

Dairy Technologist Guide to EPA

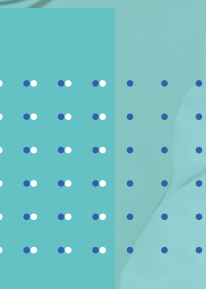


TABLE OF CONTENTS

CLICK ON THE CONTENT
YOU WOULD LIKE TO VIEW

Document History	4
2.0 What is an End-point Assessment?	5
<i>End-point Assessment Day:</i>	6
3.0 About the EPA	7
<i>Site Visit from EPA Manager</i>	7
<i>Fees for the EPA</i>	7
<i>What knowledge is assessed through each component</i>	8
<i>Knowledge Test (KT)</i>	13
<i>Knowledge Test assessment specification</i>	14
<i>Practical Observation (PO)</i>	18
<i>Practical Observation assessment specification</i>	26
<i>Grading criteria and marks</i>	28
<i>Professional Dialogue and Interview (PDI)</i>	29
<i>Grading criteria and marks</i>	30
<i>Grade boundaries</i>	31
4.0 The Final Grade	32
5.0 Extra Information	33
<i>Certification</i>	33
<i>Unsuccessful apprentices</i>	33
<i>Resits/Retakes</i>	34
<i>Appeals and Complaints</i>	34
<i>Conclusion of EPA</i>	34
6.0 Glossary	35

Document History

This document replaces all previous versions. The Guide to EPA is subject to regular revision and is maintained and version controlled electronically.

Previous changes were recorded separately and are held by the Quality and Operational Assurance Director.

Date	Change
12/02/2024	All guides redesigned and condensed down to suit apprentices, employers and training providers.
...	Information to be added...



WHAT IS AN END-POINT ASSESSMENT?

The EPA is the final part of your apprenticeship. It is important so prepare well for it! It is designed to confirm you have the skills, knowledge and behaviours needed to become a qualified

Getting ready for your EPA:

The training provider/employer or both in conjunction with the apprentice will agree that they have completed the requirements below and are ready for their End-point Assessment. This will confirm that the apprentice has met the core knowledge, skills and behaviours set out in the Dairy Technologist Apprenticeship Standard. The training provider / employer will contact FDQ to request the EPA and it will be their responsibility to ensure the mandatory requirements set out below have been achieved prior to the EPA taking place:

- Functional skills in English and Maths at level 2 (unless the apprentice has a special educational need or learning difficulty or disability as specified by the apprenticeship funding rules)
- Compiled a portfolio of evidence to underpin the professional discussion
- A project summary for the project report and presentation.

Reasonable adjustments:

Your employer must inform FDQ if you need any reasonable adjustments for your EPA. For example, extra reading time or instructions in larger font. Make the request for adjustments when your employer requests your EPA test. FDQ is committed to provide equality throughout all our EPAs.

The FDQ Arrangements for reasonable adjustment policy can be found at www.fdq.org.uk

EPA Itinerary:

FDQ will send details of the date and time of your EPA to your employer and yourself. This will be sent by our operations team when they have confirmation from the relevant EPA manager. Apprentices have 12 weeks to complete their EPA once they have entered the FDQ gateway.

What happens after your EPA day?

FDQ will confirm the final results, including a grade for the EPA to your training provider. This takes around 21 working days from your final EPA date. If you pass your EPA, the Education and Skills Funding Agency (ESFA), on behalf of the Institute of Apprenticeships will send your Apprenticeship certificate to your employer. Your certificate should then be passed onto you!

What happens if you don't pass your EPA?

If you don't pass your EPA there is always an option to resit/retake. Please read page 38 for more information.

End-point Assessment Day:

What to expect on the day of your EPA

You should arrive at least 30 minutes prior to start time of your EPA. This will enable yourself to prepare for the practical observation assessment, allowing preparation time for Personal Protective Equipment (PPE) to be put on and for any required tools and equipment to be obtained. The Independent examiner will arrive and in preparation for the EPA day to commence.



	Component	Time allowed	Questions	Graded
1	Project Report and presentation with questions			
2	Professional Discussion underpinned by portfolio of evidence			
3	Written Knowledge Test.			

3.0 ABOUT THE EPA



Site visit from EPA Manager

This will be conducted by the End-point Assessment Manager (EPAM) to introduce the service and meet all parties involved. This includes the employer, training provider and the apprentice, to assess and agree readiness of the apprentice for EPA.

A review will also be carried out to assess the suitability of the venue for EPA and that minimum requirements are met.

As the End-point Assessment Organisation (EPAO) FDQ must ensure that the apprentice is not disadvantaged in any way and is assessed in a fair, safe and robust environment.

During the visit the employer and training provider will agree a suitable date and time with the EPAM and agree an outline of the days' events.

The employer/training provider will check the key terminology so that apprentices will be familiar with the terms, and if not, alternative terminology will be provided, in order to ensure the assessment is contextualised to the business.

Fees for the EPA:

FDQ is required to have a transactional agreement with the training provider for the EPA services that are commissioned for the apprentice. FDQ will act on behalf of the apprentice's employer and at the point of entering the gateway the EPA fee will be discussed and agreed with all parties. FDQ has a fees policy for all our standards.

