Highfield Level 3 End-Point Assessment for ST0795 Data Technician

End-Point Assessment Kit

Highfield Level 3 End-Point Assessment for ST0795 Data Technician

EPA Kit

Contents

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Versions:

ST0795 / v1.1

DT v2.0

How to use this EPA Kit

Welcome to the Highfield End-Point Assessment Kit for the Data Technician apprenticeship standard.

Highfield is an end-point assessment organisation that has been approved to offer and carry out end-point assessments for the Level 3 Data Technician apprenticeship standard.

The EPA Kit is designed to outline all you need to know about the end-point assessments for this standard and will also provide an overview of the on-programme delivery requirements. In addition, advice and guidance for trainers on how to prepare apprentices for the end-point assessment is included. The approaches suggested are not the only way in which an apprentice may be prepared for their assessments, but trainers may find them helpful.

In this kit, you will find:

- an overview of the standard and any on-programme requirements
- a section focused on amplification
- guidance on how to prepare the apprentice for gateway
- detailed information on which part of the standard is assessed by which assessment method
- suggestions on how to prepare the apprentice for each part of the end-point assessment
- a section focused on the end-point assessment method where the assessment criteria are presented in a format suitable for carrying out 'mock' assessments

Introduction

Standard overview

This occupation is found in all sectors where data is generated or processed including but not limited to finance, retail, education, health, media, manufacturing and hospitality. The broad purpose of the occupation is to source, format and present data securely in a relevant way for analysis using basic methods; to communicate outcomes appropriate to the audience; analyse structured and unstructured data to support business outcomes; blend data from multiple sources as directed and apply legal and ethical principles when manipulating data. In their daily work, an employee in this occupation interacts with a wide range of stakeholders including colleagues, managers, customers and internal and external suppliers. They would typically work as a member of a team; this may be office based or virtual. An employee in this occupation will be responsible for collecting and processing data under the guidance of a senior colleague or multiple colleagues across the business. This may vary by sector and size of the organisation. An employee would mainly be responsible for their own work but may have the opportunity to mentor others.

An employee needs to have access to data, to understand the importance of data to their organisation and handle it accordingly, with an awareness of how the data was collected and how it is likely to be used. Employees in any data-oriented role should keep abreast of developments in digital technologies such as Internet of Things and Generative Artificial Intelligence, with their implications on data volume and data quality as well as potential uses or misuses. A data-focused employee needs to be aware of the potential harm to an organisation's reputation if data is found to be handled inappropriately.

Roles/occupations may include data support analyst, data technician, junior data analyst and junior information analyst.

On-programme requirements

Although learning, development and on-programme assessment is flexible, and the process is not prescribed, the following is the recommended baseline expectation for an apprentice to achieve full competence in line with the Data Technician apprenticeship standard.

The on-programme assessment approach will be agreed between the training provider and employer. The assessment will give an ongoing indication of an apprentice’s performance against the final outcomes defined in the standard. The training provider will need to prepare the apprentice for the end-point assessment, including preparation for the scenario demonstration and professional discussion and collation of the portfolio of evidence (such as a provision of recordings of professional discussions or workplace evidence).

The training programme leading to end-point assessment should cover the breadth and depth of the standard using suggested on-programme assessment methods that integrate the knowledge, skills and behaviour components, and which ensure that the apprentice is sufficiently prepared to undertake the end-point assessment. Training, development and ongoing review activities should include:

- achievement of level 2 English and maths. If the apprentice began their apprenticeship training before their 19th birthday, they will still be subject to the mandatory requirement to study towards and achieve English and maths. The requirements for English and maths are optional for apprentices aged 19+ at the start of their apprenticeship training.
- completion of a portfolio through which the apprentice gathers evidence of their progress.

Portfolio of evidence

The apprentice must compile a portfolio of evidence during their time on-programme that is mapped against the knowledge, skills and behaviours (KSBs) assessed in the professional discussion underpinned by a portfolio of evidence.

It will typically contain **five discrete pieces of evidence**. Evidence may be used to demonstrate more than **one knowledge, skill or behaviour** as a qualitative approach is suggested as opposed to a quantitative approach.

Evidence sources for the portfolio may include:

- workplace policies and procedures
- witness statements
- annotated photographs
- video clips with a maximum total duration of 10 minutes; the apprentice must be in view and identifiable
- dashboards

This is not a definitive list and other evidence sources can be included. Given the breadth of context and roles in which this occupation works, the apprentice will select the most appropriate evidence based on the context of their practice against the relevant knowledge, skills and behaviours.

The portfolio should not include reflective accounts or any methods of self-assessment. Any employer contributions should focus on direct observation of performance (for example, witness statements) rather than opinions.

The portfolio must be accompanied by a portfolio matrix. This can be downloaded from our website. The portfolio matrix must be fully completed including a declaration by the employer and the apprentice to confirm that the portfolio is valid and attributable to the apprentice.

The portfolio of evidence must be submitted to Highfield at gateway. It is not directly assessed but underpins the professional discussion.

Use of artificial intelligence (AI) in the EPA

Assessments must be carried out in accordance with the published assessment plan and all work submitted must be the apprentice's own. AI tools must not be used to generate evidence in its entirety or to replace the apprentice's own judgement, performance or competence. Any use of AI must be transparent, limited and properly referenced.

