criteria
The learner can:

1. Explain the situation requiring a decision to be made
2. Outline the objective(s) for making a decision
3. Establish criteria on which to base the decision
Unit 383**  Make effective decisions
Outcome 2  Be able to gather factual information to inform the decision-making process

Assessment Criteria
The learner can:

1. Identify factual information required to inform the decision-making process
2. Explain the process of informing stakeholders about the decision-making process
3. Communicate with all stakeholders affected by the decision
Unit 383**

Make effective decisions

Outcome 3
Be able to analyse valid information to inform decision-making

Assessment Criteria
The learner can:

1. Identify relevant and valid information to inform the decision-making process
2. Analyse information and against established criteria
Unit 383** Make effective decisions
Outcome 4 Be able to make a decision

Assessment Criteria
The learner can:

1. Apply decision-making technique(s) to determine a decision
2. Explain the decision made in line with objectives
3. Communicate the decision to relevant stakeholders
Common Operations Units
Unit 086  Monitor food safety at critical control points in operations

Level: 3  
Credit value: 1  
UAN number: H/602/5826

Unit aim:
This unit supports workforce development for those who monitor food safety at critical control points in a food or animal feed business. 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.

Learning outcomes
There are two learning outcomes to this unit. The learner will:
1. Be able to identify and monitor critical control points
2. Be able to take corrective action when control measures fail

Guided learning hours
It is recommended that 5 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit FS.108S Monitor food safety at critical control points in manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 086 Monitor food safety at critical control points in operations

Outcome 1 Be able to identify and monitor critical control points

Assessment Criteria
The learner can:

1. Apply food safety control measures
2. Complete operational controls and checks at the set time frequency
3. Keep records of checks and obtain verification of completed checks
Unit 086  Monitor food safety at critical control points in operations

Outcome 2  Be able to take corrective action when control measures fail

Assessment Criteria
The learner can:

1. Take corrective action in a timely manner
2. Seek advice and support for matters outside own level of authority or expertise
3. Report specifications or procedures that are out of line with set limits to the relevant person
Unit 087 Monitor health, safety and environmental systems in food operations

Level: 3
Credit value: 2
UAN number: K/602/5827

Unit aim:
This unit supports workforce development for those who monitor health, safety and environmental systems in a food business. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Be able to implement compliance systems
2. Be able to undertake operational audits
3. Be able to make recommendations for improvements to systems

Guided learning hours
It is recommended that 12 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit H5.3075 Monitor health, safety and environmental systems.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 087  Monitor health, safety and environmental systems in food operations

Outcome 1  Be able to implement compliance systems

Assessment Criteria
The learner can:

1. Implement health, safety and environmental monitoring systems in limits of own authority
2. Monitor conditions to ensure health, safety and environmental system requirements are met
Unit 087  

Monitor health, safety and environmental systems in food operations

Outcome 2  
Be able to undertake operational audits

Assessment Criteria

The learner can:

1. Undertake health, safety and environmental management audits of operations
2. Take corrective action when required
3. Report outcomes of monitoring to relevant people
4. Maintain records in accordance with organisational and statutory requirements
Unit 087  Monitor health, safety and environmental systems in food operations

Outcome 3  Be able to make recommendations for improvements to systems

Assessment Criteria
The learner can:

1. Recommend ways to improve health, safety and environmental management systems
2. Disseminate information about improvements to the relevant people
3. Ensure that information provided enables people to implement improvements.
Unit 088  
Understand how to monitor health, safety and environmental management systems in food operations

Level: 3  
Credit value: 3  
UAN number: M/602/5828

Unit aim:
This unit supports workforce development for those who understand how to monitor health, safety and environmental management systems in a food business. 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.

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Know current relevant legislation  
2. Understand communication and recording methods  
3. Understand organisational procedures and policies  
4. Understand organisational compliance

Guided learning hours
It is recommended that 20 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit HS.308K Understand how to monitor health, safety and environmental systems in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 088  
**Understand how to monitor health, safety and environmental management systems in food operations**

**Outcome 1**  
Know current relevant legislation

**Assessment Criteria**
The learner can:

1. Explain the principles of current legislation for health, safety and environmental management
2. Describe relevant statutory body requirements
3. Detail the enforcement structure of regulatory bodies
Unit 088  Understand how to monitor health, safety and environmental management systems in food operations

Outcome 2  Understand communication and recording methods

Assessment Criteria
The learner can:

1. Explain how to communicate with relevant people
2. Explain how to recognise ideas and views
3. Describe how to make presentations
4. Outline methods of reporting and recording
Unit 088  Understand how to monitor health, safety and environmental management systems in food operations

Outcome 3  Understand organisational procedures and policies

Assessment Criteria
The learner can:

1. Explain the principles of organisational policies and systems
2. Evaluate tangible and intangible benefits of health and safety to the organisation and the external environment
3. Describe the organisations’ procedures for the following:
   - health systems
   - safety systems
   - environmental systems
   - dealing with emergencies
   - environmental issues
   - health screening
4. Describe the organisations’ procedures for the prevention, investigation and reporting of incidents and accidents
5. Assess the implications of current health, safety and environmental legislation on the business and individuals
6. Analyse, review and validate internal and external information
Unit 088  Understand how to monitor health, safety and environmental management systems in food operations

Outcome 4  Understand organisational compliance

Assessment Criteria
The learner can:

1. Explain the importance of compliance with systems and legislation
2. Describe the consequences of non-compliance
3. Explain how to ensure compliance with current statutory requirements
4. Detail system requirements that monitor and maintain a healthy and safe environment
5. Explain how to carry out a risk assessment
6. Detail methods of risk assessments
7. Detail risks and hazards specific to own area of responsibility
8. Evaluate the need for involvement of health, safety and environmental specialists
Unit 089  

Maintain, promote and improve environmental good practice in food operations

Level: 3  
Credit value: 2  
UAN number: H/602/1713

Unit aim:
This unit supports workforce development for those who maintain, promote and improve environmental good practice in a food business. 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.

Learning outcomes
There are two learning outcomes to this unit. The learner will:
1. Be able to maintain environmental good practice
2. Be able to promote and improve environmental good practice

Guided learning hours
It is recommended that 10 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit HS.203S Maintain, promote and improve environmental good practice in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 089  Maintain, promote and improve environmental good practice in food operations

Outcome 1  Be able to maintain environmental good practice

Assessment Criteria
The learner can:

1. Comply with environmental good practice
2. Monitor the working practice of others to evaluate their impact on the environment
3. Follow correct procedures when dealing with environmental damage
Unit 089  Maintain, promote and improve environmental good practice in food operations

Outcome 2  Be able to promote and improve environmental good practice

Assessment Criteria
The learner can:
1. Inform and encourage others to maintain good environmental workplace practice
2. Evaluate work practices seeking areas for improvements
3. Present clear and detailed recommendations to the relevant person
4. Complete and process documentation
Unit 090  
Understand how to monitor and improve environmental good practice in food operations

Level: 3  
Credit value: 3  
UAN number: K/602/1714

Unit aim:
This unit supports workforce development for those who understand how to monitor and improve environmental good practice, in a food business. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Know how to follow organisational procedures for environmental good practice
2. Know how to recognise environmental good practice
3. Know how to improve environmental good practice

Guided learning hours
It is recommended that 18 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit HS.204K Understand how to monitor and improve environmental practice in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 090  Understand how to monitor and improve environmental good practice in food operations

Outcome 1  Know how to follow organisational procedures for environmental good practice

Assessment Criteria
The learner can:
1. Explain organisational and legislative requirements relating to environmental damage
2. Describe organisational policy relating to environmental good practice
3. Describe levels of responsibilities of individual team members in relation to maintaining environmental good practice
4. Explain why it is important not to exceed the limits of own authority
Unit 090  Understand how to monitor and improve environmental good practice in food operations

Outcome 2 Knowledge how to recognise environmental good practice

Assessment Criteria
The learner can:
1. Describe the types of pressures on the environment that may occur
2. Explain how environmental pressures should be taken into account when planning work
3. Describe the methods that can be used to minimise environmental damage
4. Explain how the efficient use of resources contributes to maintaining environmental good practice
Unit 090  Understand how to monitor and improve environmental good practice in food operations

Outcome 3  Know how to improve environmental good practice

Assessment Criteria
The learner can:
1. Explain why it is important to follow reporting procedures for environmental accidents and near misses
2. Describe methods of presenting recommendations
3. Explain how to create systems for presenting recommendations
4. Explain why evaluating and reflecting on feedback concerning recommendations is important
5. Describe how feedback can be used to shape further recommendations
6. Describe how environmental good practice can be adopted or improved
Unit 091  Monitor product quality in food operations

Level: 3  
Credit value: 3  
UAN number: Y/602/1692

Unit aim:
This unit supports workforce development for those who monitor product quality in a food business.

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.

Learning outcomes
There are two learning outcomes to this unit. The learner will:
1. Be able to monitor product quality
2. Be able to contribute to resolving quality problems

Guided learning hours
It is recommended that 20 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit QI.103S Monitor product quality in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 091  Monitor product quality in food operations
Outcome 1  Be able to monitor product quality

Assessment Criteria
The learner can:
1. Wear appropriate personal protective clothing and equipment during quality monitoring
2. Identify and report factors which may adversely affect product quality
3. Identify and report to the relevant people instances of non-conformance to quality standards
4. Take action to reject or isolate products or items which do not conform to specification.
Unit 091  Monitor product quality in food operations
Outcome 2  Be able to contribute to resolving quality problems

Assessment Criteria
The learner can:
1. Seek advice on quality problems outside own authority or expertise
2. Offer support to, or seek help for, colleagues who encounter quality problems
3. Evaluate quality problems within the limits of own expertise and understanding
4. Feedback to the relevant people observations on quality
5. Receive and confirm instructions for the resolution of quality problems
6. Carry out agreed action to resolve quality problems and feedback results to the relevant people
7. Communicate with others to ensure that resolutions to quality problems are understood.
Unit 092  Understand how to control product quality in food operations

Level: 3  
Credit value: 2  
UAN number: T/602/5829

Unit aim:
This unit supports workforce development for those who understand how to control product quality, in a food business. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Know about good manufacturing practices (GMPs)
2. Know how to evaluate quality issues in own area of work
3. Know about requirements for good communications

Guided learning hours
It is recommended that 10 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit QI.104K Understand how to control product quality in food manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 092  Understand how to control product quality in food operations
Outcome 1 Know about good manufacturing practices (GMPs)

Assessment Criteria
The learner can:
1. Describe relevant company quality policies
2. Describe relevant quality working practices
3. Describe how to obtain quality documentation
4. Evaluate the effectiveness of documentation and data security
Unit 092

Understand how to control product quality in food operations

Outcome 2

Know how to evaluate quality issues in own area of work

Assessment Criteria

The learner can:
1. Explain how quality control affects efficiency of work activities
2. Explain how to evaluate quality issues in own area of work
3. Evaluate common quality issues across the workplace
Unit 092  Understand how to control product quality in food operations

Outcome 3  Know about requirements for good communications

Assessment Criteria
The learner can:
1. Describe the methods used to keep documentation up to date
2. Appraise communication of quality within the working environment
3. Describe own limits of authority when controlling product quality
Unit 093  Manage organisational change for achieving excellence in food operations

Level: 3
Credit value: 4
UAN number: L/602/5075

Unit aim:
This unit supports workforce development for those who manage organisational change for achieving excellence in a food business. 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.

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Be able to prepare for managing organisational change
2. Be able to manage organisational change
3. Be able to communicate plans for organisational change
4. Be able to monitor plans for organisational change

Guided learning hours
It is recommended that 21 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) skills unit QI.224S Manage organisational change for achieving excellence in a food environment.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 093  
Manage organisational change for achieving excellence in food operations

Outcome 1  
Be able to prepare for managing organisational change

Assessment Criteria
The learner can:
1. Identify how plan for change fit with the overall achieving excellence strategy
2. Identify the specific achieving excellence plans for change
3. Confirm the key objectives and scope of the plans for change with relevant colleagues and any stakeholders
4. Identify available resources
5. Make any final changes to plans where necessary and confirm with relevant people
Unit 093  Manage organisational change for achieving excellence in food operations

Outcome 2  Be able to manage organisational change

Assessment Criteria
The learner can:
1. Apply processes and resources to manage potential risks arising from the change and deal with contingencies
2. Implement the change plan
3. Select and apply a range of management tools and techniques to monitor, control and review progress
4. Identify any required changes to the plan and obtain agreement from relevant people where necessary
5. Achieve plan for change objectives using the agreed level of resources
6. Confirm completion of the plan for change with relevant people and stakeholders
Unit 093 Manage organisational change for achieving excellence in food operations

Outcome 3 Be able to communicate plans for organisational change

Assessment Criteria
The learner can:
1. Brief any change team members on the plans for change, detailing their roles and responsibilities
2. Provide ongoing support, encouragement and information to any change team members
3. Communicate progress to relevant people, stakeholders and members of any change team on a regular basis
4. Seek feedback on the value of own contribution to change management
5. Provide feedback on the value of own contribution to the relevant person
Unit 093  Manage organisational change for achieving excellence in food operations
Outcome 4  Be able to monitor plans for organisational change

Assessment Criteria
The learner can:
1. Evaluate the success of the change programme
2. Identify what lessons can be learned, recognising contributions of any team members and other colleagues
3. Review the impact of change
Unit 094  
Understand how to manage organisational change for achieving excellence in food operations

Level: 3  
Credit value: 3  
UAN number: R/602/5076

Unit aim:  
This unit supports workforce development for those who need to understand how to manage organisational change for achieving excellence in a food business. 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.