When the apprentice has entered the gateway and the EPA date is set, FDQ will issue a contract & payment schedule to the training provider who will sign and return within 10 days. An invoice will normally be issued to the training provider prior to appointed date of the EPA with a 30-day payment expectation.

EPA Assessment Method	Key
Project Report and presentation with questions	PRPQ
Professional Discussion underpinned by portfolio of evidence	PD
Written Knowledge Test	WKT

WHAT KNOWLEDGE IS ASSESSED THROUGH EACH COMPONENT?

Standard reference	Knowledge to be assessed	PRPQ	PD	WKT
K1	The dairy industry structure. Financial considerations. Ethical business practices.		•	
K2	Different teams and functions involved in dairy production. Dairy technologist role. Limits of scope of practice: when to seek input from others and when to escalate.	•		
K3	Good Manufacturing Practice (GMP). Production and operational planning concepts.			•
K4	Health and safety. Health and Safety at Work Act – responsibilities. Health and safety culture. Control of Substances Hazardous to Health (CoSHH). The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR). Manual handling. Personal Protective Equipment (PPE). Types of hazards. Risk assessments, mitigation methods, and method statements (safe systems of work).			•
K5	Principles of food and dairy safety. Allergenic control. Good Hygienic Practice (GHP). Microbiology and food borne illnesses. Biological, physical, allergenic (cross-contamination), and chemical contamination of dairy and related products. Food storage, temperature control and preservation of dairy products. Hygienic design, construction and maintenance of food premises and equipment, and their cleaning and disinfection. Pest control. Personal hygiene and training requirements. Food safety culture. Traceability.			•

WHAT KNOWLEDGE IS ASSESSED THROUGH EACH COMPONENT?

Standard reference	Knowledge to be assessed	PRPQ	PD	WKT
K6	<p>Food safety legislation principles: Food Safety Act, Regulation (EC) 852/2004, The General Food Law Regulation (EC) 178/2002, The Food Safety and Hygiene (England) Regulations, The Food Hygiene (Scotland) Regulations, The Food Hygiene (Wales) Regulations, The Food Information to Consumers Regulations (EC)1169/2011, Food Information Regulations, Regulation (EC) No 2073/2005 on Microbiological criteria for foodstuffs, The Weights and Measures (Packaged Goods) Regulations. Sources of information for legislation changes.</p>			•
K7	<p>Food safety management control of dairy and related food systems: Hazard Analysis and Critical Control Points (HACCP), Threat Analysis of Critical Control Points (TACCP), and Vulnerability Assessment of Critical Control Points (VACCP).</p>		•	
K8	<p>Principles of dairy chemistry. Chemical properties. Compositional milk and dairy product analysis. Quality testing of milk and dairy products.</p>			•
K9	<p>Principles of dairy microbiology. Types of micro-organisms and their structure. Cultivation conditions and procedures. Aseptic conditions and Good Laboratory Practice (GLP): organisation and discipline within the laboratory. Hygiene monitoring and auditing. Laboratory analysis techniques. Indicator organisms. Interpretation of microbiological data as an indicator of risk.</p>			•

WHAT KNOWLEDGE IS ASSESSED THROUGH EACH COMPONENT?

Standard reference	Knowledge to be assessed	PRPQ	PD	WKT
K10	Milk and dairy derivatives as raw materials. Primary production. Dairy farming practice. Composition of milk and dairy produce. Additives. Dairy products as an ingredient in other foods and associated allergenic issues. Dairy alternatives (non-milk-based ingredients).			•
K11	Function of quality assurance within the dairy industry. Quality assurance schemes and factors affecting the Quality Management Plan (QMP).		•	
K12	Cleaning, disinfection, and sterilisation. Different techniques: chemical, heat, steam technology and ultraviolet - when they should be used. Components of Clean in Place (CIP). New developments in cleaning technology. Environmental impact of cleaning. Cleaning validation, verification, and optimisation techniques.			•
K13	Basic physical and hygienic design principles of dairy process engineering: mass and energy balances, modes of thermal transfer, principles of fluid flow, and rheology (deformation and flow of materials - solids and liquids).		•	
K14	Principles of food industry unit operations. Preservation operations. Dairy industry unit operations. Factory service operations.			•

WHAT KNOWLEDGE IS ASSESSED THROUGH EACH COMPONENT?

Standard reference	Knowledge to be assessed	PRPQ	PD	WKT
K15	Product development processes: recipe development, specifications, market gap identification, acceptance testing and process design, packaging requirements, and nutrition and organoleptic characteristics.		•	
K16	Milk processing: end-to-end. New concepts in milk processing. By-products.			•
K17	Cheese and fermented product technology. Cheese and cheese related products. Yogurt and related products. Soured creams and crème fraiche.			•
K18	Butter and milk fat technology. Butter manufacture. Yellow fat and dairy spread manufacture. Ice cream manufacture. Dairy dessert manufacture.			•
K19	The chemistry of whey protein. Whey processing techniques and technology.			•
K20	Leadership and management techniques: influencing, negotiation, and conflict management.	•		
K21	Change management principles and techniques.	•		
K22	Project management roles and techniques: planning, prioritising, organising, stakeholder management, and risk management.	•		
K23	Problem solving and fault finding: 5 whys, root cause analysis, Failure Mode Effects Analysis (FMEA).	•		

WHAT KNOWLEDGE IS ASSESSED THROUGH EACH COMPONENT?