Where AI has been used by the apprentice as part of normal work activity (for example, drafting a document, worksheet or PowerPoint) this may form part of the portfolio provided that:

The apprentice has materially authored, verified and taken responsibility for the content:

- AI use is clearly declared and referenced within the work (include tool name, purpose and how outputs were verified)
- Source prompts, system settings and the portions influenced by AI are retained and available for review
- AI outputs must not substitute for authentic demonstration of competence against the standard

If an AI tool is used at any stage of an assessment method (for example, to prepare a presentation outline or to organise notes), its use must be fully referenced in the submission or assessor records, and must not compromise authenticity, validity or security. Assessors must be satisfied that decisions remain rooted in the apprentice's knowledge, skills and behaviours, and in direct evidence gathered through observation, questioning and professional discussion.

AI tools must not be used to produce assessment evidence end-to-end, to fabricate logs/records or to simulate performance.

Readiness for end-point assessment

For an apprentice to be ready for the end-point assessments:

- the apprentice must have achieved level 2 English and maths. The requirements for English and maths are mandatory for all apprentices aged between 16-18 at the start of their apprenticeship training. The requirements for English and maths are optional for apprentices aged 19+ at the start of their apprenticeship training.
- the apprentice must have gathered a portfolio of evidence against the required elements to be put forward to be used as the basis for the professional discussion.
- the apprentice must have gathered their organisation's policies and procedures as requested by Highfield. For guidance, a list of examples has been provided below.
    - Environmental impact and sustainability

    - Equity, diversity and inclusion
    - Collation and formatting of data
    - Green data centres
    - Responsible data storage

  This list is not definitive. The policies and procedures may already be included as part of the portfolio of evidence.
- the line manager (employer) must be confident that the apprentice has developed all the knowledge, skills and behaviours defined in the apprenticeship standard and that the apprentice is competent in performing their role. To ensure this, the apprentice must attend a formal meeting with their employer to complete the Gateway Readiness Report.
- the apprentice and the employer should then engage with Highfield to agree a plan and schedule for each assessment activity to ensure all components can be completed within a **mandated** end-assessment window. Further information about the gateway process is covered later in this kit.

If you have any queries regarding the gateway requirements, please contact your EPA Customer Engagement Manager at Highfield Assessment.

Order of end-point assessments

There is no stipulated order of assessment methods. This will be discussed with the apprentice, training provider and/or employer with our scheduling team when scheduling the assessments to ensure that the learner is provided with the best opportunity to attempt the assessment.

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The Highfield approach

This section describes the approach Highfield has adopted in the development of this end-point assessment in terms of its interpretation of the requirements of the end-point assessment plan and other relevant documents.

Specific considerations

Highfield's approach does not deviate from the assessment plan.

Assessment arrangements when national security is a factor

Skills England may approve a variation to EPA delivery where it confirms, having considered adequate evidence, it is satisfied that:

- all options supporting a fully independent model have been exhausted
- national security issues prevent remote end-point assessment
- the fair assessment of occupational competence can only be achieved in the apprentice's operating environment

It is expected this approach to delivery is only applicable to the Royal Navy because of their unique operating environment combined with their role in connection with national security. Skills England must be satisfied that every possible way of having a fully independent EPA has been considered and that the unique circumstances of the employer prevents any arrangements for a fully independent model being made.

Skills England must also be satisfied that the EPA meets all of its other requirements, including the delivery of valid and accurate judgements of occupational competence, such that all apprentices who complete the EPA will be judged competent in the occupation regardless of who their employer is.

Bespoke EPA arrangements for this apprenticeship have been approved by Skills England for the Royal Navy to use.

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Gateway

How to prepare for gateway

After apprentices have completed their on-programme learning, they should be ready to pass through 'gateway' to their end-point assessment.

Gateway is a meeting that should be arranged between the apprentice, their employer and training provider to determine that the apprentice is ready to undertake their end-point assessment. The apprentice should prepare for this meeting by bringing along work-based evidence, including:

- customer feedback
- recordings
- manager statements
- witness statements

As well as evidence from others, such as:

- mid and end-of-year performance reviews
- feedback to show how they have met the apprenticeship standards while on-programme

In advance of gateway, apprentices will need to have completed the following. The requirements for English and maths listed below are mandatory for all apprentices aged between 16-18 at the start of their apprenticeship training. The requirements for English and maths listed below are optional for apprentices aged 19+ at the start of their apprenticeship training.

- Achieved level 2 English
- Achieved level 2 maths
- Submitted a suitable portfolio of evidence to be used as the basis for the professional discussion (see the Portfolio Matrix)
- Submitted their organisation's policies and procedures as requested by Highfield

Therefore, apprentices should be advised by employers and providers to gather this evidence and undertake these qualifications during their on-programme training. It is recommended that employers and providers complete regular checks and reviews of this evidence to ensure the apprentice is progressing and achieving the standards before the formal gateway meeting is arranged.

The gateway meeting

The gateway meeting should be attended by the apprentice and a representative from the employer and training provider.

The **Gateway Readiness Report** should be used to log the outcomes of the meeting and agreed by all three parties. This report is available to download from the Highfield Assessment website.

The report should then be submitted to Highfield. If you require any support completing the Gateway Readiness Report, please contact your EPA customer engagement manager at Highfield Assessment.

Reasonable adjustments
Highfield Assessment has measures in place for apprentices who require additional support. Please refer to the Highfield Assessment policies for further information/guidance.

ID requirements
Highfield Assessment will complete an identification check before starting any assessment and will accept the following as proof of an apprentice's identity:

- a valid passport (any nationality)
- a signed UK photocard driving licence
- a valid warrant card issued by HM forces or the police
- another photographic ID card, such as an employee ID card or travel card

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The Data Technician apprenticeship standard

Below are the knowledge, skills and behaviours (KSBs) from the standard and related assessment criteria from the assessment plan. On-programme learning will be based upon the KSBs and the associated assessment criteria are used to assess and grade the apprentice within each assessment method.