Learning outcomes  
There are three learning outcomes to this unit. The learner will:
1. Know how to prepare for managing organisational change
2. Know how to manage organisational change
3. Know how to review and communicate organisational change

Guided learning hours  
It is recommended that 17 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit QI.225K Understand how to manage organisational change for achieving excellence in a food environment.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 094  Understand how to manage organisational change for achieving excellence in food operations

Outcome 1  Know how to prepare for managing organisational change

Assessment Criteria
The learner can:
1. Outline the plans for change agreed in line with the strategy for achieving excellence
2. Summarise the theories for understanding teams/team-building techniques and their application
3. Explain how to assess the risks and benefits associated with implementation of change
4. Summarise business and operational critical activities and their interdependencies
5. Assess those factors that need to be changed along with the associated priorities and reasons
6. Define the theory and application of the change/performance curve
7. Summarise stakeholder and line management expectations and how they influence the process
Unit 094 Understand how to manage organisational change for achieving excellence in food operations

Outcome 2 Know how to manage organisational change

Assessment Criteria
The learner can:
1. Summarise the main models and methods for managing change and their strengths and weaknesses
2. Describe the importance of contingency planning and how to do so effectively
3. Explain how to make critical decisions
4. Evaluate the range of information sources available to support achieving excellence
5. Outline the internal and resource barriers to change, and techniques to overcome them
Unit 094  
Understand how to manage organisational change for achieving excellence in food operations

Outcome 3  
Know how to review and communicate organisational change

Assessment Criteria
The learner can:
1. Assess the techniques used to monitor, control and review progress during organisational change
2. Explain how to evaluate the success of change implementation
3. Differentiate between formal and informal channels of communication
4. Explain how to give and receive feedback about change management
5. Explain how to evaluate consultation arrangements that are best suited to implement achieving excellence
Unit 095  Develop working relationships with colleagues

Level: 2  
Credit value: 3  
UAN number: H/600/9660

Learning outcomes
There are five learning outcomes to this unit. The learner will:
1. Understand the benefits of working with colleagues  
2. Be able to establish working relationships with colleagues  
3. Be able to act in a professional and respectful manner when working with colleagues  
4. Be able to communicate with colleagues  
5. Be able to identify potential work-related difficulties and explore solutions

Guided learning hours
It is recommended that 15 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.
Unit 095  Develop working relationships with colleagues

Outcome 1  Understand the benefits of working with colleagues

Assessment Criteria
The learner can:
1. Describe the benefits of productive working relationships
Unit 095  Develop working relationships with colleagues

Outcome 2  Be able to establish working relationships with colleagues

Assessment Criteria
The learner can:
1. Identify colleagues within own and other organisations
2. Agree the roles and responsibilities for colleagues
Unit 095  Develop working relationships with colleagues

Outcome 3  Be able to act in a professional and respectful manner when working with colleagues

Assessment Criteria
The learner can:
1. Explain how to display behaviour that shows professionalism
Unit 095  Develop working relationships with colleagues
Outcome 4  Be able to communicate with colleagues

Assessment Criteria
The learner can:
1. Identify information to others clearly and concisely.
2. Explain how to receive and clarify own understanding of information
Unit 095  Develop working relationships with colleagues

Outcome 5  Be able to identify potential work-related difficulties and explore solutions

Assessment Criteria
The learner can:
1. Identify potential work-related difficulties and conflicts of interest.
2. Explain how to resolve identified potential difficulties
Food Operations Knowledge Units
Unit 008 Principles of sensory assessment in food technology

Level: 3
Credit value: 3
UAN number: Y/502/7496

Unit aim:
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. 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.

Learning outcomes
There are two learning outcomes to this unit. The learner will:
1. Understand the physiological and psychological factors influencing sensory assessments
2. Understand the importance of flavour in the sensory assessment of food and drink products

Guided learning hours
It is recommended that 22 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit FT.114K Principles of sensory assessment in food technology.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 008  Principles of sensory assessment in food technology

Outcome 1  Understand the physiological and psychological factors influencing sensory assessments

**Assessment Criteria**
The learner can:
1. Explain the principles of visual perception in relation to food and drink
2. Describe the role of colour in influencing consumer reactions
3. Outline the physiological processes associated with taste detection
4. Detail the psychological and physiological factors that can impact on sensory tests
Unit 008 Principles of sensory assessment in food technology

Outcome 2 Understand the importance of flavour in the sensory assessment of food and drink products

Assessment Criteria
The learner can:
1. Explain the different flavour sensations and their respective receptors
2. Describe how different tastes interact when combined
3. Identify the various flavour components
4. Describe how flavour is broken down into components
5. Describe how mouthfeel influences the perception of food products
6. Explain the different textures associated with food and drink products
Unit 009  Principles of weights and measures in food technology

Level: 3
Credit value: 4
UAN number: A/602/4505

Unit aim:
This unit supports workforce and/or vocational development for those who need to understand the principles of weights and measures in food technology, in a food environment or in a learning environment. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Understand the legal and regulatory requirements for weighing and measuring food and drink products
2. Understand the processes of weighing and measuring food and drink products
3. Understand how to quality assure the weighing and measuring of food and drink products

Guided learning hours
It is recommended that 30 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.118K Principles of weights and measures in food technology.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of weights and measures in food technology. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 009  Principles of weights and measures in food technology

Outcome 1  Understand the legal and regulatory requirements for weighing and measuring food and drink products

Assessment Criteria

The learner can:
1. Describe the purpose of weights and measures in the food and drink sector
2. Explain the units of weights and measures
3. Outline the legal or regulatory requirements that control how food is sold by weight, number and measure
4. Explain the implications of inaccuracy when weighing and measuring
5. Describe how UK legal and regulatory requirements are monitored and enforced
Unit 009  Principles of weights and measures in food technology

Outcome 2  Understand the processes of weighing and measuring food and drink products

Assessment Criteria
The learner can:
1. Describe the facilities and equipment required to weigh and measure food and drink
2. Outline the manner of marking weights and measures and the permitted symbols and abbreviations
3. Outline the processes, facilities and equipment that are required to weigh and measure food
4. Explain why weighing and measuring devices and processes must be calibrated
5. Describe how to undertake the calibration of weighing/measuring devices
6. Describe how weighing devices can become inaccurate and develop errors
Unit 009  Principles of weights and measures in food technology

Outcome 3  Understand how to quality assure the weighing and measuring of food and drink products

Assessment Criteria
The learner can:
1. Describe how to interpret process specifications for weighing and measuring data
2. Outline the risks associated with inaccurate weighing
3. Describe the implications for quality control associated with weighing and measuring
4. Outline the quality assurance processes that are needed to support weighing and measuring
5. Outline the recording and reporting systems that are needed to support the weighing and measuring processes
Unit 010  Principles of cleaning raw food materials

Level: 3  
Credit value: 3  
UAN number: T/602/4552

Unit aim:  
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. 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.

Learning outcomes  
There are three learning outcomes to this unit. The learner will:
1. Understand the rationale for cleaning and separation technology
2. Understand the processes for cleaning raw food materials without using water
3. Understand the processes for cleaning raw food materials using water

Guided learning hours  
It is recommended that 22 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.142K Principles of cleaning raw food materials.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 010  Principles of cleaning raw food materials
Outcome 1  Understand the rationale for cleaning and separation technology

Assessment Criteria
The learner can:
1. Compare the advantages and disadvantages of using mechanised picking machines to hand picking raw food materials
2. Explain the rationale for cleaning raw food materials after harvesting
3. Summarise the multistage separation methodology used for the cleaning of raw food materials
4. Explain how combinations of cleaning methods can be used to obtain the optimum results for specific raw food materials.
Unit 010  Principles of cleaning raw food materials
Outcome 2  Understand the processes for cleaning raw food materials without using water

Assessment Criteria
The learner can:
1. Summarise which raw food materials are best cleaned without using water
2. Explain why some raw materials are best cleaned without water
3. Explain the characteristics of and equipment used in the processes for separating raw material from contaminants including:
   • Continuous Drum Screening
   • aspiration process
4. Outline how metal detectors and magnets are used to identify and remove metal contaminants from raw materials.
Unit 010  
Outcome 3  
Principles of cleaning raw food materials  
Understand the processes for cleaning raw food materials using water

Assessment Criteria  
The learner can:
1. Summarise which raw food materials are best cleaned using water  
2. Explain why specific raw good materials can be soaked or agitated in water as a preliminary treatment to cleaning  
3. Explain how Spray Washing is used to clean raw materials  
4. Explain the characteristics of, and equipment used in the Floatation Washing process for separating raw material from contaminants.
Unit 011  Principles of sorting and grading produce and food materials

Level: 3  Credit value: 3  UAN number: A/602/4553

Unit aim:
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. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Understand the definitions and rationale for sorting and grading food materials
2. Understand equipment and methods used for sorting food materials
3. Understand the quality factors used in grading food materials

Guided learning hours
It is recommended that 22 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.143K Principles of sorting and grading produce and food materials.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
### Unit 011 Principles of sorting and grading produce and food materials

**Outcome 1** Understand the definitions and rationale for sorting and grading food materials

**Assessment Criteria**

The learner can:

1. Summarise the definition of sorting produce and food materials
2. Summarise the definition of grading produce and food materials
3. Explain the rationale for sorting and grading food materials after cleaning
4. Outline the separation methodology for sorting and grading food materials
Unit 011 Principles of sorting and grading produce and food materials

Outcome 2 Understand equipment and methods used for sorting food materials

Assessment Criteria
The learner can:
1. Explain why sorting is necessary in preparation for mechanical food processing
2. Explain why sorting is important to the effective packaging of fresh produce
3. Summarise which foods can be sorted by weight
4. Explain the types of equipment used to sort by weight and how this equipment functions
5. Summarise which foods can be sorted by colour
6. Explain the types of equipment used to sort by colour and how this equipment functions
Unit 011 Principles of sorting and grading produce and food materials

Outcome 3 Understand the quality factors used in grading food materials

Assessment Criteria
The learner can:
1. Explain how the quality parameters for grading reflect the intended use of the produce or food materials
2. Summarise the importance of the common quality criteria for grading to include;
   - shape
   - size
   - colour
   - freedom from damage and contamination
3. Explain the importance of including quality criteria such as texture, crumb and eating quality when grading food products.
Unit 012 Principles of bulk size reduction of produce and food materials

Level: 3
Credit value: 4
UAN number: F/602/4554

Unit aim:
This unit supports workforce and/or vocational development for those who need to understand the principles of bulk size reduction of produce and food materials, in food operations or in a learning environment. 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.

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Understand the rationale and purpose of bulk size reduction
2. Understand the purpose and characteristics of crushing and grinding processes in bulk size reduction
3. Understand the purpose and characteristics of cutting, dicing and shredding processes in bulk size reduction
4. Understand the purpose and methodology of pulping in bulk size reduction

Guided learning hours
It is recommended that 30 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.144K Principles of bulk size reduction of produce and food materials.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 012  Principles of bulk size reduction of produce and food materials

Outcome 1  Understand the rationale and purpose of bulk size reduction

Assessment Criteria
The learner can:

1. Clarify the definition of size reduction as it relates to produce and other food materials
2. Explain the rationale for the size reduction of produce and food materials after sorting and grading
3. Explain the role of size reduction in the preparation of convenience foods and for other processes including:
   • blanching
   • canning
   • juice extraction.
Unit 012  Principles of bulk size reduction of produce and food materials

Outcome 2  Understand the purpose and characteristics of crushing and grinding processes in bulk size reduction

Assessment Criteria
The learner can:

1. Summarise the purpose of crushing plant prior to size reduction processes
2. Clarify which types of food materials are commonly processed using crushing
3. Explain the characteristics of grinding processes including
   - hammer mills
   - disc mills
   - pin mills
   - ball mills
4. Outline types of food materials which are not suited to grinding processes
Unit 012 Principles of bulk size reduction of produce and food materials

Outcome 3 Understand the purpose and characteristics of cutting, dicing and shredding processes in bulk size reduction

Assessment Criteria
The learner can:

1. Summarise the purpose of cutting and dicing plant as size reduction processes
2. Explain the characteristics of reduction using cutting and dicing equipment
3. Summarise the type of food materials which are commonly processed using cutting and dicing
4. Explain the characteristics of shredding processes
5. Summarise the type of food materials which are commonly processed by shredding
6. Explain why cutting, dicing and shredding processes increase the surface area of food material for further processing
Unit 012  Principles of bulk size reduction of produce and food materials

Outcome 4 Understand the purpose and methodology of pulping in bulk size reduction

**Assessment Criteria**

The learner can:

1. Summarise the purpose of pulping plant as a size reduction process
2. Outline how pulping is carried out in juice and extract making plants
3. Explain how pulping equipment operates in juice and extract making plants
Unit 013  Principles of freezing methods in food technology

Level: 3  
Credit value: 4  
UAN number: F/602/4506

Unit aim:  
This unit supports workforce and/or vocational development for those who need to understand the principles of freezing methods in food technology, in food operations or in a learning environment. 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.

Learning outcomes  
There are four learning outcomes to this unit. The learner will:
1. Understand how the freezing process preserves and stores foods  
2. Understand the technical aspects of freezing on foods  
3. Understand freezing methods in food technology  
4. Understand the cold chain distribution of frozen foods

Guided learning hours  
It is recommended that 30 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.123K Principles of freezing methods in food technology.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of freezing methods in food technology. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 013  Principles of freezing methods in food technology

Outcome 1  Understand how the freezing process preserves and stores foods

Assessment Criteria
The learner can:

1. Explain how freezing acts as a preservation method for foods
2. Explain how freezing effects the storage life of foods
3. Describe the process of freezing in foods including:
   • ice crystal formation
   • concentration of dissolved substances
   • temperature requirements
   • tempering
Unit 013  Principles of freezing methods in food technology

Outcome 2  Understand the technical aspects of freezing on foods

Assessment Criteria

The learner can:

1. Summarise the effect of freezing on plant cell material
2. Explain the definition and importance of the thermal arrest period to food product quality
3. Summarise the affect of freezing on animal tissue
4. Explain meaning of the term “quick-freezing”
5. Explain the term “deep-freezing” as defined by the International Institute of Refrigeration
6. Explain how food products can be individually quick frozen
7. Clarify the advantages of individually quick freezing vegetables and fruits.
Unit 013 Principles of freezing methods in food technology

Outcome 3 Understand freezing methods in food technology

Assessment Criteria
The learner can:

1. Explain the use and functionality of the
   - immersion-freezing method
   - plate freezing method
   - blast freezing method
2. Explain the use and functionality of
   - fluidised bed freezers
   - cryogenic freezers
   - liquid carbon dioxide freezers.
Unit 013  Principles of freezing methods in food technology

Outcome 4  Understand the cold chain distribution of frozen foods

Assessment Criteria
The learner can:

1. Outline how the cold chain works in the distribution of frozen foods
2. Explain the profile of temperature maintenance across the breadth of the cold chain
Unit 014  Principles of homogenisation in food technology

Level: 3  
Credit value: 4  
UAN number: J/602/4555

Unit aim:
This unit supports workforce and/or vocational development for those who need to understand the principles of homogenisation in food technology, in food operations or in a learning environment. 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.