Standard reference	Knowledge to be assessed	PRPQ	PD	WKT
K24	Continuous improvement principles and techniques: Plan-do-check-act (PDCA), Lean, 6 Sigma, and Statistical Process Control (SPC). Lean manufacturing tools. Process mapping.	•		
K25	Data analysis techniques. Data analysis and reporting systems.	•		
K26	Dairy supply chain: mapping and risk management. World dairy economic drivers. Milk and dairy product supply and demand factors. Food security.			•
K27	Environmental Protection Act and environmental management systems.	•		
K28	Measuring environment impact and environmental audit requirements.		•	
K29	Dairy automation and process control. Control systems. Instrumentation. Control theory principles. Machine communications and networking. Integrated control and automation systems. Digital manufacturing. Dairy industry automated processes.			•
K30	Information technology: Management Information Systems (MIS), spreadsheets, presentation, word processing, email, virtual communication and learning platforms. General Data Protection Regulation (GDPR). Cyber security.		•	
K31	Communication techniques.	•		

WHAT KNOWLEDGE IS ASSESSED THROUGH EACH COMPONENT?

Standard reference	Knowledge to be assessed	PRPQ	PD	WKT
K32	Report writing techniques.		•	
K33	Workplace training and development techniques: coaching and transfer of knowledge.		•	
K34	Equality, diversity, and inclusion. Unconscious bias.	•		
Skills to be assessed				
S1	Apply food safety management systems.		•	
S2	Apply food and dairy hygiene practice principles.		•	
S3	Comply with food safety regulations and procedures.		•	
S4	Comply with health and safety regulations, guidelines, and procedures.		•	
S5	Comply with environmental regulations, guidelines, and procedures.	•		
S6	Apply sustainable working practices. For example, efficient use of resources, waste minimisation.	•		
S7	Apply quality control processes.		•	
S8	Apply extended knowledge of underlying dairy concepts.	•		

WHAT KNOWLEDGE IS ASSESSED THROUGH EACH COMPONENT?

Standard reference	Skills to be assessed	PRPQ	PD	WKT
S9	Identify, review and evaluate, and select scientific techniques, procedures, and methods in the context of new and different areas of work.		•	
S10	Apply food safety management systems.		•	
S11	Apply engineering concepts and principles to analyse dairy performance.		•	
S12	Collect data. Analyse, interpret, and evaluate data, scientific and technology information, concepts, and ideas including use of statistical methods.	•		
S13	Apply changes to dairy processing unit operations.	•		
S14	Apply problem solving techniques, identifying issues. Propose solutions to problems.	•		
S15	Use continuous improvement techniques and make recommendations.	•		
S16	Apply project management techniques: planning and prioritising tasks, organising resources, managing stakeholders and risk management.	•		
S17	Conduct environmental impact assessments.		•	
S18	Develop technical written content. For example, operating procedures, working instructions, and reports.		•	

WHAT KNOWLEDGE IS ASSESSED THROUGH EACH COMPONENT?

Standard reference	Skills to be assessed	PRPQ	PD	WKT
S19	Communicate with others for example, colleagues, customers, and stakeholders. Use industry terminology where appropriate.	•		
S20	Create and deliver presentations.	•		
S21	Negotiate with and influence colleagues or stakeholders; manage conflict.	•		
S22	Use information and digital technology.		•	
S23	Identify training needs. Coach individuals.		•	
Behaviours to be assessed				
B1	Take personal responsibility for and promote food safety and health and safety.		•	
B2	Take personal responsibility for and promote sustainable working practices.	•		
B3	Act in a professional manner.	•		
B4	Take responsibility for the quality of work and enable others to work to high standards. For example, decisive, self-reliant, and motivated.	•		
B5	Respond and adapt to work demands and situations.	•		

WHAT KNOWLEDGE IS ASSESSED THROUGH EACH COMPONENT?

Standard reference	Behaviours to be assessed	PRPQ	PD	WKT
B6	Recognise limitations, seek input from others and escalate issues when required.	•		
B7	Collaborate with others for example, within teams, across disciplines, and external stakeholders, promoting inclusion.	•		
B8	Ambassador for the dairy industry.		•	
B9	Committed to maintaining and enhancing competence of self and others through Continued Professional Development (CPD).		•	



Project Report and Presentation with Questions Assessment Specification

This assessment method has 2 components:

- A project report
- A presentation with questions

The project involves the apprentice completing a significant piece of work that has real business application and benefit, which meets the needs of the employer and is relevant to the apprentice's occupation.

The project must be based on one of the following:

- A specific problem
- A recurring issue
- An idea or opportunity
- Introduction of a change or several changes

The project summary should be submitted at gateway.

Component 1

Timing: The report must be submitted to FDQ by the end of week 16 of the EPA period, which begins when the gateway is entered.

Size of report: The report must have a word count of between 4500-5500 words. Appendices, references and diagrams should not be included in this total.

Mapping: The project report should include a table of how the content maps to the KSBS required for this component.

Component 2

Timing: The PRPQ will last 50 minutes, comprising of a presentation of 20 minutes and questioning lasting 30 minutes. The total time must be no longer than 55 minutes, to allow for responses to final questions to be concluded.