Data gathering	
Knowledge	**Skills**
K1 Types of data, for example, structured, unstructured, qualitative, quantitative, numeric, strings, compound data types. **K2 Common sources of data**, for example, internal, external, open data sets, public and private. **K3 Data storage formats and their importance for analysis**, for example, relational database tables, spreadsheets, bespoke digital applications, comma separated value lists, text documents, voice and video. **K4 Data element formats and how their selection can impact precision, analysis and communication**, for example, integers, floating point numbers and their precision, scientific notation, date formatting as strings. **K5** How to **access and extract data** from already identified sources. **K6** How to **collate and format data** in line with organisational standards. **K7** Why it may be important to anonymise data, for example for privacy, security and regulatory compliance, or to eliminate potential for bias.	**S1 Select and migrate data** from already identified sources. **S2 Format and save datasets**. **S3 Summarise, analyse and explain gathered data**. **S4** Combine data sets from multiple sources and present in format appropriate to the task.

K8 How to anonymise data, for example one-for-one replacement of names, addresses or telephone numbers with distinct new values, without changing data structure or relationships. **K13** How to **combine data from multiple sources**. For example using look ups, copy and paste and visualisation tools or data blending tools on bespoke systems. **K20** The **ethical use of data**, including in relation to its use with Artificial Intelligence and other automated systems, and the potential impacts of unethical use of data on the organisation. **K23** The **relationships between data**, machine learning, Internet of Things (IoT), Artificial Intelligence (AI) and Generative AI. For example, the impact of data and any biases within it on training AI models, and the impact of AI on data volume, quality, security, privacy and ethical considerations.	
Scenario demonstration with questioning	
Pass criteria	***Distinction criteria***
DG1 Explains different **data element formats and how their selection can impact precision, analysis and communication** (K4) **DG2** Demonstrates how to **access and extract data** as well as **select and migrate data** from identified sources (K5, S1) **DG3** Demonstrate how to **collate and format data** in line with organisational standards and able to collect, **format and save datasets** whilst being able to summarise and explain their gathered data (K6, S2, S3)	***DG5*** *Demonstrates a comprehensive understanding of collating, formatting, and saving data in strict adherence to industry standards, while efficiently analysing, summarising, and explaining the gathered data in a highly organised, systematic, and precise manner (K6, S2, S3)*

DG4 Demonstrate how to **combine data from multiple sources** using tools to identify trends and is able to present these in an appropriate format and enable manipulation of data sets as required (K13, S4)	
Professional discussion underpinned by a portfolio of evidence	
Pass criteria	***Distinction criteria***
DG6 Identifies **types of data** and **common sources of data** (K1, K2) **DG7** Identifies types of **data storage formats and their importance for analysis** (K3) **DG8** Explains the **importance of anonymising data and how to do so** (K7, K8) **DG9** Explain the **relationships between data**, machine learning, AI, and Generative AI, and how ethical data use in AI and automated systems impacts organisations, including the potential consequences of unethical data use (K20, K23)	*No distinction criteria available for this component.*
Amplification and guidance	

Types of data

- Structured data:
  - information that is neatly organised, usually in rows and columns, like a spreadsheet or database
  - easy to search, filter and analyse with computer tools
- Unstructured data:
  - information that doesn't follow a set format or schema
  - harder to analyse automatically because it is not neatly organised and often requires specialist tools
- Qualitative data:
  - descriptive data that explains quality or characteristics
  - useful for understanding opinions, behaviours, experiences and overall context
- Quantitative data:
  - numerical data that can be measured and counted
  - useful for statistics, trends and calculations
- Numeric data:
  - numbers used in calculations
  - can be integers (whole numbers), such as 10, or decimals, such as 2.5
- Strings:
  - text data, such as letters, words or characters
  - stored as text, not numbers, so '123' as a string is different from the number 123
- Compound data types:
  - multi-faceted data that combines different types together
  - allows more detailed information to be grouped

Common sources of data

- Internal data:
  - data created inside the organisation
  - usually more reliable because it is directly linked to business activities
- External data:
  - data obtained from outside the organisation
  - helps to compare performance or understand wider trends

- Open datasets:
    - data made freely available to the public
    - useful for research and benchmarking but may not always be complete or up to date
- Public data:
    - information that anyone can access, for example, the Office for National Statistics (ONS), Global Open Data Index or Kaggle
    - useful but must be used carefully to ensure accuracy
- Private data:
    - information restricted to specific people or organisations
    - must be kept secure and only accessed by those who are authorised

Data storage formats and their importance for analysis

- Some formats are easy to analyse directly, others are harder and require conversion
- Choosing the wrong format can lead to delays, errors and inconsistencies
- Relational database tables:
    - structured systems where data is stored in a schema with objects, such as tables and views
    - allows for fast searching, filtering, linking between tables (for example, linking customers with their orders) and handles large amounts of data reliably
- Spreadsheets:
    - stores data in rows and columns
    - easy to use for small to medium datasets, with built-in tools for calculations, charts and filtering
    - very flexible, allows 'quick and dirty' analysis but can become error-prone and difficult to manage for very large or complex datasets
- Bespoke digital applications:
    - specifically designed software created for a specific business or purpose, such as an airline's booking system or hospital patient records
    - tailored to capture exactly the right kind of data in the right format but data may be harder to export or integrate with other systems if it's too customised
- Comma Separated Value (CSV) lists:
    - plain text files where data is stored with values separated by commas, for example, 'Name, Age, Location'
    - easy to move between different systems because almost all software can read CSVs
    - lightweight, portable and widely compatible but lacks built-in error checking, so mistakes in formatting can cause issues
- Text documents:

    - files like Word documents, PDFs or plain .txt files
    - are usually unstructured so they are harder to search or analyse automatically but valuable for qualitative insights as it gives context
- Voice:
    - audio recordings contain rich insights about tone, emotion and customer experience but require extra processing of their metadata
- Video:
    - recordings from cameras, meetings or training sessions are a very rich source of data but also very complex and storage-heavy

Data element formats and how their selection can impact precision, analysis and communication

- The way data is stored in a computer system. Different formats are suited to different kinds of information.
- Selection matters for:
    - precision - wrong format can mean inaccurate numbers
    - analysis - some formats cannot be used in calculations, for example, text dates can't be subtracted
    - communication - the format should make sense to the audience
- Integers:
    - whole numbers without decimals
    - used when fractions or decimals are not needed, for example, when counting people
    - cannot show parts of a number, such as 3.5, so may have a maximum size depending on the system
- Floating point numbers:
    - numbers with decimals or very large/small values
    - used for measurements, currency or scientific data where accuracy to decimal places is important
    - computers sometimes store them with slight inaccuracies, for example, 0.1 + 0.2 may not equal exactly 0.3 (rounding error)
- Scientific notation:
    - a way of writing very large or very small numbers using 'x 10', for example, 0.00000123 becomes 1.23×10^{-6}
    - makes data easier to read and reduces errors when working with extreme numbers
- Date formatting as strings:
    - storing dates as text, such as '01/01/2025' or 'January 1st, 2025'

Access and extract data

- Accessing data:
    - involves connecting to where the data is stored

    - may involve logging into a database, opening a spreadsheet, connecting to a cloud platform or requesting access from another department
    - may require correct permissions or passwords, especially for sensitive or private data
- Extracting data:
    - involves copying or pulling out the data needed without changing the original source
    - may mean downloading a CSV file or exporting data from a reporting tool
    - important to only extract what is needed to avoid slowing systems down or breaching data security

Collate and format data

- Collating data:
    - bringing together data from different sources into one place
    - requires careful checking to avoid duplicates, missing records or mismatched formats
- Formatting data:
    - making data consistent, standardised and ready for use
    - helps to prevent errors in analysis and makes reports easier to understand

Combine data from multiple sources

- Involves bringing together information that exists in different places into a single dataset that can be analysed
- Sources can include:
    - internal systems - databases or spreadsheets
    - external sources - government open datasets or supplier data
    - different formats - CSV, Excel or even unstructured text
- Methods of combining data include:
    - lookups:
        - functions, such as 'VLOOKUP' or 'XLOOKUP' in Excel, to match records from two tables based on a common field
    - copy and paste:
        - a manual way to combine smaller datasets
        - useful but risky for larger or more complex data because it introduces human error
    - visualisation tools:
        - programs like Power BI or Tableau can pull in data from multiple sources and automatically link them together

    - data blending tools:
        - specialist software (sometimes bespoke to an organisation) that merges data from multiple sources into a single model
    - power query:
        - can be used to merge or append data

Ethical use of data

- Privacy - AI systems must respect personal data. Collecting or using data without consent breaches trust and the law.
- Security - AI systems must protect the data they use. Breaches can lead to data leaks and harm to individuals.
- Transparency - organisations should explain how AI makes decisions ('explainable AI').
- Fairness - AI must avoid bias and discrimination.
- Accountability - humans remain responsible for decisions made with AI, not the machines themselves.

Relationships between data

- Data - the raw material. AI systems rely on vast amounts of data to learn and make predictions.
- Machine learning (ML) - a type of AI where computers 'learn' patterns from data without being explicitly programmed.
- Artificial intelligence (AI) - broad term for computer systems that can perform tasks normally requiring human intelligence, such as decision-making, recognising images or understanding speech.
- Generative AI - a type of AI that can create new content, such as text, images or music, based on the patterns it has learned.
- Internet of Things (IoT) - everyday devices connected to the internet that produce data, such as smart watches, smart fridges and vehicle sensors.

Select and migrate data

- Selecting data:
    - involves choosing the specific information that is relevant to the task
    - helps to avoid working with unnecessarily large datasets and keeps analysis focused
- Migrating data:
    - involves moving data from one system, format or location to another
    - may involve moving data from a spreadsheet into a database or from an old system into a new cloud-based system
    - often requires conversion to a compatible format and must be done carefully to ensure data integrity (the data remains unchanged)

Format and save datasets

- Formatting datasets:
    - involves organising raw data into a structured form that can be analysed
    - may involve removing duplicate entries, correcting spelling errors or converting data types
- Saving datasets:
    - involves storing the data securely in the correct location, format and naming convention
    - data security and backups must be considered
    - saving in the wrong format can make analysis harder or even impossible later on

Summarise, analyse and explain gathered data

- Summarising data involves reducing large amounts of data into simple, clear insights, for example, instead of showing 10,000 individual sales, records provide the total sales per month
- Analysing data involves looking for patterns, trends or relationships within a dataset
- Explaining data involves communicating findings so both technical and non-technical colleagues can understand

Importance of anonymising data and how to do so

- Privacy - personal information, such as names, addresses or contact details, must be protected so that individuals cannot be identified
- Security - if data is stolen or leaked, anonymisation reduces the risk of harm because attackers can't link information back to real people
- Regulatory compliance - the General Data Protection Regulation (GDPR) and Data Protection Act require organisations to protect personal data, with anonymisation being one way to meet these requirements
- Bias elimination - removing identifiers, such as names, gender or ethnicity can prevent unconscious bias in analysis
- Ways to anonymise data include:
    - one-for-one replacement (pseudonymisation) - replace each piece of personal data with a new, unique value
    - masking - hiding part of the data
    - generalisation - reducing the level of detail so individuals can't be identified
    - aggregation - grouping data together so individuals are hidden within a wider dataset
    - suppression - completely removing certain data fields