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Understand the principles of homogenisation in food processing
2. Understand how emulsifiers work in food processing
3. Understand how pressure homogenisers are used in food processing
4. Understand how colloidal mills are used in food processing

Guided learning hours
It is recommended that 30 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.145K Principles of homogenisation in food technology.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of homogenisation in food technology. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 014 Principles of homogenisation in food technology

Outcome 1 Understand the principles of homogenisation in food processing

Assessment Criteria
The learner can:

1. Explain the purpose of homogenisation of food mixtures
2. Describe which types of food are normally blended by the homogenisation processes
3. Explain how homogenisation operates as both a mixing and size reduction process
4. Summarise how liquid droplets are broken down (size reduced) during homogenisation
5. Explain how crude emulsions are formed.
Unit 014  Principles of homogenisation in food technology

Outcome 2  Understand how emulsifiers work in food processing

Assessment Criteria
The learner can:

1. Explain how the action of emulsifiers extend the longer term stability of an homogenised emulsion
2. Describe the chemical work of emulsifiers to emulsify a lipid within a water medium
3. Summarise the main naturally occurring emulsifiers and artificial emulsifiers used to process specific food products
4. Explain the difference between naturally occurring emulsification and assisted emulsification during the homogenisation process
Unit 014  Principles of homogenisation in food technology

Outcome 3 Understand how pressure homogenisers are used in food processing

Assessment Criteria
The learner can:

1. Describe the purpose of pressure homogenisation and when it is used
2. Explain how a pressure homogeniser works and the equipment used in the process
3. Explain which types of food products are best suited to homogenisation in a pressure homogeniser
Unit 014  Principles of homogenisation in food technology
Outcome 4  Understand how colloidal mills are used in food processing

Assessment Criteria
The learner can:

1. Describe the purpose of colloidal mills
2. Explain how a colloidal mill works and the equipment used in the process
3. Explain which types of food products are best suited to homogenisation in a colloidal mill
Unit 015 Principles of filtration in food technology

Level: 3
Credit value: 4
UAN number: H/502/7498

Unit aim:
This unit supports workforce and/or vocational development for those who need to understand the principles of filtration in food technology, in food operations or in a learning environment. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Understand the purpose and application of filtration
2. Understand clarification, filter media and filter aids in food filtration
3. Understand food process filtration methodology

Guided learning hours
It is recommended that 26 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.146K Principles of filtration in food technology.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of filtration in food technology. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 015  Principles of filtration in food technology
Outcome 1  Understand the purpose and application of filtration

Assessment Criteria
The learner can:

1. Explain the purpose of filtration in food processing
2. Justify when it is more appropriate to use a food filtration technique than alternative separation technology
3. Summarise what types of foods are normally separated by filtration processes
Unit 015  Principles of filtration in food technology
Outcome 2  Understand clarification, filter media and filter aids in food filtration

Assessment Criteria
The learner can:

1. Explain what the process of clarification is in food filtration technology
2. Define the terms
   • filtrate
   • filter medium
   • filter cake
3. Describe the types of filter media commonly used in food filtration technology
4. Justify how filter media are selected for specific food types
5. Explain how filter media are cleaned and disposed of
6. Explain the functions of filter aids
7. Explain what materials are commonly used as filter aids in food filtration
Unit 015  Principles of filtration in food technology
Outcome 3  Understand food process filtration methodology

Assessment Criteria
The learner can:

1. Explain the typical structure and operation of a plate and frame press
2. Explain how a vacuum can be used as an alternative to pressure, to assist in speeding up the filtration process
3. Explain typical structure and operation of a continuous rotary drum vacuum filter.
Unit 016  Principles of centrifugation in food technology

Level: 3
Credit value: 3
UAN number: J/502/7493

Unit aim:
This unit supports workforce and/or vocational development for those who need to understand the principles of centrifugation in food technology, in food operations or in a learning environment. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Understand the principles of centrifugation in food processing
2. Understand the application of centrifugation in food processing
3. Understand the economics of centrifugation technology

Guided learning hours
It is recommended that 28 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.147K Principles of centrifugation in food technology.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of centrifugation in food technology. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 016  
Principles of centrifugation in food technology
Outcome 1  
Understand the principles of centrifugation in food processing

Assessment Criteria
The learner can:

1. Explain the purpose of centrifugation of foods in food technology
2. Define ‘centrifugal force’
3. Explain how centrifuges separate food components
4. Explain the importance of the specific gravity of food components during centrifugation
5. Summarise the types of food normally separated by centrifugation technology
Unit 016  
Principles of centrifugation in food technology  
Outcome 2  
Understand the application of centrifugation in food processing

Assessment Criteria
The learner can:

1. Explain how cream separators work on the centrifuge principle
2. Explain how oils can be purified by centrifugation
3. Explain how beer can be clarified by centrifugation
4. Explain how yeast can be separated by centrifugation
5. Explain how sugar can be refined using centrifugation
Unit 016  
Outcome 3  
Principles of centrifugation in food technology  
Understand the economics of centrifugation technology

Assessment Criteria  
The learner can:

1. Explain how the type of food material affects the economic decision to use centrifugation or an alternative separation technique
2. Explain the economics of operating continuous centrifugation equipment for specified food types
Unit 017  Principles of blanching in food technology

Level:  3  
Credit value:  3  
UAN number:  L/502/7494

Unit aim:  
This unit supports workforce and/or vocational development for those who need to understand the principles of blanching in food technology, in food operations or in a learning environment. 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.

Learning outcomes  
There are three learning outcomes to this unit. The learner will:
1. Understand the purpose and importance of blanching
2. Understand how steam, water and microwave blanching is carried out
3. Understand how to test and improve blanching

Guided learning hours  
It is recommended that 21 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.148K Principles of blanching in food technology.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of blanching in food technology. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 017  Principles of blanching in food technology
Outcome 1  Understand the purpose and importance of blanching

Assessment Criteria
The learner can:

1. Outline the purpose of food size reduction and washing/cleaning, in preparation for blanching
2. Explain the objectives of the blanching process including:
   • enzyme inactivation
   • colour preservation
3. Justify why many prepared foods are blanched before further processing.
Unit 017  
Principles of blanching in food technology
Outcome 2  
Understand how steam, water and microwave blanching is carried out

Assessment Criteria
The learner can:

1. Explain what equipment to use and how to carry out the blanching process using:
   - steam
   - water
   - microwave
2. Summarise the effects of steam or water blanching on food products
3. Compare the advantages and disadvantages of steam, water and microwave blanching.
Unit 017  
Outcome 3  
Principles of blanching in food technology  
Understand how to test and improve blanching

Assessment Criteria  
The learner can:

1. Explain how the effectiveness of blanching can be tested using the peroxidase test
2. Evaluate the optimal temperatures and times for effective blanching
3. Review the functions of additives which can be used to improve product quality during blanching.
Unit 018 Principles of irradiation in food technology

Level: 3
Credit value: 4
UAN number: R/502/7495

Unit aim:
This unit supports workforce and/or vocational development for those who need to understand the principles of irradiation in food technology, in food operations or in a learning environment. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Understand the features and affects of ionising radiation
2. Understand the radiation sources of irradiation
3. Understand the types of irradiation technologies and the economics of irradiation

Guided learning hours
It is recommended that 34 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.149K Principles of irradiation in food technology.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of irradiation in food technology. It can be assessed on or off the job.

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.
Unit 018 Principles of irradiation in food technology
Outcome 1 Understand the features and affects of ionising radiation

Assessment Criteria
The learner can:

1. Summarise the physical advantages of the affects of ionising radiation to food
2. Explain how ionising radiation can cause the formation of reactive molecules and free radicals in some foods
3. Explain how ionising radiation can cause the production of off-flavours and the degradation of vitamins in some foods
4. Diagnose what the evidence is for the breakdown of food components and absence of toxicity in irradiated foods, being comparable to that in non-irradiated foods.
Unit 018  
Outcome 2  
Principles of irradiation in food technology  
Understand the radiation sources of irradiation

Assessment Criteria
The learner can:

1. Summarise when and what types of irradiated foods were allowed to be sold and consumed in the UK
2. Describe the types of radiation used as sources of ionising radiation for foods;
   - electron produced linear accelerators
   - gamma rays from decay of cobalt 60 and caesium 137
3. Clarify what the evidence is for the absence of residual radioactivity in irradiated foods.
Unit 018  Principles of irradiation in food technology
Outcome 3  Understand the types of irradiation technologies and the economics of irradiation

Assessment Criteria
The learner can:

1. Critically compare the advantages and disadvantages of the use of the types of radiation sources
2. Explain how radiation sterilisation or radappertisation is carried out, its characteristics and the equipment used
3. Summarise why products which are sterilised by radappertisation require aseptic packaging
4. Explain how radiation pasteurisation or radurization is carried out, its characteristics and equipment used
5. Evaluate the success and affects of ionising radiation on:
   • potatoes
   • vegetables
   • fruit
   • poultry products
6. Evaluate the economics of food irradiation and continuous processing.
Unit 019  Principles of aseptic packaging in food technology

Level: 3  
Credit value: 3  
UAN number: L/602/4556

Unit aim:  
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. 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.

Learning outcomes  
There are three learning outcomes to this unit. The learner will:
1. Understand the definition and hermetic sealing of aseptic packaging  
2. Understand the UHT milk processing as an example of aseptic packaging technology  
3. Understand sterilisation in food technology

Guided learning hours  
It is recommended that 20 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.151K Principles of aseptic packaging in food technology.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 019  Principles of aseptic packaging in food technology

Outcome 1  Understand the definition and hermetic sealing of aseptic packaging

Assessment Criteria
The learner can:

1. Explain the definition of aseptic packaging
2. Explain the importance of hermetically sealing aseptic products
3. Describe how hermetic sealing is carried out.
Unit 019  Principles of aseptic packaging in food technology

Outcome 2  Understand the UHT milk processing as an example of aseptic packaging technology

Assessment Criteria
The learner can:

1. Describe how Ultra-High Temperature (UHT) milk is processed
2. Critically compare the advantages of UHT milk treatments over traditional in-bottle long process sterilisation techniques
3. Explain how Uperization achieves rapid milk sterilization.
Unit 019  Principles of aseptic packaging in food technology
Outcome 3  Understand sterilisation in food technology

Assessment Criteria
The learner can:

1. Explain how sterilisation is carried out in the production of
   - aseptic soups
   - ice-cream mixtures
   - custards
2. Explain how sterilisation is carried out in the production of aseptic soft drinks
3. Evaluate the use of micro-filters for the sterilisation of heat sensitive food products.
Unit 020  Principles of bar coding in food operations

Level: 3  
Credit value: 3  
UAN number: D/602/4562

Unit aim:  
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. 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.

Learning outcomes  
There are three learning outcomes to this unit. The learner will:  
1. Understand the form and data capture of bar codes  
2. Understand the infrastructure required to implement and maintain bar coding  
3. Understand the organisation and control of bar coding

Guided learning hours  
It is recommended that 20 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.152K Principles of bar coding in a food and drink.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
**Unit 020**  
**Principles of bar coding in food operations**  
Outcome 1  
Understand the form and data capture of bar codes

**Assessment Criteria**

The learner can:

1. Describe the form and structure of a bar code
2. Explain how bar coding stores product data
3. Explain the different types of bar code used for food and drink products.
Unit 020 Principles of bar coding in food operations
Outcome 2 Understand the infrastructure required to implement and maintain bar coding

Assessment Criteria
The learner can:

1. Summarise the systems, equipment and processes that are required to implement bar coding systems
2. Explain the role of bar coding in product traceability and stock control from food producer to consumer
3. Outline the processes, facilities and equipment that are required to bar code food and drink products.
Unit 020 Principles of bar coding in food operations
Outcome 3 Understand the organisation and control of bar coding

Assessment Criteria
The learner can:

1. Describe the organisation and control of the bar coding processes
2. Evaluate the risks associated with inaccurate bar coding
3. Explain common quality problems associated with the bar coding process
4. Explain how to develop contingency processes for dealing with product that has been incorrectly bar coded
5. Explain the quality assurance systems required to support bar coding processes
6. Summarise the recording and reporting systems that are needed to support bar coding in food and drink production.
Unit 021 Principles of paper and board packaging in food operations

Level: 3  
Credit value: 4  
UAN number: K/602/4564

Unit aim:  
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. 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.

Learning outcomes  
There are four learning outcomes to this unit. The learner will:  
1. Understand the sources and business uses of paper and board packaging  
2. Understand paper processing and its suitability as a packaging material  
3. Understand board processing and its suitability as a packaging material  
4. Understand the promotional role and disposal arrangements for paper and board packaging

Guided learning hours  
It is recommended that 34 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.153K Principles of paper and board packaging in food and drink.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 021 Principles of paper and board packaging in food operations

Outcome 1 Understand the sources and business uses of paper and board packaging

Assessment Criteria
The learner can:

1. Describe the origins and sources of paper and board packaging material
2. Explain how paper and board packaging materials can be used as part of a sustainable policy packaging material
3. Compare the business advantages for using paper and board packaging materials to other non-biodegradable materials
4. Summarise the limitations of food safe packaging material
5. Outline the regulations for using food safe packaging.
Unit 021  Principles of paper and board packaging in food operations

Outcome 2  Understand paper processing and its suitability as a packaging material

Assessment Criteria
The learner can:

1. Describe how paper is processed into food safe packaging material
2. Explain the purposes and functions of paper packaging food products
3. Summarise the typical uses of paper and waxed paper packaging material
4. Evaluate the suitability of paper based packaging material in the freezing and storage of food products
5. Evaluate the suitability of paper based packaging material in providing a substrate for advertising, labelling and bar coding.
Unit 021  Principles of paper and board packaging in food operations

Outcome 3  Understand board processing and its suitability as a packaging material

**Assessment Criteria**

The learner can:

1. Describe how board is processed into different types of food safe packaging material
2. Explain the purposes and functions of board packaging food and drink products
3. Summarise the options for treating board for use in direct contact with food or drink
4. Explain the typical uses for board, waxed board and lined board packaging material for food and drink products
5. Evaluate the suitability of board based packaging material in the freezing and storage of food products
6. Evaluate the suitability of board based packaging material in providing a substrate for advertising, labelling and bar coding.
Unit 021  Principles of paper and board packaging in food operations

Outcome 4  Understand the promotional role and disposal arrangements for paper and board packaging

Assessment Criteria
The learner can:

1. Describe the role of paper and board packaging materials in promoting and advertising products
2. Explain how paper and board packaging materials are best recycled and disposed of after use by wholesalers, retailers and consumers
Unit 022  Principles of plastic and cellulose films in food and drink

Level: 3  
Credit value: 4  
UAN number: M/602/4565

Unit aim:  
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. 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.

Learning outcomes  
There are five learning outcomes to this unit. The learner will:
1. Understand the sources and business use of plastic and cellulose films
2. Understand cellulose processing and its suitability as a packaging film
3. Understand polythene based processing and suitability as packaging film
4. Understand polycarbonate based processing and suitability as packaging material
5. Understand the promotional role and disposal arrangements for plastic and cellulose based packaging

Guided learning hours  
It is recommended that 34 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit FT.154K Principles of plastic and cellulose films in food and drink.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
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.

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.