- Content:** The presentation should include:
- an overview of the project
 - the project scope (including key performance indicators)
 - summary of actions undertaken by the apprentice
 - project outcomes and how these were achieved

Questioning: A minimum of 6 questions will be asked within the 30-minute questioning period.

Level 5 EPA for Dairy Technologist ST0393 Project Report and Presentation with Questions.

Example Project Summary for submission to gateway

Title	Use of Value Stream Mapping to reduce waste in cheese production
Aim and rational	To reduce waste by reviewing steps within the process which could be streamlined or changed to be more efficient. The site producing Lancashire cheese is more than 40 years old and has changed little in that time. Ingredient intake, raw materials storage and production steps require a full review to ensure the site is working efficiently and waste is in all its forms is removed from the process.
Methodology	Value stream mapping will initially be used to establish every step in the material and information flows to bring the product from raw material to delivery to customer. This will involve a visual representation of every step in the process, including key data such as production capacity, quality and machine reliability. A future state map showing how the product could flow with the steps adding no value eliminated. Changes to the site will then be considered with the senior management to determine the viability and cost implications. Changes will be thoroughly tested and evaluated to ensure no change to product occurs.
Resources	Initially resources will include the formation of a project team including the production manager, maintenance engineers, and technical manager. Time from each team member will need to be allocated to the project. Depending on the changes identified to be tested, additional resources may include process equipment etc.
Mapping of project to KSBs	The project should be mapped to the KSBs required for the PRPQ

The summary should be no more than 500 words. No work on the project should be undertaken before the summary is signed off by FDQ. FDQ will use the grading descriptors for the PRPQ to decide if the project is suitable.

The employer should ensure the apprentice has the time and resources within this period to plan and complete their project.

The apprentice may work as part of a team to complete the project, which could include technical internal colleagues or external support. The apprentice must, however, complete their project report and presentation unaided and they must be reflective of their own role and contribution. The apprentice and their employer must confirm this when the project report is submitted by signing and submitting a declaration provided by FDQ.

Level 5 EPA for Dairy Technologist ST0393 Project Report and Presentation with Questions.

Example Project Report Structure

Introduction	Background to the project and its importance to the business and stakeholders.
Project Scope	Outline of objectives and key performance indicators for the project. Definition of project parameters.
Project Plan	Planning, design and timing of project programme of work including recognition of resource implications. Risk assessment in line with food safety, health & safety and other customer and stakeholder requirements. How project aligns with company's business plans.
Methodology	Methodology for project implementation including rationale for approaches used.
Findings and results	Project results and findings, using clear presentation of data where relevant and a reflection on the project implementation.
Interpretation of project outcomes	Analysis of project results and explanation of the impact of the project; use of scientific concepts and principles to explain the results; feedback from line manager or customer (if appropriate).
Recommendations and conclusions	Draw conclusions from the results and implications for the business and customers including financial implications if relevant; make recommendations for the business and consider further work in the subject area.
Map of project process and outcomes vs KSBs	Map showing how the KSBs are evidenced in different sections of the project report.

A report of no more than 5000 words, +/- 10%, submitted to the IE at week 16 of the EPA period. The report should involve high academic rigour (grammar, spelling and punctuation, use of references where applicable, use of graphs and tables to illustrate ideas and findings) and show clarity of thinking and logical conclusions.

Graphs, diagrams, references and appendices will not be included in the word count.

PROJECT REPORT WITH PRESENTATION AND QUESTIONS ASSESSMENT SPECIFICATION

Project Report:

4500-5500 words

Submitted at the end of week
16 after gateway.

Presentation and questions

Time available: 50-55 minutes
(20 minutes presentation, 30-
35 minutes question session)

Minimum of 6 open questions
with follow-on questions as
appropriate

The apprentice will be assessed holistically on the following areas:

- Data, information and concepts: analysis, interpretation and evaluation of collected data, information and concepts including the use of statistical methods to inform knowledge and draw conclusions. Application of extended knowledge of underlying concepts and principles to support the task. Demonstration of how the new data, information and ideas support their conclusions. (K25, S8, S12)
- Problem solving and continuous improvement: application of problem solving and fault-finding techniques. Proposal of solutions. Application of continuous improvement techniques and use of the outcomes to inform decisions. Proposal of recommendations with potential to make a viable improvement. Analysis and evaluation of a specific problem solving or improvement suggestion. (K23, K24, S14, S15)
- Environment and sustainability: compliance with environmental regulations and management systems. Application of established sustainable working practices. Identification and promotion of new working practices that have the potential to improve sustainability. (K27, S5, S6, B2)
- Working with others: involvement of different teams, working autonomously and escalating as required. Negotiation and influencing of others, managing conflict and promoting inclusion to reach collaborative outcomes. Use of verbal and written communication, adapting style and terminology to suit the audience. Correct use of industry-appropriate terminology. Modification of approach to suit team member's working style (K2, K20, K31, K34, S19, S21, B6, B7)
- Project and change management: application of changes to dairy processing unit operations to meet required outcome. Taking responsibility for the quality of work and enabling others to work to high standards for example, coaching or supporting others, recognising and supporting the needs of others. Use of project management techniques to plan and prioritise tasks, organise resources, manage stakeholders, and manage risk; responding and adapting to work demands and situations to deliver the project. Evaluation of own approach to identify improvements that could be applied to project or change management in the future. (K21, K22, S13, S16, B4, B5)
- Presentation: creation and delivery of a structured and clear presentation with supporting material suitable for the context, presenting a professional image. (S20, B3)



Grading Criteria & Marks

Independent examiners will use the grading criteria below to holistically assess the project report, presentation and answers to questions.