Data analysis and validation	
Knowledge	**Skills**
K14 Understand the **capabilities within data analysis, visualisation, and querying tools**, for example, spreadsheets or database viewers or digital display screens on bespoke systems for use in answering questions, solving problems, and the potential to use **automation for repeated data manipulation**. **K15 How to filter details**, focusing on information relevant to the data tasks and purpose. **K16 Basic statistical methods to extract relevant information** from structured and unstructured data, for example, counting rows, calculating the mean and standard deviation of numeric fields, counting words in a document, listing the most common values, calculating percentage contributions or percentage differences between data items. **K17 Common data quality issues** that can arise for example misclassification, duplicate entries, spelling errors, obsolete data, compliance issues and misinterpretation or translation of meaning. **K18 Methods of validating data** and the importance of **taking corrective action**, for example checking the source of information, identification and standardisation of outliers, adjusting item counts or totals of values. **K26** Understand when and how to apply the principles of prompt engineering to identify and research effective **data transformation techniques** to ensure data quality and integrity.	**S5** Use tools and/or apply basic statistical methods to identify trends and patterns in data. **S6** Identify faults and cleanse data to improve data quality, for example identifying gaps, duplicate entries, outliers and unusual variances, including cross-checking across data elements or between data sources. **S7** Audit data results for maintenance of data quality, reviewing a data set once all sources are combined, to ensure accuracy, completeness, consistency and traceability from original data. **S12** Parse data against standard formats, and test and assess confidence in the data and its integrity. **S16** Demonstrate the ability to use different tools and methods to formulate and utilise effective prompts to research, apply, and evaluate **data transformation techniques**.
Scenario demonstration with questioning	
Pass criteria	***Distinction criteria***

<table>
<tr><td>DA1 Demonstrates how to audit data results to ensure accuracy, completeness, consistency, and traceability from original data. Understands how data analysis and querying tools can answer questions, solve problems and have the potential to use automation for repeated data manipulation (K14, S7)

DA2 Demonstrates how to filter details by focusing on information relevant to the data tasks and purpose, while identifying faults and cleansing the data (K15, S6)

DA3 Uses basic statistical methods to extract relevant information from both structured and unstructured data (K16, S5)

DA4 Demonstrates the use of tools or methods that can or have been applied as prompts to research and evaluate data transformation techniques (K26, S16)</td><td>DA5 Identify how automation could be used for repeatable data manipulation to improve efficiency and accuracy (K14, S7)</td></tr>
<tr><td colspan="2">Professional discussion underpinned by a portfolio of evidence</td></tr>
<tr><td>Pass criteria</td><td>Distinction criteria</td></tr>
<tr><td>DA6 Demonstrates testing and assessing the integrity of data against standard formats while explaining common data quality issues that can arise, methods for validating data to mitigate these issues, and corrective actions that can be taken (K17, K18, S12)</td><td>No distinction criteria available for this component.</td></tr>
<tr><td colspan="2">Amplification and guidance</td></tr>
<tr><td colspan="2">Capabilities within data analysis, visualisation, and querying tools
Data analysis tools involve programs that allow users to explore and interpret data. They are capable of filtering data, calculating totals or averages and identifying trends. Examples include:
Excel
Power BI
Structured Query Language (SQL)</td></tr>
</table>

    - Bespoke dashboards
- Visualisation tools present data in a way that makes patterns obvious. They help non-technical stakeholders understand complex data quickly, such as:
    - graphs
    - pie charts
    - dashboards
    - interactive reports
- Querying tools allow users to pull exactly the information they need from large datasets, for example, SQL can retrieve all customers in a specific region or all orders over £1,000

Automation for repeated data manipulation

- Many tools allow tasks to be automated so that they don't have to be repeated manually to save time, reduce errors and ensure consistency, for example:
    - Excel macros that clean and format data with one click
    - SQL-stored procedures that automatically run queries daily
    - Power BI dashboards that refresh with the latest data every morning
    - Power Query, which is available in Excel and Power BI and connects and transforms data

How to filter details

- Involves narrowing down data so only the information that is actually needed is shown instead of being overloaded with irrelevant details
- This saves time, improves clarity and ensures analysis focuses only on answering the right question
- Examples of filtering include:
    - using filters in Excel to only show sales from the last three months
    - using a 'WHERE' clause in SQL to retrieve customers from 'London' only
    - creating a dashboard in Power BI that only shows data for one department

Basic statistical methods to extract relevant information

- Counting rows:
    - simply checking how many records are in a dataset, for example, there were 2,500 customer transactions for March
- Mean (average):

    - add up all the values and divide by how many there are
    - useful for finding a 'typical' value
- Standard deviation:
    - a measure of how spread out the numbers are
    - low standard deviation means values are closer together
    - high standard deviation means values vary significantly
- Counting words in a document:
    - useful for unstructured text
- Frequency counts:
    - involves listing the most common values, for example, in unstructured data, 'the most common word in survey responses was 'service''
- Percentage contributions:
    - shows what portion of the total comes from one item
- Percentage differences:
    - compares two values as a percentage change