The Improve Assessment Strategy sets out the overarching assessment requirements.
Unit 022  Principles of plastic and cellulose films in food and drink

Outcome 1  Understand the sources and business use of plastic and cellulose films

Assessment Criteria
The learner can:

1. Describe the origins and sources of plastic and cellulose packaging films
2. Explain how plastic and cellulose packaging materials can be used as part of a sustainable policy approach to the use of packaging films
3. Explain what the business advantages might be for using plastic and cellulose packaging films over other types of packaging films
4. Explain what the limitations and regulations are in the use of food safe packaging films
Unit 022  
**Principles of plastic and cellulose films in food and drink**

Outcome 2  
Understand cellulose processing and its suitability as a packaging film

**Assessment Criteria**

The learner can:

1. Explain the structure of cellulose and its properties in providing a packaging film
2. Describe how cellulose is processed into food safe packaging film
3. Explain the purpose of cellulose packaging film for food products
4. Summarise the grades of cellulose film available, their functionality and use of codes
5. Describe the typical uses for cellulose packaging film for food products
6. Evaluate the suitability of cellulose based packaging film in the freezing and storage of food products
Unit 022  Principles of plastic and cellulose films in food and drink

Outcome 3  Understand polythene based processing and suitability as packaging film

Assessment Criteria
The learner can:

1. Describe how polythene films are made
2. Explain the properties and functionality of low density and high density polythene films
3. Describe how polypropylene films are made
4. Explain the properties and functionality of:
   • cast
   • oriented
   • coated oriented polypropylene films
5. Explain the properties and functionality polyvinylchloride and polyvinylidenechloride films and their use as cling or shrink wrap films
6. Evaluate the suitability of polythene based packaging film in the freezing and storage of food products
Unit 022 Principles of plastic and cellulose films in food and drink

Outcome 4 Understand polycarbonate based processing and suitability as packaging material

Assessment Criteria
The learner can:

1. Describe how polycarbonate packaging material is made
2. Explain the properties and functionality of polycarbonate packaging material
3. Describe the typical uses for polycarbonate packaging material for food and drink products
4. Evaluate the suitability of polycarbonate based packaging material in the freezing and storage of food products
Unit 022  Principles of plastic and cellulose films in food and drink

Outcome 5  Understand the promotional role and disposal arrangements for plastic and cellulose based packaging

Assessment Criteria
The learner can:

1. Explain the suitability of plastic and cellulose based packaging material in providing a substrate for advertising, labelling and bar coding
2. Explain the role of plastic and cellulose packaging material in promoting and advertising products
3. Explain how plastic and cellulose packaging materials are best recycled and disposed of after use by wholesalers, retailers and consumers.
Unit 096  Understanding the principles and practices of assessment

Level: 3
Credit value: 3
UAN number: D/601/5313

Learning outcomes
There are eight learning outcomes to this unit. The learner will:
1. Understand the principles and requirements of assessment
2. Understand different types of assessment method
3. Understand how to plan assessment
4. Understand how to involve learners and others in assessment
5. Understand how to make assessment decisions
6. Understand quality assurance of the assessment process
7. Understand how to manage information relating to assessment
8. Understand the legal and good practice requirements in relation to assessment

Guided learning hours
It is recommended that 24 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.
Unit 096

Understanding the principles and practices of assessment

Outcome 1
Understand the principles and requirements of assessment

Assessment Criteria
The learner can:

1. Explain the function of assessment in learning and development
2. Define the key concepts and principles of assessment
3. Explain the responsibilities of the assessor
4. Identify the regulations and requirements relevant to the assessment in own area of practice
Unit 096  

Understanding the principles and practices of assessment

Outcome 2
Understand different types of assessment method

Assessment Criteria
The learner can:

1. Compare the strengths and limitations of a range of assessment methods with reference to the needs of individual learners
Unit 096  
Understanding the principles and practices of assessment

Outcome 3  
Understand how to plan assessment

Assessment Criteria
The learner can:

1. Summarise key factors to consider when planning assessment
2. Evaluate the benefits of using a holistic approach to assessment
3. Explain how to plan a holistic approach to assessment
4. Summarise the types of risks that may be involved in assessment in own area of responsibility
5. Explain how to minimise risks through the planning process
Unit 096  Understanding the principles and practices of assessment
Outcome 4  Understand how to involve learners and others in assessment

Assessment Criteria
The learner can:

1. Explain the importance of involving the learner and others in the assessment process
2. Summarise types of information that should be made available to learners and others involved in the assessment process
3. Explain how peer and self-assessment can be used effectively to promote learner involvement and personal responsibility in the assessment of learning
4. Explain how assessment arrangements can be adapted to meet the needs of individual learners
Unit 096  
Understanding the principles and practices of assessment

Outcome 5  
Understand how to make assessment decisions

Assessment Criteria
The learner can:

1. Explain how to judge whether evidence is:
   - sufficient
   - authentic
   - current

2. Explain how to ensure that assessment decisions are:
   - made against specified criteria
   - valid
   - reliable
   - fair
Unit 096  Understanding the principles and practices of assessment

Outcome 6  Understand quality assurance of the assessment process

Assessment Criteria
The learner can:

1. Evaluate the importance of quality assurance in the assessment process
2. Summarise quality assurance and standardisation procedures in own area of practice
3. Summarise the procedures to follow when there are disputes concerning assessment in own area of practice
Unit 096  
Understanding the principles and practices of assessment

Outcome 7  
Understand how to manage information relating to assessment

Assessment Criteria
The learner can:

1. Explain the importance of following procedures for the management of information relating to assessment
2. Explain how feedback and questioning contribute to the assessment process
Unit 096  Understanding the principles and practices of assessment

Outcome 8  Understand the legal and good practice requirements in relation to assessment

Assessment Criteria
The learner can:

1. Explain legal issues, policies and procedures relevant to assessment, including those for confidentiality, health, safety and welfare
2. Explain the contribution that technology can make to the assessment process
3. Evaluate requirements for equality and diversity and, where appropriate, bilingualism in relation to assessment
4. Explain the value of reflective practice and continuing professional development in the assessment process
Unit 097  The principles of HACCP for food manufacturing

Level: 3
Credit value: 3
UAN number: Y/600/2382

Unit aim:
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. 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.

Learning outcomes
There are five learning outcomes to this unit. The learner will:
1. Understand the importance of HACCP based food safety management procedures
2. Understand the preliminary processes for HACCP based procedures
3. Understand how to develop HACCP based food safety management procedures
4. Understand how to implement HACCP based food safety management procedures
5. Understand how to evaluate HACCP based procedures

Guided learning hours
It is recommended that 20 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit FT.154K Principles of plastic and cellulose films in food and drink.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy sets out the overarching assessment requirements.
Unit 097 The principles of HACCP for food manufacturing

Outcome 1 Understand the importance of HACCP based food safety management procedures

Assessment Criteria
The learner can:

1. Outline the need for HACCP based food safety management procedures
2. Describe the HACCP approach to food safety procedures
3. Summarise legislation relating to HACCP
Unit 097  The principles of HACCP for food manufacturing

Outcome 2  Understand the preliminary processes for HACCP based procedures

Assessment Criteria
The learner can:

1. Explain the requirements of a HACCP team
2. Outline the pre-requisites for HACCP
3. Describe food production processes including use of end product
4. Use process flow diagrams in the development of HACCP based food safety management procedures
Unit 097  The principles of HACCP for food manufacturing

Outcome 3  Understand how to develop HACCP based food safety management procedures

Assessment Criteria
The learner can:

1. Identify hazards and risks in the production process
2. Determine critical control points
3. Establish critical limits
Unit 097  The principles of HACCP for food manufacturing

Outcome 4  Understand how to implement HACCP based food safety management procedures

Assessment Criteria
The learner can:

1. Establish and implement monitoring procedures at critical control points
2. Describe corrective actions
Unit 097  The principles of HACCP for food manufacturing

Outcome 5  Understand how to evaluate HACCP based procedures

Assessment Criteria
The learner can:

1. Describe documentation and record keeping procedures
2. Outline the verification and review of procedures
Unit 098  The principles of food safety supervision for manufacturing

Level: 3  
Credit value: 3  
UAN number: T/502/0183

Unit aim:
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. 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.

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Understand how food business operators can ensure compliance with food safety legislation
2. Understand the application and monitoring of good hygiene practice
3. Understand how to implement food safety management procedures
4. Understand the role of supervision in food safety management procedures

Guided learning hours
It is recommended that 25 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit FS.110K Understand food safety management procedures in manufacture.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 098  The principles of food safety supervision for manufacturing

Outcome 1  Understand how food business operators can ensure compliance with food safety legislation

Assessment Criteria

The learner can:

1. Summarise the importance of food safety management procedures
2. Explain the responsibilities of employers and employees in respect of food safety legislation and procedures for compliance
3. Explain how the legislation is enforced
4. Outline the requirements of food safety audits
Unit 098 The principles of food safety supervision for manufacturing

Outcome 2 Understand the application and monitoring of good hygiene practice

Assessment Criteria

The learner can:

1. Justify the importance of high standards of personal hygiene
2. Explain procedures for cleaning and disinfection including the need for workplace and equipment schedules
3. Explain procedures to control contamination and cross-contamination
4. Describe the importance of and methods for waste disposal
5. Describe the importance of and methods for pest control
Unit 098 The principles of food safety supervision for manufacturing

Outcome 3 Understand how to implement food safety management procedures

Assessment Criteria
The learner can:

1. Describe the consequences for food safety from microbial, chemical, physical and allergenic hazards
2. Describe methods and procedures for controlling food safety to include critical control points, critical limits and corrective actions
3. Explain the requirement for temperature control
4. Explain the importance of traceability
5. Explain the importance of continually reviewing and, as appropriate, improving the organisation’s procedures
Unit 098  The principles of food safety supervision for manufacturing

Outcome 4  Understand the role of supervision in food safety management procedures

Assessment Criteria
The learner can:

1. Explain the requirements for induction and on-going training of staff
2. Explain the importance of monitoring and reporting in food safety management
Unit 099 Principles of monitoring and assessing risks in food operations

Level: 3  
Credit value: 2  
UAN number: D/602/4044

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Understand health and safety legislation and workplace policies and procedures for food operations
2. Understand risks and hazards in food operations
3. Understand how to conduct risk assessments in the workplace

Guided learning hours
It is recommended that 13 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.
Unit 099  Principles of monitoring and assessing risks in food operations

Outcome 1  Understand health and safety legislation and workplace policies and procedures for food operations

Assessment Criteria
The learner can:

1. Outline the key features of legislation including:
   - Health and Safety at Work Act
   - Health and Safety Management Regulations
   - COSHH
2. Describe the legal duties of employers and employees for:
   - health and safety
   - risk assessments
3. Describe the importance of keeping organisational health and safety records
4. Outline how a health and safety policy and procedures are best structured in a food operation
5. Explain how to develop an effective health and safety communication strategy
6. Outline how to monitor the activities and understanding of relevant people with respect to health and safety issues in the workplace.
Unit 099  Principles of monitoring and assessing risks in food operations
Outcome 2  Understand risks and hazards in food operations

Assessment Criteria
The learner can:

1. Explain the difference between a hazard and a risk
2. Outline methods of identifying hazards in the workplace
3. Explain the importance of promptly dealing with and reporting risks and hazards in the workplace and implications of not doing so
Unit 099  Principles of monitoring and assessing risks in food operations

Outcome 3  Understand how to conduct risk assessments in the workplace

Assessment Criteria
The learner can:

1. Explain the purpose, legal implications and importance of carrying out risk assessments
2. Outline methods used to conduct an effective risk assessments and the resources required to do so
3. Describe how to deal with results of risk assessments
4. State sources of information about risk assessments
Unit 100  Principles of quality sampling and testing in food operations

Level: 3  
Credit value: 3  
UAN number: L/602/3987

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Understand the requirements of sampling for quality control  
2. Understand how to prepare for sampling  
3. Understand the procedures for sampling for quality control  
4. Understand how to feedback test outcomes

Guided learning hours
It is recommended that 18 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.
Unit 100  Principles of quality sampling and testing in food operations

Outcome 1  Understand the requirements of sampling for quality control

Assessment Criteria
The learner can:

1. Summarise the operational and regulatory requirements for sampling product quality
2. Outline the purpose and methods of sampling
3. Describe the implications of not carrying out adequate sampling of product quality sampling
4. Explain what the acceptable levels of tolerance are in interpretation and decision-making
Unit 100 Principles of quality sampling and testing in food operations

Outcome 2 Understand how to prepare for sampling

Assessment Criteria
The learner can:

1. Describe how to choose the correct resources and equipment and to check that they are fit for purpose
2. Outline how to prepare products for assessment against specifications
3. Describe how to identify suitable samples for testing
4. Outline methods of safe storage and sample preparation
Unit 100 Principles of quality sampling and testing in food operations

Outcome 3 Understand the procedures for sampling for quality control

Assessment Criteria
The learner can:

1. Outline controls used in the sampling process
2. Explain how to calculate test results and assess these against key factors identified in product specifications
3. Explain the importance of tolerance
4. Explain the importance of labelling, identifying and maintaining the integrity of samples
5. Summarise how to record sampling results for traceability purposes
Unit 100  Principles of quality sampling and testing in food operations
Outcome 4  Understand how to feedback test outcomes

Assessment Criteria
The learner can:

1. Describe the importance of effective communication in delivering test outcomes
2. Explain how to report results to relevant people
3. Outline how to select the appropriate methods of communication for the audience
4. Explain the importance of presenting key points of test outcomes in the appropriate format
Unit 101  Principles of quality in food operations

Level:  3  
Credit value:  3  
UAN number:  T/602/4034

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Understand the importance of controlling product quality in food operations
2. Understand how to monitor quality
3. Understand how to conduct quality audits

Guided learning hours
It is recommended that 18 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.
Unit 101       Principles of quality in food operations
Outcome 1       Understand the importance of controlling product quality in food operations

Assessment Criteria
The learner can:

1. Summarise the importance of complying with current legislation and industry codes of practice to control product quality
2. Explain the importance of maintaining product quality
3. Explain how quality control affects efficiency of work activities
4. Describe typical factors that affect quality
5. Outline the documentation requirements for recording product quality.
6. Describe the importance of keeping records and data safe and secure
Unit 101  Principles of quality in food operations
Outcome 2  Understand how to monitor quality

Assessment Criteria
The learner can:

1. Describe how to obtain information, specifications and resources required to monitor product quality
2. Outline procedures for monitoring quality
3. Describe how to take actions to minimise typical problems affecting quality
4. Explain how operational parameters affect achieving output targets
5. Explain the importance of monitoring throughput and procedures used to do this
6. Summarise the potential consequences of ineffective monitoring and control
7. Outline procedures to deal with non conformance in quality and how to develop solutions for this
Unit 101  Principles of quality in food operations  
Outcome 3 Understand how to conduct quality audits

Assessment Criteria
The learner can:

1. Summarise the key principles of quality auditing
2. Outline how to conduct an audit investigation
3. Explain how to implement any corrective actions identified during audits
4. Describe quality audit documentation requirements and importance of maintaining secure records
5. Describe how to interpret and communicate reports from quality auditors
Unit 102 Principles of raw food materials in food operations

Level: 3  
Credit value: 2  
UAN number: D/602/4061

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Understand sources and functional role of raw materials used in food operations
2. Understand supply and production of raw food materials
3. Understand the use of additives in raw food materials

Guided learning hours
It is recommended that 14 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy sets out the overarching assessment requirements.
Unit 102 Principles of raw food materials in food operations

Outcome 1 Understand sources and functional role of raw materials used in food operations

Assessment Criteria
The learner can:

1. Outline the main sources of raw materials for use in food operations, to include:
   - cereals
   - fruits
   - vegetables
   - meat
   - fish
   - nuts
   - dairy products

2. Explain the functional role of raw materials as ingredients in finished products, to include:
   - preservation
   - enhanced eating qualities
   - nutritional value
   - ingredients lists
Unit 102  Principles of raw food materials in food operations

Outcome 2  Understand supply and production of raw food materials

Assessment Criteria
The learner can:

1. Outline annual production figures required for annual UK consumption for raw materials, to include:
   - cereals
   - fruits
   - vegetables
   - meat
   - fish
   - nuts
   - dairy products

2. Outline the raw material production techniques to include:
   - cultivation and farming methods and conditions
   - intensive and extensive agriculture related to country of origin
   - production trends
   - health and safety requirements

3. Explain handling and transportation systems for raw materials, to include:
   - cereals
   - fruits
   - vegetables
   - meat
   - fish
   - nuts
   - dairy products

4. Explain factors affecting supply in the UK:
   - Political
   - Economic
   - Health scares
   - Environmental

5. Identify factors affecting storage:
   - Methods and conditions
   - Quality
   - Contamination
   - Health and safety requirements
Unit 102 Principles of raw food materials in food operations

Outcome 3 Understand the use of additives in raw food materials

Assessment Criteria
The learner can:

1. Describe the categories of additives which are used to treat raw food materials
2. Describe the main function of each of the categories of additives in raw food materials
3. Describe the advantages and disadvantages of additives in raw food materials
4. State how raw food materials can be classified as organic foods
Unit 103  Principles of product development in food operations

Level: 3  
Credit value: 4  
UAN number: L/602/4038

Learning outcomes  
There are five learning outcomes to this unit. The learner will:
1. Understand how to obtain and use market research in product development  
2. Understand how to develop test samples  
3. Understand how to manage production trials  
4. Understand how to evaluate the outcome of production trials  
5. Understand how to develop product specifications

Guided learning hours  
It is recommended that 31 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.
Unit 103  Principles of product development in food operations

Outcome 1  Understand how to obtain and use market research in product development

Assessment Criteria
The learner can:

1. Summarise industry product development procedures
2. Describe the common sources of market research data needed for a new product development
3. Outline the methods which can be used to obtain information for a new product
4. Summarise customer needs and consumer trends in the industry
5. Explain the importance of using market research data in product development
Unit 103 Principles of product development in food operations

Outcome 2 Understand how to develop test samples

Assessment Criteria
The learner can:

1. Explain how technical specifications are developed and their use in developing test samples
2. Summarise the stages of planning to produce a test sample
3. Explain how resources and raw materials available can affect product formulation
4. Describe how functional ingredients can contribute to a final product
5. Explain methods used to work out product costings
Unit 103  
**Principles of product development in food operations**

Outcome 3  
Understand how to manage production trials

**Assessment Criteria**
The learner can:

1. Outline how legislation affects production trials
2. Describe how to plan and set parameters for the outcomes of a production trial
3. Explain why specifications might need to be modified during a production trial
4. Outline how and when to amend specifications
Unit 103  Principles of product development in food operations

Outcome 4  Understand how to evaluate the outcome of production trials

Assessment Criteria
The learner can:

1. Outline the methods used to assess a trial product against objectives
2. Explain how to analyse data from production trials
3. Describe how to evaluate the reliability and sufficiency of information from a production trial
4. Explain the importance of communicating the outcomes of production trials
5. Outline the different methods that can be used to communicate the outcomes of production trials
Unit 103  Principles of product development in food operations

Outcome 5  Understand how to develop product specifications

Assessment Criteria
The learner can:

1. Explain how to construct product specifications and protocols
2. Explain the common reasons for product specifications to be rejected
3. Describe how to define and compile product specifications to cover the following requirements:
   - materials
   - component
   - equipment
4. Explain why the final specification should include:
   - risk assessment
   - hazard analysis
   - quality assurance methods
Unit 104  Principles of engineering maintenance in food operations

Level: 3  Credit value: 3  UAN number: D/602/4058

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Understand the commissioning of food plant and equipment
2. Understand the importance of engineering maintenance in food operations
3. Understand the engineering maintenance needs of plant and equipment
4. Understand the completion of maintenance and the handover of food plant and equipment for operations

Guided learning hours
It is recommended that 19 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.
Unit 104  Principles of engineering maintenance in food operations

Outcome 1  Understand the commissioning of food plant and equipment

Assessment Criteria
The learner can:

1. Explain how to access and interpret specifications for commissioning plant and equipment
2. Outline how a commissioning process is carried and how this can impact on plans for establishing operations
3. Describe the key aspects of equipment design which affect the productivity of plant and equipment
4. Explain the process of capability for newly installed plant and equipment
5. Explain how to conduct process validation
Unit 104  

**Principles of engineering maintenance in food operations**

Outcome 2  
Understand the importance of engineering maintenance in food operations

**Assessment Criteria**

The learner can:

1. Explain the possible implications of not undertaking maintenance to include:
   - cost of down time
   - waste control
   - process quality
   - overall efficiency
2. Explain the impact that maintenance has on operations
3. Explain the calculation of economic maintenance
4. Describe the impact of depreciation
Unit 104  Principles of engineering maintenance in food operations

Outcome 3  Understand the engineering maintenance needs of plant and equipment

Assessment Criteria
The learner can:

1. Outline how to assess the maintenance needs of food plant and equipment
2. Explain how to determine the immediate and longer term maintenance activities that are necessary
3. Explain how to establish when and how maintenance activities should be carried out
4. Explain how to identify and select maintenance tools and materials and the importance of doing this correctly
5. Describe the difference between a standard and proactive or preventative approach to maintenance
6. Summarise the impact of maintenance overrun on food operations
Unit 104  
Principles of engineering maintenance in food operations

Outcome 4  
Understand the completion of maintenance and the handover of food plant and equipment for operations

Assessment Criteria

The learner can:

1. Explain how to minimise wastage and why it is important
2. Outline how to dispose of waste safely and effectively
3. Explain how to determine the effectiveness of maintenance activities
4. Describe the procedures for the testing of plant and equipment on completion of maintenance
5. Describe the procedure for handover of plant and equipment on completion of maintenance
Unit 105  Principles of sustainability in food operations

Level:  3  
Credit value:  4  
UAN number:  L/601/2701  

Unit aim:
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. 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.

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Understand the principles of sustainability  
2. Understand factors affecting sustainability targets  
3. Understand factors affecting support for sustainability targets  
4. Understand the factors influencing the achievement of sustainability

Guided learning hours
It is recommended that 34 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit SF.102K Principles of sustainability in a food environment.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy sets out the overarching assessment requirements.
Assessment Criteria
The learner can:

1. Outline the key principles of environmental sustainability in a food environment in relation to:
   - energy
   - waste
   - water usage
   - transportation

2. Describe the relationship between sustainability and the three key elements of corporate social responsibility:
   - economic
   - social
   - environmental

3. Describe the benefits of sustainability to the organisation and its stakeholders

4. Summarise how sustainability impacts on all the component functions of an organisation
Unit 105  
Principles of sustainability in food operations  
Outcome 2  
Understand factors affecting sustainability targets

Assessment Criteria  
The learner can:

1. Outline how to establish targets for sustainable development, including the use of benchmarking
2. Explain how carbon currency data (carbon footprints) is used as an indicator of sustainability
3. Explain the importance of liaising with national policy-makers to determine the influence of government targets and legal requirements on organisational sustainability
Unit 105  
Outcome 3  
Principles of sustainability in food operations
Understand factors affecting support for sustainability targets

Assessment Criteria
The learner can:

1. Explain how continuous improvement supports sustainability
2. Explain how to gain the commitment of stakeholders to the development of sustainable food production
3. Outline how environmental management systems (EMS) are used to support sustainability in a food environment
Unit 105  Principles of sustainability in food operations
Outcome 4  Understand the factors influencing the achievement of sustainability

Assessment Criteria
The learner can:

1. Summarise the influences which impact upon the achievement of sustainability
2. Explain how to control the efficient use of resources within organisational activities to help achieve sustainability
3. Explain how the actions of others within the supply chain can influence sustainability
4. Explain the potential barriers to achieving sustainability and summarise ways these can be overcome
5. Describe how to access sources of advice and guidance on achieving sustainability
Unit 106  Principles of continuous improvement techniques (Kaizen) in food operations

Level: 3  
Credit value: 3  
UAN number: F/601/2954

Unit aim:
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. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Understand the features, importance of Kaizen activity
2. Understand the criteria and requirements for Kaizen and problem solving
3. Understand how to interact with Kaizen activity

Guided learning hours
It is recommended that 15 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit QI.207K Principles of continuous improvement techniques (Kaizen) in a food environment.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy sets out the overarching assessment requirements.
Unit 106 Principles of continuous improvement techniques (Kaizen) in food operations

Outcome 1 Understand the features, importance of Kaizen activity

Assessment Criteria
The learner can:

1. Explain how the health, safety and hygiene requirements of a work area can influence a Kaizen activity
2. Summarise the main features of a Kaizen activity and the establishment of measurable improvements
3. Evaluate the importance of encouraging people to identify continuous improvements
4. Explain the evaluation of improvement ideas and selection of those that are to be pursued
5. Explain the function of standard operating procedures and specifications
6. Clarify the resources required to support production schedules and specifications
7. Describe why it is important to be clear about the levels of authority of personnel linked to problem resolution
Unit 106  Principles of continuous improvement techniques (Kaizen) in food operations

Outcome 2  Understand the criteria and requirements for Kaizen and problem solving

Assessment Criteria

The learner can:

1. Explain the criteria used to select an area/processing activity for Kaizen activity
2. Explain the importance of understanding the food process and/or activity under review
3. Summarise the requirements for the deployment of Kaizen, and the resources required by the activity
4. Explain the importance of waste in Kaizen activity and why inventory control is important to waste reduction
5. Explain how root cause analysis can support problem solving
6. Explain how own knowledge of food processing activities can support problem solving
Unit 106 Principles of continuous improvement techniques (Kaizen) in food operations

Outcome 3 Understand how to interact with Kaizen activity

Assessment Criteria
The learner can:

1. Explain the application of the Deming cycle (plan, do, check, act
2. Explain how to engage the knowledge and experience of the people involved in the process in the development of improvement activities
3. Explain how to separate facts and opinions about the food operations and how these affect improvement actions
4. Explain the techniques used to visually communicate the work of the Kaizen activity to participants and others
5. Explain how to use calculations for identifying the required production rate for a process
6. Summarise the cycle time of a process
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
   - Line balance
   - Process displays
Unit 107  Principles of food data analysis in food and drink

Level:  3
Credit value:  4
UAN number:  H/602/4501

Unit aim:
This unit supports workforce and/or vocational development for those who need to understand the principles of food data analysis in food and drink, in a food environment or in a learning environment. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Understand the purpose of data analysis
2. Understand the types of data analysis
3. Understand how to record and present food data

Guided learning hours
It is recommended that 30 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit FT.107K Principles of food data analysis in food and drink.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of food data analysis in food and drink. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 107  
Principles of food data analysis in food and drink

Outcome 1  
Understand the purpose of data analysis

Assessment Criteria

The learner can:

1. Explain the purpose of data analysis in the food and drink sector
2. Identify what is reliable primary and secondary technological food data
3. Outline the characteristics of primary and secondary technological food data
4. Outline the processes, facilities and equipment that are required to collect and record technological food data
Unit 107  Principles of food data analysis in food and drink
Outcome 2  Understand the types of data analysis

Assessment Criteria
The learner can:

1. Explain, from food processing operations how to source
   - primary data
   - secondary data
2. Define and detail the application in food processing of;
   - quantitative data
   - qualitative data
3. Define the main data classifications to include;
   - categorical
   - discrete
   - continuous
Unit 107  Principles of food data analysis in food and drink

Outcome 3  Understand how to record and present food data

Assessment Criteria
The learner can:

1. Outline how to record, code and store technological food data
2. Explain how to ensure the reliability and quality of both primary and secondary data in terms of:
   - currency
   - authenticity
   - accuracy
   - balance
3. Describe how to create, structure and present data sets
4. Detail how to summarise data using measures of central tendency, dispersion and exploratory data analysis
5. Describe how to fit and apply curves to support the analysis of technological food data
6. Identify the resources required to support the effective collection, storage and analysis of data.
Unit 108  Principles of appearance and texture in food technology

Level: 3  
Credit value: 3  
UAN number: K/602/4502

Unit aim:
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. 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.