Theme KSBs

**Data,
information,
and concepts**
K25, S8, S12

**Problem
solving and
continuous
improvement**
K23, K24,
S14, S15

Pass Criteria

Apprentices must demonstrate all the pass descriptors

- Analyses, interprets, and evaluates the collected data, scientific and technology information, concepts, and ideas including use of statistical methods to inform knowledge and draw conclusions to support the task.
- Applies extended knowledge of underlying concepts and principles to support the task. (K25, S8, S12)

- Applies problem solving and fault-finding techniques to identify and define the issue(s).
- Proposes solutions that have the potential to address the problem(s).
- Applies continuous improvement techniques to support the project. Uses the outcomes of those tools to inform their decisions.
- Generates and makes a recommendation(s) that has the potential to make a viable improvement. (K23, K24, S14, S15)

Marks

Apprentices must demonstrate all the pass descriptors and all of the distinction descriptors

- Demonstrates how the data, scientific and technology information, concepts, and ideas collectively support (validate) their conclusions. (S12)

- Analyses and evaluates the actual or potential value of a specific problemsolving or improvement suggestion. (K23, K24, S14, S15)

**Environment
and
sustainability
K27, S5, S6,
B2**

- Complies with environmental techniques regulations and management systems and applies and promotes established sustainable working practices. (K27, S5, S6, B2)

- Identifies and promotes ideas for new viable working practices that have the potential to improve sustainability. (S6, B2)

**Working with
others K2,
K20, K31,
K34, S19,
S21, B6, B7**

- Involves different teams, working autonomously and escalating as required, in line with their remit. (K2, B6)
- Negotiates with and influences others, managing conflict and promoting inclusion, to reach collaborative outcomes. (K20, K34, S21, B7)
- Uses verbal and written communication techniques suitable for the context, adapting style and use of terminology to suit the audience. Uses industry terminology correctly. (K31, S19)

- Uses behavioural insights to modify approach to stakeholders preferred working style. (K20, S21, B7)

**Project and
change
management
K21, K22, S13,
S16, B4, B5**

- Applies changes to dairy processing unit operations to meet required outcome, taking responsibility for the quality of the work and enabling others to work to high standards for example, coaching or supporting others, recognising and supporting the needs of others. (K21, S13, B4)
- Uses project management techniques to plan and prioritise tasks, organise resources, manage stakeholders, and manage risk; responding and adapting to work demands and situations to deliver the project. (K22, S16, B5)

- Evaluates their approach in conjunction with stakeholders to identify improvements that could be applied to project or change management in the future. (K21, K22, S13, S16, B5)

**Presentation
S20, B3**

- Creates and delivers a structured and clear presentation with supporting material suitable for the context, presenting a professional image. (S20, B3)

- None

The PRPQ will be graded fail, pass, or distinction. The report, presentation and responses to questions will be assessed holistically against the grading descriptors for this assessment method. KSBs evidenced and answers to questions will be recorded by the independent assessor in FDQ's PRPQ assessment record, documenting evidence against the grading criteria and making assessment judgements.

The IE will provide a provisional mark and grade for the PRPQ and will submit the assessment record and any supporting evidence to FDQ within 5 days of the assessment.

Professional Discussion underpinned by portfolio of evidence (PD)

Time

90 minutes (+10% at the IE's discretion)

Questions

10 open competence-based questions - at least one from each theme.

The PD will take the form of a structured dialogue between the IE and the apprentice, based around questions from a standardised bank of questions. The PD will focus on the following themes:

- dairy industry and business considerations
- compliance
- quality assurance
- scientific concepts, principles and techniques
- engineering concepts and principles
- environmental impact
- innovation
- information technology
- technical written content
- workplace training and development



Professional Dialogue (PDI)





PROFESSIONAL DISCUSSION UNDERPINNED BY PORTFOLIO OF EVIDENCE ASSESSMENT SPECIFICATION

Independent examiners will use the grading criteria below to holistically assess the project report, presentation and answers to questions.

Theme KSBs	Pass Criteria Apprentices must demonstrate all the pass descriptors	Marks Apprentices must demonstrate all the pass descriptors and all of the distinction descriptors
Dairy Industry and business considerations K1, B8	<ul style="list-style-type: none"> Explains the dairy industry structure, financial considerations, and ethical best practices. 2. Discusses how they have acted as an ambassador for the industry. (K1, B8) 	<ul style="list-style-type: none"> None
Compliance K7, S1, S2, S3, S4, B1	<ul style="list-style-type: none"> Explains how they have taken personal responsibility for and promoted food safety and health and safety through the application of food safety management systems and food and dairy hygiene practice principles, and compliance with food safety and health and safety regulations. (K7, S1, S2, S3, S4, B1) 	<ul style="list-style-type: none"> Applies food safety enhancements to improve the quality culture environment. (S1, S2, B1)
Quality Assurance K11, S7	<ul style="list-style-type: none"> Describes how they have applied quality control processes to contribute to the quality assurance function, explaining factors that affect the QMP. (K11, S7) 	<ul style="list-style-type: none"> Analyses and evaluates applied quality assurance processes in terms of costs and benefits to production operations. (K11, S7)