Common data quality issues

- Misclassification:
    - data is placed in the wrong category
    - distorts reports and analysis
- Duplicate entries:
    - the same record appears more than once
    - can lead to inaccurate totals or inflated statistics
- Spelling errors:
    - mistakes in names, addresses or text fields
    - causes mismatches when linking data or running lookups
- Obsolete data:
    - outdated or no longer valid information
    - reduces reliability, wastes time and can breach compliance
- Compliance issues:
    - data that doesn't meet legal or regulatory standards

    - can lead to legal risks, reputational damage and loss of trust
- Misinterpretation or translation of meaning:
    - data misunderstood when shared between systems, languages or people
    - leads to errors in analysis or incorrect conclusions

Methods of validating data

- Checking the source of information to confirm that data comes from a trusted and up-to-date source
- Identification and standardisation of outliers:
    - identifying values that are far outside the normal range
    - deciding whether to correct, exclude or keep the outlier after investigation
- Adjusting item counts or totals of values by reconciling totals across reports or systems
- Ensuring each field follows the correct pattern
- Checking that related data makes sense together, such as ensuring a start date is not after an end date

Taking corrective action

- Correction - fixing errors manually or through automated scripts
- Standardisation - ensuring data follows uniform rules
- Removal or flagging - marking invalid, duplicated or obsolete records for deletion or review
- Communication - reporting data quality issues back to data owners or managers to prevent future errors
- Documentation - keeping a record of what corrections were made and why to support traceability and accountability

Data transformation techniques

- Changing the format, structure or values of data to make it usable, accurate and consistent
- These transformations help to maintain data quality (accuracy and consistency) and data integrity (complete, trustworthy and uncorrupted)
- Common techniques include:
    - normalisation - standardising data values so they can be compared easily, such as converting all currencies to GBP
    - data type conversion - changing data from text to numeric or date formats
    - merging and splitting fields - combining separate columns, such as first and last name, or breaking one field apart
    - handling missing values - filling gaps logically or flagging them for review
    - reformatting structures - converting formats, such as CSV, to match system requirements

Distribution and dissemination	
Knowledge	**Skills**
K9 Management and presentation tools to visualise and review the characteristics of data. Examples include spreadsheets with tables and charts, dashboarding tools, custom tools for particular data types, systems or contexts. **K10 Communication tools and technologies** for collaborative working, including the ability to share data and findings of data reviews. Examples include dashboards, shared whiteboards, or presentation tools for video conferencing for face-to-face contexts or digital presentation displays. **K11 Communication methods**, formats and techniques to help audiences understand data findings and their implications, for example written, verbal, non-verbal, presentation, email, conversation, storytelling and active listening. **K12 Roles within an organisation** needing access to data or to understand data findings, and how these roles impact the amount of detail needed in data communications, for example, customer, manager, peer; technical and non-technical. **K19 Legal and regulatory requirements** surrounding the use of data for example GDPR, Data Protection Act, data security, intellectual property rights, data sharing, marketing consent, personal data definition, and sector specific standards. **K21 The value of data to an organisation**, for example to understand behaviours, to assess stakeholder sentiment, to interpret inputs received,	**S8** Demonstrate the different ways of communicating meaning from data in line with audience requirements. **S9 Produce clear and consistent documentation** of the data provided to others and of actions completed. Where appropriate or mandated by the working context, this documentation should use standard organisational templates. **S10** Store, manage and distribute data in compliance with organisational, national, sector specific standards and or legislation.

to identify trends, to improve decision making and efficiency, or to build strategic or tactical plans to address a current situation. **K22** The significance of understanding cultural **awareness, diversity and accessibility with respect to data sets**.	
Professional discussion underpinned by a portfolio of evidence	
Pass criteria	***Distinction criteria***
DD1 Demonstrate **management and presentation tools** to visualise data, collaborate using communication technologies to share findings, and apply appropriate methods to help audiences understand data insights and their implications, **tailoring communication** to meet audience needs (K9, K10, K11, S8) **DD2** Identifies **roles within an organisation** that require access to data or an understanding of data findings, and determine how these roles influence the level of detail needed in data communications and be able to **produce clear and consistent documentation** of the data shared and actions taken, using standard organisational templates where applicable or required (K12, S9) **DD3** Outlines **the value of data to an organisation** (K21) **DD4** Explains how they store, manage, and distribute data in compliance with **legal and regulatory requirements**, ensuring adherence to organisational, national and sector standards, and applicable legislation (K19, S10) **DD5** Understands the significance of cultural **awareness, diversity and accessibility with respect to data sets** and any **bias that may be present** in them (K22)	***DD6*** *Shows a deep understanding of the various **roles within an organisation** that require access to data or an understanding of data findings, and expertly determines how these roles impact the level of detail required in data communications, while consistently producing clear, comprehensive, and well-documented reports on the data shared and actions taken, adhering to standard organizational templates where applicable or required (K12, S9)* ***DD7*** *Evaluates advanced strategies for storing, managing, and distributing data in strict adherence to evolving data security standards, sustainable best practices, and comprehensive legislation, while proactively addressing emerging compliance challenges (K19, S10)*
Amplification and guidance	

Management and presentation tools

- Spreadsheets - create tables, bar charts, pie charts and line graphs
- Dashboarding tools - combine multiple visuals that update automatically when data changes, such as Power BI or Tableau
- Custom tools - built-in reporting systems within a company's software, such as a flight scheduling dashboard in aviation
- Visualisation helps non-technical audiences understand complex information quickly
- It allows data to 'tell a story', showing trends over time or difference between categories
- It makes it easier to identify errors, gaps or outliers visually

