



SCQF level 5 Unit Specification

Food Product Development

SCQF: level 5 (6 SCQF credit points)

Unit code: J1Y6 75

Unit outline

The general aim of this Unit is to allow learners to develop knowledge and understanding of the functional properties of ingredients in food and their use in developing new food products. Learners will develop an understanding of the stages involved in developing food products and, through a problem-solving approach, produce food products to meet specified needs. Learners will also develop and apply knowledge and understanding of safe and hygienic food practices.

Learners who complete this Unit will be able to:

- 1 Explain how food products are developed
- 2 Develop a food product to meet specified needs

This Unit is available as a free-standing Unit. The Unit Specification should be read in conjunction with the *Unit Support Notes* which provide advice and guidance on delivery, assessment approaches and development of skills for learning, skills for life and skills for work. Exemplification of the standards in this Unit is given in *Unit Assessment Support*.

Recommended entry

Entry to this Unit is at the discretion of the centre. However, learners would normally be expected to have attained the skills, knowledge and understanding required by one or more of the following or equivalent qualifications and/or experience:

- ◆ National 4 Health and Food Technology Course or relevant component Units

Equality and inclusion

This Unit Specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence. For further information, please refer to the *Unit Support Notes*.

Standards

Outcomes and assessment standards

Outcome 1

The learner will:

1 Explain how food products are developed by:

- 1.1 Explaining the functional properties of different ingredients in food products
- 1.2 Explaining the stages of food product development

Outcome 2

The learner will:

2 Develop a food product to meet specified needs by:

- 2.1 Undertaking investigations to generate ideas for a food product that meets specified needs
- 2.2 Making a prototype of a food product using safe and hygienic practices
- 2.3 Conducting sensory evaluations of the food product
- 2.4 Explaining how the food product meets the specified needs

Evidence Requirements for the Unit

Assessors should use their professional judgement, subject knowledge and experience, and understanding of their learners, to determine the most appropriate ways to generate evidence and the conditions and contexts in which they are used.

Evidence may be presented for individual Outcomes or it may be gathered for the Unit as a whole through combining assessment. If the latter approach is used, it must be clear how the evidence covers each Outcome and additional evidence must be provided for any standard which has not been assessed.

Exemplification of assessment is provided in *Unit Assessment Support*. Advice and guidance on possible approaches to assessment is provided in the *Unit Support Notes*.

Development of skills for learning, skills for life and skills for work

It is expected that learners will develop broad, generic skills through this Unit. The skills that learners will be expected to improve on and develop through the Unit are based on SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work* and drawn from the main skills areas listed below. These must be built into the Unit where there are appropriate opportunities.

1 Literacy

1.2 Listening and talking

2 Numeracy

2.2 Money, time and measurement

3 Health and wellbeing

3.3 Physical wellbeing

5 Thinking skills

5.3 Applying

5.4 Analysing and evaluating

Amplification of these is given in SQA's *Skills Framework: Skills for Learning, Skills for Life and Skills for Work*. The level of these skills should be at the same SCQF level of the Unit and be consistent with the SCQF level descriptor. Further information on building in skills for learning, skills for life and skills for work is given in the *Unit Support Notes*.

Appendix: Unit support notes

Introduction

These support notes are not mandatory. They provide advice and guidance on approaches to delivering and assessing this Unit. They are intended for teachers and lecturers who are delivering this Unit. They should be read in conjunction with:

- ◆ the *Unit Specification*
- ◆ the *Unit Assessment Support packs*

Developing skills, knowledge and understanding

Teachers and lecturers are free to select the skills, knowledge, understanding and contexts which are most appropriate for delivery in their centres.

Approaches to learning and teaching

This Unit is designed to provide flexibility and choice for both the learner and delivering centre. Approaches to learning and teaching should enhance opportunities for all learners to achieve their full potential, whether working in a whole-class, small group or supported self-study situation.

It is good practice to use a variety of methods so that learners' interest and motivation are maintained and individual preferences for different learning styles are promoted. When delivering the Unit content, account should be taken of the prior knowledge that learners may have.

Tasks should be open to allow for personalisation and choice as well as enabling learners to work at a suitable pace with appropriate support. Discussion groups or personal investigation and research are excellent ways of promoting some independence in learning. Visits and guest speakers bring commerce and employment experiences to the unit delivery.

ICT can play an important role in the design and learning and teaching approaches within a Unit by supporting integration and learners' personalisation and choice. While it is important not to introduce new, additional ICT skills or knowledge, learners may be using ICT in working towards their assessment.

Centres should set varied practical tasks to allow learners to experience challenge and enjoyment in a range of practical food contexts. The range of food preparation/cooking equipment used could include:

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|-------------------|----------------|
| ◆ Food processor | Microwave |
| ◆ Pressure cooker | Health grill |
| ◆ Steamer | Bread maker |
| ◆ Electric whisk | Blender/juicer |

Some examples of possible learning activities are given in the table which follows. Please note, these are examples only and learning and teaching for this Unit can be approached in other ways.