Learning outcomes
There are two learning outcomes to this unit. The learner will:
1. Understand the role of appearance and texture in food and drink products
2. Understand the importance of quality in the appearance and texture of food and drink products

Guided learning hours
It is recommended that 23 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.115K Principles of appearance and texture in food technology.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 108  

Principles of appearance and texture in food technology

Outcome 1  
Understand the role of appearance and texture in food and drink products

Assessment Criteria

The learner can:

1. Detail the role of appearance and texture
2. Identify the factors that influence appearance and texture
3. Explain the importance of appearance to consumer acceptance
4. Describe how product appearance and texture is influenced by different components
5. Describe how raw material quality can influence appearance and texture
Unit 108  Principles of appearance and texture in food technology

Outcome 2  Understand the importance of quality in the appearance and texture of food and drink products

Assessment Criteria
The learner can:

1. Identify the types of sensory methods used to assess appearance and texture
2. Explain how processing activities influence the appearance and texture
3. Outline the processes, facilities and equipment that are required to assess the appearance and texture
4. Detail the common quality problems that can occur with product appearance and texture
5. Describe how appearance and texture quality problems can be rectified
6. Describe the role of appearance and texture assessment in quality assurance systems
Unit 109  Principles of flavours in food technology

Level: 3  Credit value: 4  UAN number: M/602/4503

Unit aim:
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. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Understand the principles of taste flavours
2. Understand the principles of odour flavours
3. Understand the chemical structure and characteristics of flavours

Guided learning hours
It is recommended that 36 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.116K Principles of flavours in food technology.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 109  Principles of flavours in food technology
Outcome 1  Understand the principles of taste flavours

Assessment Criteria
The learner can:

1. Explain how the salt flavour produced by taste is a property of electrolytes
2. Review how the saltiness taste can relate to the type of salt including:
   - Chloride
   - Bromide
   - Iodide
   - Sulphate
   - Nitrate
   - partner metals
3. Explain how low-molecular carbohydrates produce a sweet taste
4. Describe the structure and sweet characteristics of saccharin and aspartame
5. Explain how acid flavour is a property of the hydrogen ion derived from acids
6. Explain how the bitterness taste is a property of alkaloids, and substances containing magnesium, calcium and ammonium ion.
Unit 109  Principles of flavours in food technology
Outcome 2  Understand the principles of odour flavours

Assessment Criteria
The learner can:

1. Explain how food flavours produced by odours are composed of complex mixtures of hydrocarbons, alcohols, acids, aldehydes, ketones and esters
2. Explain how natural food flavours can be extracted from special oil sacs in fruits and vegetables 'essential oils'
3. Describe the sources of the most common range of essential oils.
Unit 109  Principles of flavours in food technology
Outcome 3  Understand the chemical structure and characteristics of flavours

Assessment Criteria
The learner can:

1. Describe the structure and characteristics of the isoprene based terpenoids
2. Explain why the monoterpenes are the most common flavours and have the strongest odours
3. Describe the structure and characteristics monoterpenes including:
   - acyclic monoterpenes
   - monocyclic monoterpenes
   - bicyclic monoterpenes
4. Explain which synthetic alcohols, aldehydes, ketones and esters are used for fruit flavouring
5. Explain the structure and characteristics of the sulphur containing compounds which provide the flavour of onions and cabbage
6. Explain the sensitivities surrounding the use and consumption of synthetic flavours.
Unit 110  Principles of rheological characteristics in food technology

Level: 3  
Credit value: 4  
UAN number: T/602/4504

Unit aim:  
This unit supports workforce and/or vocational development for those who need to understand the principles of rheological characteristics in food technology, or in a learning environment. 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.

Learning outcomes  
There are three learning outcomes to this unit. The learner will:
1. Understand the importance of Rheology for food and drink products  
2. Understand the characteristics of Rheology  
3. Understand how to measure Rheological characteristics

Guided learning hours  
It is recommended that 32 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.117K Principles of rheological food characteristics in food technology.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of rheological characteristics in food technology. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 110  Principles of rheological characteristics in food technology

Outcome 1  Understand the importance of Rheology for food and drink products

Assessment Criteria
The learner can:

1. Define Rheology and explain its importance
2. Describe the factors that influence rheology
3. Explain the importance of rheology to consumer acceptance
Unit 110  Principles of rheological characteristics in food technology

Outcome 2  Understand the characteristics of Rheology

Assessment Criteria
The learner can:

1. Explain how processing activities influence the rheological characteristics
2. Explain how rheological characteristics are incorporated into organisational standard operating procedures
3. Describe the characteristics of
   - elasticity
   - plastic flow
   - viscous flow
4. Explain why elastic deformation is reversible
5. Explain why plastic flow is non-reversible
6. Explain how raw material quality can affect the rheological characteristics.
Unit 110 Principles of rheological characteristics in food technology

Outcome 3 Understand how to measure Rheological characteristics

Assessment Criteria
The learner can:

1. Describe how rheological characteristics of foods can be measured
2. Describe the methods used to assess the rheological characteristics
3. Identify the uses of;
   - texturometer
   - viscosimeter and jelmeter
   - shortometer and penetrometer
   - compressimeter
   - hand held pressure tester.
   
   i.


Unit 111 Principles of energy transfer in heating food technology

Level: 3
Credit value: 4
UAN number: J/502/7557

Unit aim:
This unit supports workforce and/or vocational development for those who need to understand the principles of energy transfer in heating food technology, in a food environment or in a learning environment. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Understand the principles of energy
2. Understand how to measure energy
3. Understand the transfer and characteristics of energy

Guided learning hours
It is recommended that 30 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.119K Principles of energy transfer in heating food technology.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of energy transfer in heating food technology. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 111  Principles of energy transfer in heating food technology

Outcome 1  Understand the principles of energy

Assessment Criteria
The learner can:

1. Describe the applications of heat treatment
2. Identify sources of direct and indirect heat
3. Describe the changes that occur in food and drink products when they are heated
4. Explain how and why heat treatments are controlled and monitored
5. Outline how energy efficiency is optimised
6. Explain what happens at molecular level when food substances are heated
Unit 111  Principles of energy transfer in heating food technology

Outcome 2  Understand how to measure energy

Assessment Criteria
The learner can:

1. Describe how intensity of heat can be measured
2. Explain the use of Celsius, Fahrenheit, and Kelvin scales for measuring temperature
3. Explain how energy values used to heat food are measured using the calorie, British thermal unit and joule scales
Unit 111 Principles of energy transfer in heating food technology
Outcome 3 Understand the transfer and characteristics of energy

Assessment Criteria
The learner can:

1. Describe the difference between temperature and energy needed to heat a food substance
2. Explain how energy is transferred by
   - radiation
   - conduction
   - convection
3. Explain the characteristics of energy transfer to foods
   - in ovens and convection ovens
   - from surface heat contact
   - in retards
   - in microwave ovens.
Unit 112  Principles of the dehydration process in food technology

Level: 3  
Credit value: 4  
UAN number: A/502/7426

Unit aim:
This unit supports workforce and/or vocational development for those who need to understand the principles of dehydration in food technology, in food operations or in a learning environment. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Understand the physical effects of dehydration in food technology
2. Understand the chemical and nutritional affects of dehydration in food technology
3. Understand dehydration processes and economics in food technology

Guided learning hours
It is recommended that 34 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.120K Principles of dehydration processes in food technology.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of dehydration in food technology. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 112  Principles of the dehydration process in food technology

Outcome 1  Understand the physical effects of dehydration in food technology

Assessment Criteria
The learner can:

1. Define dehydration
2. Explain the physical effects of dehydration in foods including:
   - water loss
   - weight and bulk reduction
   - the concentration of solutes in specific areas
   - case hardening
3. Explain the effect of dehydration on microbial growth and reproduction
4. Explain what the term Water Activity (aw) in food means, and which types of organisms grow at particular aw ranges.
Unit 112  Principles of the dehydration process in food technology

Outcome 2  Understand the chemical and nutritional affects of dehydration in food technology

Assessment Criteria
The learner can:

1. Explain how osmotic effects can reduce aw in foods like jams and salted foods
2. Diagnose why chemically bound water cannot be easily removed from foods
3. Explain what the nutritional and quality effects of dehydration are including:
   - vitamin degradation
   - acceleration of oxidative rancidity
   - changes in shape, colour, texture
4. Explain why blanching may be necessary in certain products prior to dehydration including:
   - enzymic reactions
   - non-enzymic reactions (Maillard)
Unit 112 Principles of the dehydration process in food technology

Outcome 3 Understand dehydration processes and economics in food technology

Assessment Criteria
The learner can:

1. Explain the characteristics and how the Sun-drying process is carried out
2. Identify the equipment used in the process
3. Explain the characteristics of, and how warm-air driers dehydrate foods to include:
   - kiln driers
   - tunnel driers
   - fluidised bed driers
4. Identify the equipment used in the process
5. Explain the characteristics of, and how Roller or Drum driers and Spray driers dehydrate liquid foods
6. Identify the equipment used in the process
7. Explain the characteristics of, and how Freeze drying and Accelerated freeze drying processes work
8. Identify the equipment used in the processes
9. Summarise the economical and food advantages of dehydration methods in the market success of convenience foods
Unit 113  
**Principles of energy transfer in cooling food technology**

**Level:** 3  
**Credit value:** 4  
**UAN number:** L/502/7429

**Unit aim:**  
This unit supports workforce and/or vocational development for those who need to understand the principles of energy transfer in cooling food technology, in a food environment or in a learning environment. 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.

**Learning outcomes**  
There are **two** learning outcomes to this unit. The learner will:  
1. Understand heat transfer in the form of cooling  
2. Understand the different methods of cooling food and drink products

**Guided learning hours**  
It is recommended that **28** hours should be allocated for this unit, although patterns of delivery are likely to vary.

**Details of the relationship between the unit and relevant national standards**  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.121K Principles of energy transfer in cooling food technology.

**Support of the unit by a sector or other appropriate body**  
This unit is endorsed by Improve.

**Assessment**  
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of energy transfer in cooling food technology. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 113 Principles of energy transfer in cooling food technology

Outcome 1 Understand heat transfer in the form of cooling

Assessment Criteria

The learner can:

1. Describe the applications of cooling
2. Outline direct and indirect methods of cooling
3. Explain the changes that occur in food and drink products when they are cooled
4. Describe how energy efficiency is optimised during cooling
Unit 113  Principles of energy transfer in cooling food technology

Outcome 2  Understand the different methods of cooling food and drink products

Assessment Criteria
The learner can:

1. Describe how and why cooling processes are controlled and monitored
2. Outline the factors affecting the choice of cooling medium
3. Explain why agitation of the cooling medium can increase cooling effectiveness
4. Describe how foods can be cooled by convection
5. Describe how convection currents operate in a refrigerator
6. Explain why solid foods cool more slowly than liquid foods
7. Explain why water is a better coolant than air
8. Describe the factors that influence the effectiveness of the refrigeration process ability to cool foods and maintain temperature
Unit 114  Principles of the refrigeration cycle in food technology

Level: 3  
Credit value: 4  
UAN number: L/502/7558

Unit aim:  
This unit supports workforce and/or vocational development for those who need to understand the principles of the refrigeration cycle in food technology, in food operations or in a learning environment. 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.

Learning outcomes  
There are four learning outcomes to this unit. The learner will:  
1. Understand the definition and purpose of refrigeration  
2. Understand the technical aspects of the refrigeration cycle  
3. Understand refrigerants and latent heat properties in the refrigeration cycle  
4. Understand the disposal and safety issues relating to refrigeration

Guided learning hours  
It is recommended that 32 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.122K Principles of the refrigeration cycle in food technology.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of the refrigeration cycle in food technology. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 114  Principles of the refrigeration cycle in food technology

Outcome 1  Understand the definition and purpose of refrigeration

Assessment Criteria
The learner can:

1. Explain the definition and purpose of
   • refrigeration
   • refrigerants
2. Summarise the purpose of the refrigeration process
**Unit 114**  
Principles of the refrigeration cycle in food technology

**Outcome 2**  
Understand the technical aspects of the refrigeration cycle

**Assessment Criteria**

The learner can:

1. Explain how liquid refrigerant takes up heat in an evaporator
2. Explain how refrigerant vapour is compressed and condensed into a liquid
3. Explain the purpose of the expansion valve in the circulation of the refrigerant
4. Explain the purpose of the refrigerant reservoir.
Unit 114  Principles of the refrigeration cycle in food technology

Outcome 3  Understand refrigerants and latent heat properties in the refrigeration cycle

Assessment Criteria
The learner can:

1. Summarise the substances that are used as refrigerants
2. Compare the advantages and disadvantages of different types of refrigerants
3. Explain the term “latent heat of evaporation”
4. Explain why latent heat of evaporation is important in the refrigeration cycle
5. Justify why refrigerants need to have a high latent heat capacity
Unit 114  Principles of the refrigeration cycle in food technology
Outcome 4  Understand the disposal and safety issues relating to refrigeration

Assessment Criteria
The learner can:

1. Explain concerns in the maintenance and disposal of refrigeration equipment including:
   - energy
   - sustainability
   - environmental
2. Summarise the safety precautions required when working with refrigerants
Unit 115  Principles of pigments in food technology

Level: 4  
Credit value: 5  
UAN number: H/602/4515

Unit aim:  
This unit supports workforce and/or vocational development for those who need to understand the principles of pigments in food technology, in food operations or in a learning environment. 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.

Learning outcomes  
There are five learning outcomes to this unit. The learner will:  
1. Understand the role of pigments in food  
2. Understand the structure, characteristics and sources of isoprenoid derived pigments  
3. Understand the structure, characteristics and sources of tetrapyrrole derived pigments  
4. Understand the structure, characteristics and sources of benzopyran derived pigments  
5. Understand food colour additives

Guided learning hours  
It is recommended that 40 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.131K Principles of pigments in food technology.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of pigments in food technology. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 115  Principles of pigments in food technology
Outcome 1  Understand the role of pigments in food

Assessment Criteria
The learner can:

1. Explain the important role played by pigment molecules in the appeal of natural and processed foods
2. Explain what role pigment molecules play in indicating the ripeness, deterioration or spoilage of foods
Unit 115 Principles of pigments in food technology
Outcome 2 Understand the structure, characteristics and sources of isoprenoid derived pigments

Assessment Criteria
The learner can:

1. Explain the structure of carotenoids including
   - Carotenes
   - Lycopenes
   - Xanthophylls
2. Evaluate the functional characteristics of the carotenoids
3. Summarise the naturally occurring sources of carotenoids
Unit 115  Principles of pigments in food technology
Outcome 3  Understand the structure, characteristics and sources of tetrapyrrole derived pigments

Assessment Criteria
The learner can:

1. Explain the structure of tetrapyrrole derived pigments including:
   - Chlorophylls
   - Pheophytin
   - Haemoglobin and oxyhaemoglobin
   - Myoglobin and oxymyoglobin
2. Evaluate the functional characteristics of the tetrapyrrole derived pigments
3. Summarise the naturally occurring sources of tetrapyrrole derived pigments
Unit 115 Principles of pigments in food technology
Outcome 4 Understand the structure, characteristics and sources of benzopyran derived pigments

Assessment Criteria
The learner can:

1. Explain the structure of tetrapyrrrole derived pigments including:
   - Anthocyanins
   - Flavones
   - Tannins
2. Evaluate the functional characteristics of the benzopyran derived pigments
3. Summarise the naturally occurring sources of benzoptran derived pigments
Unit 115  Principles of pigments in food technology
Outcome 5 Understand food colour additives

Assessment Criteria
The learner can:

1. Explain how food additive colours used in the UK are approved and reviewed by the European Union
2. Explain what the permitted food colours are, their E.coding and their main characteristics
3. Describe the source product for the synthesis of food colour additives
4. Evaluate the sensitivities surrounding the use and consumption of food colour additives
Unit 116  Principles of functional food additives in food technology

Level:  3  
Credit value:  4  
UAN number:  K/602/4516

Unit aim:
This unit supports workforce and/or vocational development for those who need to understand the principles of functional food additives, in food operations or in a learning environment. 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.