Communication tools and technologies

- Dashboards shared through cloud systems:
    - Power BI online
    - Tableau Cloud
    - Looker Studio (formerly Google Data Studio)
- Shared whiteboards for brainstorming data-driven decisions:
    - Miro
    - Microsoft Whiteboard
- Presentation tools for remote or in-person delivery:
    - PowerPoint
    - Google Slides
    - Microsoft Teams
    - Zoom

Communication methods

- Written communication:
    - reports, summaries or emails outlining findings
    - use clear language, bullet points and short sentences
    - avoid jargon when writing for non-specialists
- Verbal communication:
    - meetings, presentations or informal discussions where results are explained directly
    - allows questions and clarification

- Non-verbal communication:
    - visual cues, such as body language, tone and eye contact, help to engage an audience and reinforce confidence in a message
- Storytelling with data:
    - present data in a logical order:
        - problem
        - analysis
        - insight
        - action
- Active listening:
    - listening to feedback or questions carefully and responding thoughtfully
    - shows understanding and builds trust with the audience

Roles within an organisation

- Not everyone in a business needs the same depth of data detail
- Understanding who needs what ensures communication is efficient, relevant and easy to act on
- Common organisational roles and their needs include:
    - customers:
        - usually non-technical
        - want simple, clear summaries focused on outcomes or service impact
        - avoid jargon or complex metrics
    - managers or senior leaders:
        - need high-level insights for decision-making
        - focus on trends, risks or key performance indicators (KPIs)
    - peers or team members:
        - may need more detailed operational data or deeper insights to complete their tasks

Legal and regulatory requirements

- General Data Protection Regulation (GDPR) is the EU privacy and security law that sets out strict rules on how organisations must collect, use and store personal data
- Key principles of GDPR include:

    - lawfulness, fairness and transparency - only use data for clear, legal purposes
    - purpose limitation - collect data only for a specific reason
    - data minimisation - collect only what is necessary
    - accuracy - keep up to date and correct errors
    - storage limitation - don't keep data longer than necessary
    - integrity and confidentiality - keep data safe and secure
- Data Protection Act:
    - UK law that enforces GDPR rules and adds national guidance
    - defines the rights of individuals to access or correct their data
- Data security:
    - protecting data from unauthorised access, loss or damage
    - includes passwords, encryption, access control, secure backups and clear device policies
- Intellectual property rights:
    - protects ownership of created content or systems
- Data sharing and marketing consent:
    - personal data cannot be shared or used for marketing
- Personal data is defined as any data that can identify a living person, either directly, such as names or photos, or indirectly, such as IP addresses or locations

The value of data to an organisation

- Data is one of the most important assets to an organisation. When used properly, it helps business understand what is happening, why it is happening and what they should do next
- Understanding behaviour:
    - data helps organisations to see how people act, whether they're customers, staff or partners
    - allows an organisation to adapt services or improve experiences
- Assessing stakeholder sentiment:
    - positive sentiments lead to customer satisfaction and loyalty
    - negative sentiments lead to an early warning of service or reputation problems
- Interpreting received inputs:
    - organisations receive huge amounts of input in the form of emails, calls or website clicks

    - data helps to make sense of this information by sorting, counting and categorising it
- Helps to identify trends, improve decision-making and efficiency, and aids with building strategic and tactical plans

Awareness, diversity and accessibility with respect to data sets

- Cultural awareness in data:
    - means recognising and respecting that people from different backgrounds may record, interpret or respond to data differently
    - misunderstanding cultural differences can lead to incorrect conclusions, data entry mistakes or offensive assumptions
    - use inclusive data collection methods
    - avoid using data fields that assume one cultural norm
- Diversity in data:
    - means ensuring that data represents a wide range of people and perspectives, not just one dominant group
    - a lack of diversity can create bias in decision-making or AI systems
    - use datasets that include varied demographic information, such as age and gender, where appropriate and lawful
    - regularly review datasets for representation gaps
    - engage with stakeholders to understand who might be underrepresented or excluded
- Accessibility in data:
    - involves making sure that data, systems and visualisations are usable and understandable by everyone, including those with disabilities or different needs, for example:
        - using high-contrast charts and readable fonts for people with visual impairments
        - ensuring screen readers can interpret digital dashboards
        - providing alternative text descriptions or data visuals
    - ensures equal opportunities to interpret and use data, supporting fairness and compliance with the Equality Act

Produce clear and consistent documentation

- Good documentation keeps track of what data was shared, with whom, when and why to ensure traceability and accountability
- Features of clear documentation include:
    - accuracy - all figures, sources and summaries must be correct
    - consistency - use the same format, structure and tone each time
    - completeness - record what actions were taken, decisions made and next steps agreed
    - professionalism - free from spelling or formatting errors

Tailoring communication

- Technical audiences:
  - use precise terms, detailed figures and technical charts
- Non-technical audiences:
  - focus on what the data means, not how it was calculated
  - use simple visuals and plain English explanations

Bias that may be present

- Bias can appear when:
  - data is collected from an unbalanced sample, such as using only one age group or region
  - questions or categories are worded in a way that favours certain groups
  - analysts interpret data based on personal or cultural assumptions
- Examples can include:
  - a staff survey distributed only online, which may exclude people without digital access
  - a satisfaction survey in only one language may misrepresent multilingual communities
- Mitigation techniques can include:
  - reviewing datasets for missing or uneven demographic data
  - using neutral, inclusive language in surveys
  - involving diverse teams in reviewing and interpreting data
  - testing reports and visuals with a range of users to ensure accessibility