Scientific concepts, principles and techniques (S9, S10)

- Explains how they have identified, reviewed and evaluated, and selected scientific techniques, procedures and methods to meet the needs of new and different areas of work.
- (S9)
- 6.Explains how they have applied scientific techniques, procedures, and methods correctly to undertake tasks. (S10)

- None

Engineering concepts and principles K13, S11

- Describes how they have applied engineering concepts and principles to analyse dairy performance, explaining the basic physical and hygienic design principles of dairy process engineering. (K13, S11)

- Evaluates and validates performance against hygienic design principles. (K13, S11)

Environmental impact K28, S17

- Describes how they have conducted environmental impact assessments, explaining environmental audit requirements. (K28, S17)

- None

Innovation (K15)

Explains given product development processes:

- ·recipe development
- ·specifications
- ·market gap identification
- ·acceptance testing and process design
- ·packaging requirements
- ·nutrition and organoleptic characteristics. (K15)

- Evaluates the inter-connections between development processes to ensure the product meets the needs of stakeholders. (K15)

Information technology (K30, S22)

- Describes how they have used information technology for different purposes, explaining how they comply with General Data Protection Regulation (GDPR) and cyber security. (K30, S22)

- None

Technical written content K32, S18

- Describes different types of technical written content they have developed, explaining how they use report writing techniques to ensure it is suitable for the context. (K32, S18)

- Gives examples of producing reports that are based on complex and multiple inputs or sources. (K32, S18)

Workplace training and development K33, S23, B9

- Describes how they identify their own training needs and coach others using different techniques to meet the identified need.
- 13.Describes CPD they have undertaken and plans for CPD to enhance competence. Explains what the impact of their CPD has been and how it has benefitted others and the business. (K33, S23, B9)

- None



PROFESSIONAL DISCUSSION UNDERPINNED BY PORTFOLIO OF EVIDENCE

SAMPLE QUESTIONS

These questions are typical of those that will be asked during the PD. These questions should be used to assist the apprentice to practice before the EPA.

Theme KSBs

Sample questions and follow-on questions.

Actual questions will be based on portfolio of evidence.

Dairy Industry and business considerations K1, B8

- Explain how your business fits into the wider dairy industry and identify the USPs of your business. Who are your main competitors?
- Give an example of how you have represented your business in the industry.

Compliance K7, S1, S2, S3, S4, B1

- Explain the procedures you follow to ensure dairy hygiene. In microbiological terms, why are these important?
- Which food safety regulations do these procedures comply with?

Quality Assurance K11, S7

- Explain the procedures that take place in your dairy to monitor quality. In dairy chemistry terms, what can happen to the product when the quality of the product doesn't meet specification?
- What factors can affect the quality management process?

Scientific concepts, principles and techniques (S9, S10)

- Provide an example of a scientific technique that is used to test one of your dairy products. State the test, the method followed to complete the test and finally what the result means for the product.
- If a new scientific technique is required where could you seek support and advice on this?

Engineering concepts and principles K13, S11

- Illustrate when you have used your engineering knowledge to improve performance in your business.
- Explain how you validated the improvements.

Environmental impact K28, S17

- Explain the process of conducting an environmental impact assessment.
- What do you need to consider when deciding if an environmental impact audit is required?

Innovation (K15)

- In your portfolio you gave an example of a product development project that you have been involved in. Explain the steps you took. How did you ensure the product was acceptable to the customer?

Information technology (K30, S22)

- Give an example of how you use IT in your production processes? How do you ensure the security of the system from a cyber perspective?
- What are the key requirements of GDPR? How does GDPR affect your business?

Technical written content K32, S18

- You mention in your portfolio that you have written your company's environmental policy. How did you go about writing it and what did you need to consider in the language and style of the document?
- Give an example of a document you have produced for the business which includes a complex number of inputs. How did you manage these inputs to ensure the content was relevant and current?

Workplace training and development K33, S23, B9

- What techniques have you used to coach others in their careers?
- What CPD have you been involved in over the past year? How does the CPD you undertake benefit the business?

Knowledge Test (KT)

Time

120 minutes

Question Styles

15 long response questions, typical length of response approximately 100 words per question.

Each test paper has 75 marks available, with 5 marks available per answer.