Learning outcomes
There are five learning outcomes to this unit. The learner will:
1. Understand the purpose, value and approval of food additives
2. Understand the functional characteristics of anticaking agents, antioxidants and buffers
3. Understand the functional characteristics of enzymes, firming/crisping agents, humectants and sequestrants
4. Understand the functional characteristics of preservatives
5. Understand the functional characteristics of the nutritive group of food additives

Guided learning hours
It is recommended that 35 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.132K Principles of functional food additives in food technology.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of functional food additives. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 116  Principles of functional food additives in food technology

Outcome 1  Understand the purpose, value and approval of food additives

Assessment Criteria
The learner can:

1. Summarise the main purposes of food additives to include;
   - delaying food deterioration and spoilage
   - sustaining the commercially specified visual appearance and texture of food
2. Compare the relative size and value of the food additives market in the UK to that to Europe
3. Explain the public sensitivities surrounding the use and consumption of food additives in the UK
4. Explain how food additives used in the UK are approved, reviewed and classified
Unit 116  Principles of functional food additives in food technology

Outcome 2  Understand the functional characteristics of anticaking agents, antioxidants and buffers

Assessment Criteria
The learner can:

1. Explain the purpose of adding anticaking agents, antioxidants and buffers to foods
2. Summarise the physical characteristics which underpin the functionality of
   • anticaking agents
   • antioxidants
   • buffers
3. Summarise the chemical characteristics which underpin the functionality of
   • anticaking agents
   • antioxidants
   • buffers
4. Evaluate the uses of anticaking agents, antioxidants and buffers in foods
Unit 116  Principles of functional food additives in food technology

Outcome 3  Understand the functional characteristics of enzymes, firming/crisping agents, humectants and sequestrants

Assessment Criteria
The learner can:

1. Explain the purpose of adding enzymes, firming/crisping agents, humectants and sequestrants to foods
2. Summarise the physical characteristics which underpin the functionality of
   - enzymes
   - firming/crisping agents
   - humectants and sequestrants
3. Summarise the chemical characteristics which underpin the functionality of
   - enzymes
   - firming/crisping agents
   - humectants and sequestrants
4. Evaluate the uses of enzymes, firming/crisping agents, humectants and sequestrants in foods
Unit 116  Principles of functional food additives in food technology

Outcome 4  Understand the functional characteristics of preservatives

Assessment Criteria

The learner can:

1. Explain the purpose of adding preservatives to foods
2. Summarise the physical characteristics which underpin the functionality of preservatives
3. Summarise the chemical characteristics which underpin the functionality of preservatives
4. Explain the role of the acid group of preservatives in providing flavour
5. Compare the use of the acid group of food additives to their natural occurrence in foods
6. Evaluate the use of sulphur based, sorbic, propanoic, and nitrate based preservatives in foods.
Unit 116  Principles of functional food additives in food technology

Outcome 5  Understand the functional characteristics of the nutritive group of food additives

Assessment Criteria
The learner can:

1. Explain the purpose of adding nutrients to foods
2. Describe the functions of the main nutrient additives used to fortify foods
3. Summarise the advantages and disadvantages of adding nutrients to foods for public consumption
4. Explain the statutory requirements for the fortification of foods in the UK
5. Review which food types are commonly fortified on a voluntary basis in the UK
Unit 117  Principles of yeast biology for food and drink

Level: 3  
Credit value: 4  
UAN number: A/602/4522

Unit aim:  
This unit supports workforce and/or vocational development for those who need to understand the principles of yeast biology, in food operations or in a learning environment. 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.

Learning outcomes  
There are four learning outcomes to this unit. The learner will:  
1. Understand the cellular structure and functionality of the yeast cell  
2. Understand how yeast cells reproduce  
3. Understand the process and function of yeast fermentation  
4. Understand how yeast is manufactured and the functionality of yeast types

Guided learning hours  
It is recommended that 30 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.133K Principles of yeast biology for food and drink.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of yeast biology for food and drink. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 117  Principles of yeast biology for food and drink
Outcome 1  Understand the cellular structure and functionality of the yeast cell

Assessment Criteria
The learner can:

1. Describe the overall size and microscopic structure of the yeast cell
2. Explain the functionality of each of the microscopic components of the yeast cell
3. Describe how to estimate how many yeast cells might be present in one gram of yeast
4. Summarise the nutritional composition of the single cell yeast organism
5. Explain why yeast are classified as fungi
Unit 117  
Principles of yeast biology for food and drink
Outcome 2  
Understand how yeast cells reproduce

Assessment Criteria
The learner can:

1. Explain the yeast cell multiplication process
2. Summarise the conditions and factors which optimise the rate at which yeast multiplies
3. Describe how to estimate the optimum rate of multiplication of yeast
4. Outline the budding process
5. Describe the process and conditions which cause yeast to sporulate
6. Explain why yeast sporulation is important in cross breeding yeast strains.
Unit 117  
Outcome 3  
Principles of yeast biology for food and drink  
Understand the process and function of yeast fermentation

Assessment Criteria
The learner can:

1. Explain the stages of yeast fermentation as a biochemical process
2. Summarise which enzymes are required in yeast cells to carry out fermentation
3. Explain the action of yeast enzymes as a key part of the fermentation process
4. Clarify which food substrates can be utilised by yeast cells for fermentation
5. Describe the factors which affect the performance of yeast enzymes and the rate of fermentation
6. Summarise the key features of substances produced by fermentation
Unit 117  Principles of yeast biology for food and drink

Outcome 4  Understand how yeast is manufactured and the functionality of yeast types

Assessment Criteria
The learner can:

1. Summarise the species of yeast cultivated for use in baking and brewing
2. Explain how yeast is manufactured on a commercial scale
3. Summarise the types of yeast used in food and drink processing
4. Evaluate the features and uses of the following yeast types;
   - compressed
   - granular
   - active dried
   - ordinary dried
   - instant dried
5. Describe the optimum conditions and factors for the storage and care of each of the yeast types.
Unit 118  Principles of microbiology in food technology

Level: 3  
Credit value: 4  
UAN number: A/602/4536

Unit aim: 
This unit supports workforce and/or vocational development for those who need to understand the principles of yeast biology, in food operations or in a learning environment. 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.

Learning outcomes 
There are four learning outcomes to this unit. The learner will:
1. Understand the classification and assessment of micro-organisms in food and drink processing
2. Understand food poisoning viruses and relevant food processing control measures
3. Understand food poisoning bacteria and relevant food processing control measures
4. Understand the micro-organisms which cause food spoilage and relevant food processing control measures
5. Understand the characteristics of useful food processing micro-organisms

Guided learning hours
It is recommended that 33 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards 
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.134K Principles of food microbiology.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of microbiology in food technology. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 118 Principles of microbiology in food technology

Outcome 1 Understand the classification and assessment of micro-organisms in food and drink processing

Assessment Criteria
The learner can:

1. Summarise the types of micro-organisms important in food and drink processing
2. Explain the importance of classifying types of micro-organisms important in food and drink processing
3. Explain the techniques used for the microbiological assessment of food and drink
4. Explain how to interpret the outcomes of the microbiological assessment of food and drink
5. Justify why potential errors and tolerances must be taken into account during microbiological assessment of food and drink
Unit 118 Principles of microbiology in food technology
Outcome 2 Understand food poisoning viruses and relevant food processing control measures

Assessment Criteria
The learner can:

1. Summarise the common viruses which cause viral food poisoning
2. Explain the characteristics of the viruses which cause viral food poisoning
3. Evaluate the measures used in food and drink processing to control and destroy viruses which cause viral food poisoning
Unit 118  
Outcome 3

Principles of microbiology in food technology
Understand food poisoning bacteria and relevant food processing control measures

Assessment Criteria
The learner can:

1. Summarise the common bacteria which cause bacterial food poisoning
2. Explain the characteristics of the bacteria which cause bacterial food poisoning
3. Explain what microbial toxins are and how they are produced
4. Summarise the impact of microbial toxins in food materials
5. Evaluate the measures used in food and drink processing to control and destroy the bacteria and toxins which cause bacterial food poisoning
Unit 118  Principles of microbiology in food technology
Outcome 4 Understand the micro-organisms which cause food spoilage and relevant food processing control measures

Assessment Criteria
The learner can:

1. Summarise the types of bacteria and fungi which cause deterioration and spoilage of food
2. Explain the biochemical processes by which bacteria and fungi cause deterioration and spoilage of food
3. Describe the main methods for the control of food spoilage by bacteria and fungi
Unit 118
Outcome 5
Principles of microbiology in food technology
Understand the characteristics of useful food processing micro-organisms

Assessment Criteria
The learner can:

1. Explain the characteristics of bacteria and fungi which cause fermentation in food processing including;
   - baking
   - brewing
   - cheese making
2. Explain how microbial biopolymers can be used to improve the texture of food products
3. Explain the purpose and value of probiotic bacteria in specific food products.
Unit 119  Principles of sterile processing in food technology

Level: 3  Credit value: 4  UAN number: M/602/3013

Unit aim:
This unit supports workforce and/or vocational development for those who need to understand the principles of sterile processing in food technology, in food operations or in a learning environment. 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.

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Understand the aim and principles of sterile processing technology
2. Understand heat and pH treatments as sterile processing technologies
3. Understand the affect of osmotically active substances on sterile processing technologies
4. Understand the structure and use of glass and sterilisable pouches

Guided learning hours
It is recommended that 30 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.135K Principles of sterile processing in food technology.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of sterile processing in food technology. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 119  Principles of sterile processing in food technology

Outcome 1  Understand the aim and principles of sterile processing technology

Assessment Criteria
The learner can:

1. Describe the aims of sterile processing
2. Explain the scientific principles involved in the destruction of micro-organisms and their spores, and the inactivation of enzymes
3. Distinguish between absolute sterility and commercial sterility
Unit 119  
Principles of sterile processing in food technology

Outcome 2  Understand heat and pH treatments as sterile processing technologies

Assessment Criteria
The learner can:

1. Justify the use of heat treatment as the most commonly used method of sterilisation
2. Explain the range and application of methods for food sterilisation
3. Explain how the acidity levels of food can affect the use of heat treatment or sterilisation methods
4. Explain how pH levels impact on inhibiting spoilage organisms from pH 5.3 and lower
5. State the definitions and examples of:
   - low acid foods
   - acid foods
   - high acid foods
Unit 119  
Principles of sterile processing in food technology

Outcome 3  
Understand the affect of osmotically active substances on sterile processing technologies

Assessment Criteria

The learner can:

1. Explain how the presence and levels of osmotically active substances can affect the use of heat treatment or other sterilisation methods
2. Explain how osmotically active substances biochemically perform within food mixtures
3. Explain the function of sugars, starches and salts as osmotically active substances
Unit 119  Principles of sterile processing in food technology
Outcome 4  Understand the structure and use of glass and sterilisable pouches

Assessment Criteria
The learner can:

1. Evaluate the uses of glass and sterilisable pouches for packaging sterile food and drink
2. Explain the structure and use of sterilisable pouches
Unit 120 Principles of canning in food technology

Level: 3
Credit value: 4
UAN number: F/502/7430

Unit aim:
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. 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.

Learning outcomes
There are four learning outcomes to this unit. The learner will:
1. Understand the preparation for canning and the importance of canning
2. Understand how canning is carried out and the acceptable standards of sterility required
3. Understand heat penetration, cooling and labelling during canning
4. Understand spoilage and the competition canning faces from other preservation technologies

Guided learning hours
It is recommended that 30 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.150K Principles of canning in food technology.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 120  Principles of canning in food technology
Outcome 1  Understand the preparation for canning and the importance of canning

Assessment Criteria
The learner can:

1. Explain the purpose of food washing/cleaning and food size reduction in preparation for canning
2. Evaluate why some fruits and most vegetables are blanched before canning
3. Summarise the importance of canning as a food preservation technique
4. Explain why canning is a bacteriocidal process
Unit 120  
Outcome 2  
Principles of canning in food technology  
Understand how canning is carried out and the acceptable standards of sterility required

Assessment Criteria
The learner can:

1. Describe how to carry out and what equipment is used in the filling, vacuum treatment and sealing of cans
2. Summarise how the toxin of Clostridium botulinum can be used as an indicator of heat resistant spores and toxins in the canning process
3. Explain the standards of commercial sterility which are acceptable to canning of foods
4. Explain the importance of the Decimal Reduction Time or D value, in the canning process
5. Explain the definition and importance of the F value in canning different types of foods
Unit 120 Principles of canning in food technology
Outcome 3 Understand heat penetration, cooling and labelling during canning

Assessment Criteria
The learner can:

1. Explain how heat penetration into cans differs in solid pack and liquid pack canning
2. Explain how the heating process is carried out and what retort equipment is used
3. Explain how the cooling process is carried out and what equipment is used
4. Describe how cans are labelled, where the cans are not previously printed
Unit 120  Principles of canning in food technology
Outcome 4  Understand spoilage and the competition canning faces from other preservation technologies

Assessment Criteria
The learner can:

1. Explain what the causes of spoilage are in canned foods
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 121  
Principles of food labelling in food operations

Level: 3  
Credit value: 4  
UAN number: T/602/4566

Unit aim:  
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. 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.

Learning outcomes  
There are four learning outcomes to this unit. The learner will:
1. Understand the purpose and regulation of labelling
2. Understand how labelling contributes to nutritional awareness and product quality
3. Understand the business use of food labelling

Guided learning hours  
It is recommended that 30 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.155K Principles of food labelling in food and drink.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
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.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 121  Principles of food labelling in food operations
Outcome 1  Understand the purpose and regulation of labelling

Assessment Criteria
The learner can:

1. Describe the purpose of food labelling in the food and drink sector
2. Explain the regulatory labelling requirements that control food and drink content and composition
3. Explain the regulatory requirements and implications associated with mislabelling
4. Explain how regulatory requirements are monitored through enforcement
5. Clarify the role of labelling in product traceability and control
Unit 121  Principles of food labelling in food operations
Outcome 2  Understand how labelling contributes to nutritional awareness and product quality

Assessment Criteria
The learner can:

1. Explain how food labelling contributes to consumer awareness of food nutritional content
2. Evaluate the labelling schemes and protocols that are used to inform the public of food nutritional content
Unit 121  Principles of food labelling in food operations
Outcome 3  Understand the business use of food labelling

Assessment Criteria
The learner can:

1. Describe the processes, facilities and equipment that are required to label food
2. Explain how to interpret process specifications to obtain accurate food data for inclusion in labelling specifications
3. Explain how to develop, consult and agree labelling specifications
4. Justify what arrangements are necessary to implement and communicate labelling specifications
5. Describe different ways in which food data can be misrepresented by non-compliant labelling descriptions
6. Explain the typical arrangements for organisation and control of the labelling processes
7. Explain the risks associated with labelling policies and practices
Unit 122  Principles of achieving excellence in food operations

Level: 4  
Credit value: 4  
UAN number: D/601/9944

Unit aim:  
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. 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.