Outcome	Possible learning and teaching approaches
<p>Explain how food products are developed</p>	<p>In this Unit, practical activities may be used to explore and exemplify the functional properties of ingredients in food. Learners could make food products to experiment with and demonstrate functional properties of ingredients and experiment with different ingredients or changing quantities or ratios of ingredients. Learners could then discuss and explain the effects of these changes on the food products made.</p> <p>For example, learners could consider the functional properties of eggs, flour, sugar and fat:</p> <ul style="list-style-type: none"> ◆ functional properties of eggs may include aeration (meringues and whisked sponges); emulsifying (mayonnaise); binding (cake-making) and coagulation (egg custard) ◆ functional properties of flour could include gelatinisation (sauce making); fermentation (bread making) and detrixinisation (browning on surface of baked or toasted flour products) ◆ functional properties of sugar could include crystallisation and caramelisation (confectionery) ◆ functional properties of fat could include shortening (pastry and shortbread); creaming (creamed sponge) and rubbing in (pastry and some cakes) <p>Learners could explore the range of food products which make use of the functional properties of these ingredients by making the products or examining existing products. Practical activities and results could be recorded to allow discussion of:</p> <ul style="list-style-type: none"> ◆ factors that affect finished results of one recipe ◆ the number of functional properties illustrated in one food product <p>Learners could explore the stages of food product development and encouraged to undertake some investigative work into the stages. Learners could work in pairs or small groups to explore a stage of development then share their findings with the rest of the class. Learners could work with prompt cards about the stages of development and be encouraged to put them into the correct order and briefly describe the purpose of each stage in making food products. An activity could focus on the commercial production of one food product, taking learners through each stage of product development. Learners may also benefit from visiting a food manufacturer or listening to guest speakers to put their learning into a real-life context.</p>
<p>Develop food products to meet specified needs</p>	<p>In the learning and teaching for this Outcome, there are good opportunities for learners to undertake some investigative work. Learners could consider the range of existing food products which address specific needs, such as health foods or gluten-free ranges. Learners could consider how well the existing ranges meet these needs</p>

	<p>and/or if there are any gaps in the market for a particular need. Learners could then generate a range of ideas for their own food products and display their work using story-boards or mood-boards.</p> <p>Suitable investigative techniques might include:</p> <ul style="list-style-type: none"> ◆ questionnaires to establish like and dislikes for flavours or potential ingredients ◆ online surveys of similar products already available ◆ interviews with an expert such as school meals supervisor or food product development expert ◆ sensory testing of a given range of products ◆ market research <p>Learners could choose an idea to take forward to practical testing. Learners would establish the recipe and resources required to make the final product. They could produce a sketch of the proposed solution and a food order and plan of work to complete the production of the proposed solution.</p> <p>Learners could also work to given briefs to develop food products and comment on the finished products against key points in the briefs. Learners could also identify points of food hygiene and food safety that are relevant to the manufacture of the food product. They could then go on to manufacture the proposed solution and use this as a basis for sensory testing and evaluation. Learners could also be encouraged to examine existing products and comment on their suitability for specific needs.</p> <p>Learners could complete sensory testing to assess the food product in terms of appearance, flavour and taste, texture and overall acceptability. They could complete an account which describes how the chosen product meets the needs within the given scenario and suggest adaptations or improvements that could be made as a result of feedback given from sensory testing. Learners could then give feedback to the class.</p> <p>The importance of food safety and hygiene should be emphasised and learners could produce leaflets or posters about a particular issue and display these.</p>
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Approaches to assessment

All of the Outcomes and Assessment Standards in the Unit must be covered in the assessment of the Unit.

Evidence may be gathered in a variety of forms that best suit the needs of the learner and individual centres. It is recommended that assessors use their professional judgement to determine the most appropriate way to generate evidence.

Authenticity

There are a number of techniques and strategies for ensuring that learners present work which is their own. For more information, please refer to SQA's 'Guide to Assessment'

Opportunities for assessment and evidence gathering in this Unit

Outcome	Possible approaches to assessment
<p>1 Explain how food products are developed</p>	<p>Evidence can be gathered in a variety of forms that best suit the needs of the learner and individual centres. It is recommended that assessors use their professional judgement to determine the most appropriate way to generate evidence.</p> <p>Learners could explain a range of different functional properties of food and their uses in food products, such as:</p> <ul style="list-style-type: none"> ◆ Adding air ◆ Binding ◆ Glazing ◆ Thickening <p>Learners may explain the functional properties via verbal feedback, a written report, completion of a pro forma, short/restricted response questions, or undertaking a presentation to the class.</p> <p>Learners could provide evidence of their ability to explain the stages of food product development through a short question paper or through a poster, for example.</p> <p>Stages explained could include:</p> <ul style="list-style-type: none"> ◆ Concept generation ◆ Concept screening ◆ Prototype production ◆ Product testing ◆ First production run ◆ Marketing plan ◆ Product launch

<p>2 Develop food products to meet specified needs</p>	<p>Teachers/lecturers could provide learners with a brief for this Outcome. Allowing learners to select from a range of briefs will allow for personalisation and choice. Learners could present their ideas for food products on a story-board or moodboard, or produce a leaflet.</p> <p>Safe and hygienic practice should be evident during all food preparation and cooking activities. Evidence could be collated via video footage, written report, completion of a proforma, power point presentation, teacher observational checklist or photographic evidence.</p> <p>At SCQF level 5, explanations of the suitability of the food product for the needs of the brief could be oral or written feedback, possibly via completion of a proforma. The results of sensory testing activities could also be recorded here.</p>
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Combining assessment within Units

Assessment could be combined in this Unit by holistically assessing all the Outcomes of the Unit in a single assessment. When assessment within the Unit is holistic, teachers and lecturers should take particular care to track the evidence for each individual Outcome.

Administrative information

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Superclass: NH

History of changes to National Unit Specification

Version	Description of change	Authorised by	Date
1.1	Unit Support Notes added	Qualifications Manager	25/07/2018
2.0	Unit code updated	Qualifications Manager	July 2019

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