Grading criteria and marks

GRADE BOUNDARIES

Grade	Marks
Fail	51 or less
Pass	52-75

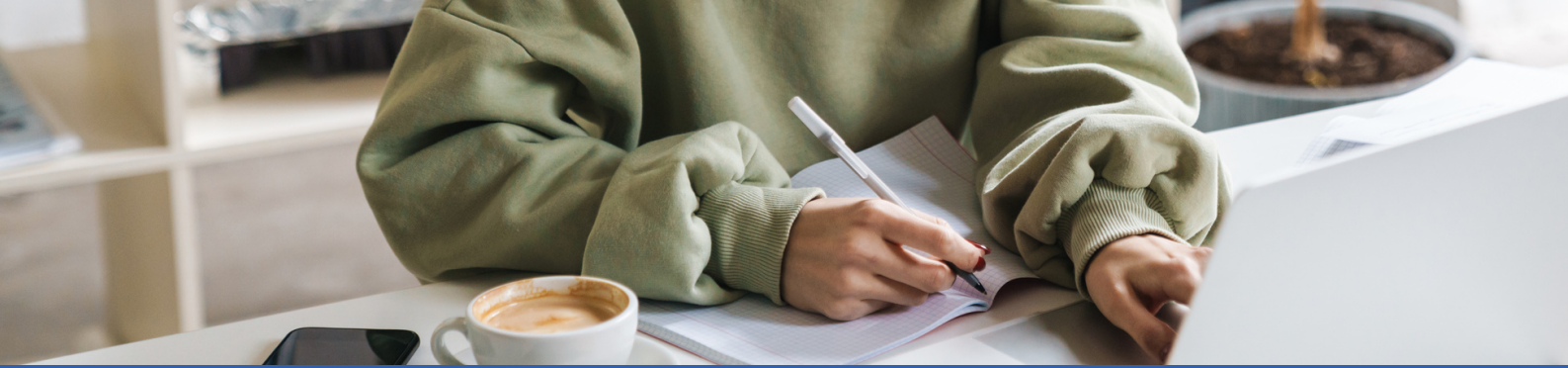


Sample Questions

Sample questions are available on FDQ awards. FDQ recommend for apprentices to undertake sample exams online however paper-based sample exams are also available.

KNOWLEDGE TEST (KT)





WRITTEN KNOWLEDGE TEST ASSESSMENT SPECIFICATION

Standard reference	Knowledge to be assessed	No of MCQs
K3	Good Manufacturing Practice (GMP). Production and operational planning concepts.	1
K4	Health and safety. Health and Safety at Work Act – responsibilities. Health and safety culture. Control of Substances Hazardous to Health (CoSHH). The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR). Manual handling. Personal Protective Equipment (PPE). Types of hazards. Risk assessments, mitigation methods, and method statements (safe systems of work).	1
K5	Principles of food and dairy safety. Allergenic control. Good Hygienic Practice (GHP). Microbiology and food borne illnesses. Biological, physical, allergenic (cross-contamination), and chemical contamination of dairy and related products. Food storage, temperature control and preservation of dairy products. Hygienic design, construction and maintenance of food premises and equipment, and their cleaning and disinfection. Pest control. Personal hygiene and training requirements. Food safety culture. Traceability.	1

K6

Food safety legislation principles: Food Safety Act, Regulation (EC) 852/2004, The General Food Law Regulation (EC) 178/2002, The Food Safety and Hygiene (England) Regulations, The Food Hygiene (Scotland) Regulations, The Food Hygiene (Wales) Regulations, The Food Information to Consumers Regulations (EC)1169/2011, Food Information Regulations, Regulation (EC) No 2073/2005 on Microbiological criteria for foodstuffs, The Weights and Measures (Packaged Goods) Regulations. Sources of information for legislation changes.

1

K8

Principles of dairy chemistry. Chemical properties. Compositional milk and dairy product analysis. Quality testing of milk and dairy products.

1

K9

Principles of dairy microbiology. Types of micro-organisms and their structure. Cultivation conditions and procedures. Aseptic conditions and Good Laboratory Practice (GLP): organisation and discipline within the laboratory. Hygiene monitoring and auditing. Laboratory analysis techniques. Indicator organisms. Interpretation of microbiological data as an indicator of risk.

1

K10

Milk and dairy derivatives as raw materials. Primary production. Dairy farming practice. Composition of milk and dairy produce. Additives. Dairy products as an ingredient in other foods and associated allergenic issues. Dairy alternatives (non-milk-based ingredients).

1

K12

Cleaning, disinfection, and sterilisation. Different techniques: chemical, heat, steam technology and ultraviolet - when they should be used. Components of Clean in Place (CIP). New developments in cleaning technology. Environmental impact of cleaning. Cleaning validation, verification, and optimisation techniques.

1

K14

Principles of food industry unit operations. Preservation operations. Dairy industry unit operations. Factory service operations.

1

K16

Milk processing: end-to-end. New concepts in milk processing. By- products.

1

K17

Cheese and fermented product technology. Cheese and cheese related products. Yogurt and related products. Soured creams and crème fraiche.

1

K18

Butter and milk fat technology. Butter manufacture. Yellow fat and dairy spread manufacture. Ice cream manufacture. Dairy dessert manufacture.

1

K19

The chemistry of whey protein. Whey processing techniques and technology.

1

K26

Dairy supply chain: mapping and risk management. World dairy economic drivers. Milk and dairy product supply and demand factors. Food security.

1

K29

Dairy automation and process control. Control systems. Instrumentation. Control theory principles. Machine communications and networking. Integrated control and automation systems. Digital manufacturing. Dairy industry automated processes.

1

Total number of questions in test

15



Grading criteria & Marks

5 marks are allocated to each question. The overall marks available for each test is 75.

Marks are awarded in line with FDQ's mark scheme which is developed in-line with the grading descriptors within the assessment plan.

The test is graded pass or fail.