Learning outcomes  
There are three learning outcomes to this unit. The learner will:  
1. Understand food manufacturing excellence (FME)  
2. Understand how food manufacturing excellence (FME) can be achieved  
3. Understand the business outputs and benefits of food manufacturing excellence (FME)

Guided learning hours  
It is recommended that 33 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit QI.323K Principles of achieving excellence in a food environment.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
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.

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.

The Improve Assessment Strategy for qualifications in food and drink sets out the overarching assessment requirements.
Unit 122 Principles of achieving excellence in food operations
Outcome 1 Understand food manufacturing excellence (FME)

Assessment Criteria
The learner can:

1. Explain the principle of continuous improvement and its importance within FME
2. Analyse the role of quality improvement methodologies and their importance within FME including:
   - Six Sigma
   - Total Quality Management (TQM)
   - Kaizen
3. Analyse the role of quality improvement tools and their importance within FME
4. Clarify the role of sustainable improvement management systems and their importance within FME including:
   - change management
   - people and team development
   - organisational culture
5. Summarise the main components of a FME approach that can provide sustainable and continuous productivity improvement
6. Define the vision, purpose and scope of FME within own or a typical food sector organisation
Unit 122  Principles of achieving excellence in food operations

Outcome 2  Understand how food manufacturing excellence (FME) can be achieved

Assessment Criteria
The learner can:

1. Justify how a FME approach is best developed and implemented to maximise organisational advantage
2. Explain the importance and roles of a FME strategy and implementation/action plan to steer improvement within the business
3. Analyse how best to drive FME implementation/utilisation using continuous improvement and organisational development managers and teams
4. Summarise how quality improvement methodologies are best identified, utilised and evaluated within the business
5. Summarise how quality improvement tools are best identified, utilised and evaluated within the business
6. Justify at what level and how key decisions are best made within FME implementation/utilisation
7. Clarify the role of senior management in FME implementation/utilisation
Unit 122  
Principles of achieving excellence in food operations

Outcome 3  
Understand the business outputs and benefits of food manufacturing excellence (FME)

Assessment Criteria

The learner can:

1. Review the importance of identifying and measuring outputs and benefits in FME
2. Evaluate how outputs are best identified, set and measured in FME
3. Summarise the short term benefits which can be achieved by FME
4. Summarise the medium to long term benefits which can be achieved by FME
5. Clarify how benefits are best justified and promoted to support organisational credibility
6. Explain the critical importance of FME to business efficiency, success and sustainability
Unit 123  
Principles of improving organisational performance in achieving excellence in food operations

Level: 4  
Credit value: 5  
UAN number: R/601/9956

Unit aim:
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. 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.

Learning outcomes
There are three learning outcomes to this unit. The learner will:
1. Understand how to improve organisational performance and how it contributes to food manufacturing excellence (FME)
2. Understand the principles of improving organisational performance of food processing/supply capability
3. Understand the application of improving organisational performance to support food manufacturing excellence (FME)

Guided learning hours
It is recommended that 35 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit QI.333K Principles of improving organisational performance in achieving excellence in a food environment.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy sets out the overarching assessment requirements.
Unit 123  Principles of improving organisational performance in achieving excellence in food operations

Outcome 1  Understand how to improve organisational performance and how it contributes to food manufacturing excellence (FME)

Assessment Criteria
The learner can:

1. Summarise the purpose and overall objectives of improving organisational performance
2. Clarify the importance and benefits of improving organisational performance to a FME approach
3. Summarise how improving organisational performance is placed within and contributes towards a FME strategy or approach
Unit 123  Principles of improving organisational performance in achieving excellence in food operations

Outcome 2  Understand the principles of improving organisational performance of food processing/supply capability

Assessment Criteria
The learner can:

1. Clarify the role of improving organisational performance in driving quality improvement of processes
2. Explain how improving organisational performance is important in the DMAIC model for quality improvement and its relationship with Six Sigma
3. Explain how improving organisational performance is important in the DMADV model for quality improvement and its relationship with Six Sigma
4. Summarise how to organise plans for implementing performance improvement priorities in process capability including:
   - identification of solutions
   - solution testing
   - solution validation
   - solution agreement
5. Summarise how to implement solutions for performance improvement in process capability including:
   - identification
   - testing
   - validation
   - agreement
6. Summarise how to identify the measures and targets needed to analyse performance improvement in process capability
Unit 123  Principles of improving organisational performance in achieving excellence in food operations
Outcome 3  Understand the application of improving organisational performance to support food manufacturing excellence (FME)

Assessment Criteria
The learner can:

1. Summarise the type of management expertise, resources and systems required to improve organisational performance
2. Summarise the type of technical expertise and resources required to improve organisational performance
3. Explain how the process of improving organisational performance is best evaluated and reviewed to maximise the effectiveness of quality improvement and achievements
4. Justify at what level and how key decisions are best made about improving organisational performance to sustain FME
Unit 124  Principles of energy efficiency in food operations

Level: 4  Credit value: 4  UAN number: H/601/9685

Unit aim:
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. 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.

Learning outcomes
There are five learning outcomes to this unit. The learner will:
1. Understand the principles of energy efficiency
2. Understand the factors influencing the setting of energy efficiency targets
3. Understand the factors influencing support for energy efficiency
4. Understand the factors influencing the achievement of energy efficiency
5. Understand the factors necessary to assess the effectiveness of energy efficiency initiatives

Guided learning hours
It is recommended that 24 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge unit SF.104K Principles of energy efficiency in a food environment.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
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.

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.

The Improve Assessment Strategy for Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 124  Principles of energy efficiency in food operations

Outcome 1  Understand the principles of energy efficiency

Assessment Criteria
The learner can:

1. Explain how energy consumption impacts on climate change
2. Explain the role of energy efficiency in achieving sustainability
3. Explain how energy efficiency can help reduce carbon emissions
4. Describe the benefits of:
   • low-carbon energy
   • energy efficiency
Unit 124  Principles of energy efficiency in food operations

Outcome 2  Understand the factors influencing the setting of energy efficiency targets

Assessment Criteria
The learner can:

1. Explain climate change legislation and how it controls organisational energy usage
2. Describe the Government targets and legal requirements for carbon reduction and climate change and their implications in food operations
3. Explain how to use carbon footprints as a measure of energy efficiency
4. Explain the principles of energy efficiency benchmarking as a method of identifying opportunities for improving energy efficiency
5. Explain how to establish current levels of energy usage for all organisational activities
6. Describe the areas of energy usage and opportunities for improving energy efficiency
7. Explain how to develop targets for energy efficiency
Unit 124  

Principles of energy efficiency in food operations

Outcome 3  

Understand the factors influencing support for energy efficiency

Assessment Criteria
The learner can:

1. Describe the methods for promoting organisational energy efficiencies
2. Explain how to define and allocate roles and responsibilities for all those involved in improving energy efficiency
3. Explain how to identify training needs and organise staff training to support the more efficient use of energy
Unit 124  
**Principles of energy efficiency in food operations**

Outcome 4  
Understand the factors influencing the achievement of energy efficiency

**Assessment Criteria**

The learner can:

1. Describe the sources of low-carbon energy, including options for on-site energy generation
2. Explain how to monitor and control energy efficiency
3. Describe the barriers that can limit energy efficiency and the strategies that can be used to overcome these barriers
4. Explain how process and product design can impact on energy efficiency
5. Explain how process control and quality assurance can support energy efficiency
6. Explain how to monitor, control and maintain sustainable energy usage
Unit 124  Principles of energy efficiency in food operations

Outcome 5  Understand the factors necessary to assess the effectiveness of energy efficiency initiatives

Assessment Criteria
The learner can:

1. Explain how to evaluate the impact of measures to improve energy efficiency
2. Explain how to complete an organisational cost/benefit analysis in respect to energy efficiency measures
Unit 125  Principles of food policy and regulation

Level: 4  
Credit value: 5  
UAN number: Y/601/9683  

Unit aim:  
This unit supports workforce and/or vocational development for those who need to understand the principles of food policy and regulation, in a food environment or in a learning environment. 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.

Learning outcomes  
There are three learning outcomes to this unit. The learner will:  
1. Understand how to describe food policy and regulation  
2. Understand how to develop food policy and procedures  
3. Know how to monitor food policies

Guided learning hours  
It is recommended that 33 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards  
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.101K Principles of food policy and regulation.

Support of the unit by a sector or other appropriate body  
This unit is endorsed by Improve.

Assessment  
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of food policy and regulation. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 125  Principles of food policy and regulation
Outcomes 1  Understand how to describe food policy and regulation

Assessment Criteria
The learner can:

1. Explain the legal and regulatory requirements that control the manufacture and supply of food
2. Explain how ethical and social issues affect food businesses
3. Describe how to access sources of advice and guidance that support food policy development
4. Explain how to quantify the impact on food businesses of:
   - legal
   - regulatory
   - ethical
   - social requirements
Unit 125 Principles of food policy and regulation
Outcome 2 Understand how to develop food policy and procedures

Assessment Criteria
The learner can:

1. Explain the purpose of organisational policy and procedures
2. Outline the effectiveness of methods used for collecting and analysing data
3. Explain how the culture and values of businesses affect corporate governance
4. Explain how to develop organisational food policy to support organisational culture and values
5. Describe how to support the effective implementation of food policies
6. Outline the methods used for communicating policies
7. Explain how policy is influenced by and influences stakeholders
Unit 125  
Outcome 3  
Principles of food policy and regulation  
Know how to monitor food policies

Assessment Criteria  
The learner can:

1. Outline the techniques used for monitoring policies and procedures  
2. Explain how to develop contingency processes to deal with policy failures  
3. Explain why quality assurance processes are needed to support organisational policy development and implementation  
4. Outline the methods for controlling policy and ensuring on-going compliance with regulations
Unit 126

Principles of using Information Communication Technology (ICT) and Management Information Systems (MIS) in food technology

Level: 4
Credit value: 4
UAN number: D/601/9684

Unit aim:
This unit supports workforce and/or vocational development for those who need to understand the principles of using Information Communication Technology and Management Information Systems in food technology, or in a learning environment. 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.

Learning outcomes
There are two learning outcomes to this unit. The learner will:
1. Understand ICT and MIS systems used within food and drink businesses
2. Understand how ICT and MIS systems are used within food and drink businesses

Guided learning hours
It is recommended that 23 hours should be allocated for this unit, although patterns of delivery are likely to vary.

Details of the relationship between the unit and relevant national standards
This unit of assessment relates directly to Improve Sector Performance Standard (approved as National Occupational Standard) knowledge standard FT.106K Principles of using ICT and MIS in food technology.

Support of the unit by a sector or other appropriate body
This unit is endorsed by Improve.

Assessment
This unit is designed to assess the underpinning knowledge and understanding of learners in the workplace context, for understanding the principles of using Information Communication Technology and Management Information Systems in food technology. It can be assessed on or off the job.

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.

The Improve Assessment Strategy for Proficiency Qualifications in Food and Drink sets out the overarching assessment requirements.
Unit 126 Principles of using Information Communication Technology (ICT) and Management Information Systems (MIS) in food technology

Outcome 1 Understand ICT and MIS systems used within food and drink businesses

Assessment Criteria
The learner can:

1. Identify the types of ICT and MIS systems and how they are used within food and drink businesses
2. Outline the processes, facilities and equipment that are required to provide ICT and MIS systems
3. Describe the potential shortfalls of ICT and MIS systems
Unit 126  Principles of using Information Communication Technology (ICT) and Management Information Systems (MIS) in food technology

Outcome 2  Understand how ICT and MIS systems are used within food and drink businesses

Assessment Criteria
The learner can:

1. Explain how ICT systems are used to collect and store process data
2. Describe how to use ICT and MIS systems to:
   • input
   • store
   • process
   • retrieve data
   • evaluate
   • present data
3. Explain how to maintain the security, integrity and accuracy of ICT and MIS systems
4. Describe how to evaluate the effectiveness of ICT and MIS systems
5. Describe how ICT and MIS systems influence and are influenced by quality assurance systems
6. Outline how to plan, monitor and control the application and performance of ICT and MIS systems
**Appendix 1  Sources of general information**

The following documents contain essential information for centres delivering City & Guilds qualifications. They should be referred to in conjunction with this handbook. To download the documents and to find other useful documents, go to the **Centres and Training Providers homepage** on [www.cityandguilds.com](http://www.cityandguilds.com).

*Providing City & Guilds qualifications – a guide to centre and qualification approval* contains detailed information about the processes which must be followed and requirements which must be met for a centre to achieve ‘approved centre’ status, or to offer a particular qualification. Specifically, the document includes sections on:

- The centre and qualification approval process and forms
- Assessment, verification and examination roles at the centre
- Registration and certification of candidates
- Non-compliance
- Complaints and appeals
- Equal opportunities
- Data protection
- Frequently asked questions.

*Ensuring quality* contains updates and good practice exemplars for City & Guilds assessment and policy issues. Specifically, the document contains information on:

- Management systems
- Maintaining records
- Assessment
- Internal verification and quality assurance
- External verification.

*Access to Assessment & Qualifications* provides full details of the arrangements that may be made to facilitate access to assessments and qualifications for candidates who are eligible for adjustments in assessment.

The **centre homepage** section of the City & Guilds website also contains useful information such on such things as:

- **Walled Garden**
  Find out how to register and certificate candidates on line

- **Events**
  Contains dates and information on the latest Centre events

- **Online assessment**
  Contains information on how to register for GOLA assessments.
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<td>UK learners</td>
<td>T: +44 (0)84 4543 0033 E: <a href="mailto:learnersupport@cityandguilds.com">learnersupport@cityandguilds.com</a></td>
<td>• General qualification information</td>
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<td>Centres</td>
<td>T: +44 (0)84 4543 0000 F: +44 (0)20 7294 2413 E: <a href="mailto:centresupport@cityandguilds.com">centresupport@cityandguilds.com</a></td>
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<td>Walled Garden</td>
<td>T: +44 (0)84 4543 0000 F: +44 (0)20 7294 2405 E: <a href="mailto:walledgarden@cityandguilds.com">walledgarden@cityandguilds.com</a></td>
<td>• Re-issue of password or username</td>
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<td>• Technical problems</td>
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<td>• User/menu option problems</td>
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<tr>
<td>Employer</td>
<td>T: +44 (0)121 503 8993 E: <a href="mailto:business_unit@cityandguilds.com">business_unit@cityandguilds.com</a></td>
<td>• Employer solutions</td>
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<td>• Consultancy</td>
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If you have a complaint, or any suggestions for improvement about any of the services that City & Guilds provides, email: feedbackandcomplaints@cityandguilds.com