Theme KSBs	Pass Apprentices must evidence all the pass descriptors
Manufacturing operations K3	Understands Good Manufacturing Practice (GMP). Understands production and operational planning concepts. (K3)
Health and safety K4	Understands health and safety factors and their importance. (K4)
Food and dairy safety K5	Understands food and dairy safety factors and their importance. (K5)
Food safety legislation K6	Understands key features of given food safety legislation and identifies sources of information for legislation changes. (K6)
Dairy chemistry K8	Understands principles of dairy chemistry in relation to chemical properties, compositional milk and dairy product analysis, or quality testing of milk and dairy products. (K8)

Dairy microbiology K9	Understands given dairy microbiology factors and practices or techniques. (K9)
Milk and dairy products K10	Understands the milk and dairy product factors and considerations. (K10)
Cleaning, disinfection, and sterilisation K12	Understands required cleaning, disinfection, and sterilisation techniques and related considerations. (K12)
Operations K14	Understands the principles of given food industry unit operation and how they relate to other operations. (K14)
Milk processing K16	Understands milk processing from end to end, new concepts in processing and by-products. (K16)
Cheese and fermented products K17	Understands cheese and fermented product technology and products. (K17)
Butter and milk fat K18	Understands butter and milk fat technology and manufacture for given product. (K18)
Whey K19	Understands the chemistry of whey protein, whey processing techniques and technology. (K19)
Dairy supply chain K26	Understands the dairy supply chain factors and considerations. (K26)
Dairy automation K29	Understands given dairy automation and process control factors. (K29)

4.0 The Final Grade

After completing all three components of the EPA the apprentice will be thanked for attending. The IE will complete their report containing the provisional mark and submit it to FDQ within 5 days of the assessment taking place. Any supporting photographic and digital recording evidence will also be submitted to FDQ. A final grade will be confirmed by FDQ.

FDQ will confirm the final outcome of EPA to the employer/training provider within 6 weeks of the EPA taking place. The final outcome may be subject to moderation – which may delay the agreed overall grading and certification process.

The apprenticeship grade will be based on the outcomes from the 3 assessment components.

Performance in the EPA will determine the apprenticeship grade of fail, pass, merit, or distinction.

The IE will individually grade the PRPQ, PD and WKT assessment methods, according to the requirements set out in this ETP handbook.

FDQ will combine the individual assessment method grades to determine the overall EPA grade.

Apprentices who fail one or more assessment method will be awarded an overall EPA fail.

Assessment method			Overall Grading
PRPQ	PD	WKT	
Any grade	Any grade	Fail	Fail
Any grade	Fail	Any grade	Fail
Fail	Any grade	Any grade	Fail
Pass	Pass	Pass	Pass
Distinction	Pass	Pass	Merit
Pass	Distinction	Pass	Merit
Distinction	Distinction	Pass	Distinction

Extra Information



Please read below for any extra information regarding the EPA or the process after the EPA has taken place.

Certification

On successful completion of the EPA the newly qualified apprentice will receive their grade from FDQ in a statement of results document. The Education and Skills Funding Agency (ESFA) manage the operational delivery of certificates for apprenticeships. The ESFA issue the final certificate to the employer.

Advice, support and guidance contacts

- FDQ EPA Manager for issues concerning EPA registration, arrangement of EPAs, results and certification. Please email epa@fdq.org.uk.

Unsuccessful apprentices

If an apprentice does not pass the EPA, the employer and apprentice have the following options.

Either:

- Apply to resit/re-take the EPA tests or
- Make an appeal to FDQ if you disagree with the result, see www.FDQ.org website for FDQ's appeals policy.



Resits/Retakes

Apprentices who fail one or more assessment method will be offered the opportunity to take a re-sit/re-take. A re-sit does not require further learning, whereas a re-take does. Confirmation of additional training/preparation is needed when applying for a retake. The apprentice's employer will need to agree that a re-sit/re-take is an appropriate course of action. Any assessment method re-sit/re-take must be taken within the maximum EPA period of 12 weeks, otherwise the entire EPA must be re-taken.

Re-sits/re-takes are not offered to apprentices wishing to move from pass to merit/distinction or merit to distinction. Under normal circumstances only a pass or merit are available to apprentices who have re-taken or re-sat part of their EPA.

Apprentices will complete a different KT, PO where variation allows and PDI interview questions when taking a re-sit/re-take. If the PO is re-sat or re-taken, supplementary evidence originally submitted and assessed as a pass or outstanding, need not be reassessed and the original assessment decision on that evidence will be retained. The apprentice can however choose to submit new (replacement) supplementary evidence with the agreement of their Independent Examiner. In the case of a resit/retake outside of the original maximum EPA period, supplementary evidence must be current and will be assessed as part of the new Practical Observation. An additional fee is due each time an apprentice applies to re-sit or re-take any or all of the EPA tests, so it is important that the apprentice is fully prepared before they try again.

Appeals and Complaints

FDQ is committed to providing the highest levels of service to its customers, including centres and apprentices.

- Complaints Policy
- Appeals Policy

Conclusion of EPA

We hope this handbook has been helpful and has given you an insight into the requirements for the Dairy Technologist Standard and the End-point Assessment. If you have any further questions/queries, please contact FDQ where one of our experts will be able to help.

Email: epa@fdq.org.uk

Tel: 0113 3970 395