Approaches to work		
Knowledge	**Skills**	**Behaviours**
K24 Sustainable data practices for example organisational policies and procedures relating to **environmental impact and sustainability**, green data centres, and responsible data storage. **K25** Principles and policies of **equity, diversity and inclusion** in the workplace and their impact on the organisation.	**S11** Considers sustainability and ways to reduce impact. For example, using cloud storage, sharing links to files, avoid storing multiple versions of files, and reducing the use of physical handouts of documentation. **S13** Operate collaboratively in a working context that accounts for, and takes advantage of, the roles, skills and activities of others, especially those interacting with the same data sets or working towards a common goal. **S14** Prioritise own activities within the context of the duties to be performed, taking account of any known or expected impact on others. **S15** Follows **equity, diversity and inclusion** policies in the organisation for a common goal.	**B1** Manage own time to meet deadlines and manage stakeholder expectations whether working independently or in a multidisciplinary team. **B2** Work independently and methodically. **B3** Support social inclusion in the workplace. For example consider the needs of the audience. **B4** Takes responsibility for acting sustainably in their role for example switching off lights and systems when not in use, reducing file size and attachments on emails, and recycling.
Professional discussion underpinned by a portfolio of evidence		
Pass criteria		***Distinction criteria***

AW1 Demonstrates how they **prioritise activities** based on the duties to be performed, considering any known or expected impact on others. Working independently to meet deadlines and manage stakeholder expectation. Explains how they **prioritise activities** taking account of others when working towards a common goal or on the same data sets (S13, S14, B1, B2) **AW2** Explains how they follow policies and procedures related to **environmental impact and sustainability**, adhere to **equity, diversity, and inclusion** policies for a common goal, consider ways to reduce impact, support social inclusion in the workplace, and take responsibility for acting sustainably in your role (K24, K25, S11, S15, B3, B4)	*No distinction criteria available for this component.*

Amplification and guidance

Environmental impact and sustainability

- Use shared online drives or links instead of emailing large attachments
- Avoid printing unless absolutely necessary - share documents digitally
- Switch off monitors, lights or devices when not in use
- Delete obsolete data or archive it to cloud storage instead of keeping multiple local copies
- Consider 'data energy cost' - every stored file uses electricity somewhere
- Use recyclable office materials and encourage others to do the same

Equity, diversity and inclusion

- Equity - treating people fairly based on their needs, not necessarily the same
- Diversity - recognising and valuing differences in background, experience and perspective
- Inclusion - creating a workplace where everyone feels welcome, respected and able to contribute

Prioritise activities

- Deciding what tasks to do first based on urgency, importance and who depends on the outcome

- Data tasks often feed into wider business decisions - missing deadlines or skipping checks can delay or mislead others
- Good practice include:
    - making a clear to-do list or schedule each day or week
    - using tools, like calendars, project trackers or task lists
    - identifying dependencies - what other people need and when they need it
    - allowing time for quality checks before submission
    - reviewing priorities regularly as new work arrives

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Assessment summary

The end-point assessment for the Data Technician apprenticeship standard is made up of two assessment methods:

1. A 90-minute scenario demonstration with questioning
2. A 60-minute professional discussion underpinned by a portfolio of evidence

As an employer/training provider, you should agree a plan and schedule with the apprentice to ensure all assessment components can be completed effectively.

Each component of the end-point assessment will be assessed against the appropriate criteria laid out in this kit, which will be used to determine a grade for each individual. The grade will be determined using the combined grades.

Scenario demonstration with questioning

All assessment methods are weighted equally. Apprentices will be marked against the pass and distinction criteria outlined in this kit.

- To achieve a **pass**, apprentices must achieve all of the pass criteria
- To achieve a **distinction**, apprentices must achieve all of the pass criteria **and** all of the distinction criteria
- **Unsuccessful** apprentices will not have achieved all of the pass criteria

The scenario demonstration with questioning must take place in a suitable location such as an employer's or training provider's premises. The scenario demonstration can be conducted face to face or remotely via live streaming.

Professional discussion underpinned by a portfolio of evidence

All assessment methods are weighted equally. Apprentices will be marked against the pass and distinction criteria outlined in this kit.

- To achieve a **pass**, apprentices must achieve all of the pass criteria
- To achieve a **distinction**, apprentices must achieve all of the pass criteria **and** all of the distinction criteria
- **Unsuccessful** apprentices will not have achieved all of the pass criteria

The professional discussion may be conducted using technology, such as a video link, as long as fair assessment conditions can be maintained.

Grading

The apprenticeship includes pass and distinction grades, with the final grade based on the apprentice's combined performance in each assessment method.

To achieve a pass, the apprentice is required to pass both of the scenario demonstration with questioning and the professional discussion underpinned by a portfolio of evidence.

To achieve a merit, the apprentice is required to pass either the scenario demonstration with questioning or the professional discussion underpinned by a portfolio of evidence and achieve a distinction in the other element.

To achieve a distinction, the apprentice must achieve a distinction in the scenario demonstration with questioning and the professional discussion underpinned by a portfolio of evidence.

The overall grade for the apprentice is determined using the matrix below:

Scenario demonstration with questioning	Professional discussion underpinned by a portfolio of evidence	Overall grade awarded
Fail	Any grade	**Fail**
Any grade	Fail	**Fail**
Pass	Pass	**Pass**
Pass	Distinction	**Merit**
Distinction	Pass	**Merit**
Distinction	Distinction	**Distinction**

Retake and resit information

If the apprentice fails one assessment method or more, they can take a resit or a retake at their employer's discretion. The apprentice's employer needs to agree that a resit or retake is appropriate. If a resit is chosen, please call the Highfield scheduling team to arrange the resit. If a retake is chosen, the apprentice will require a period of further learning and will need to complete a retake checklist. Once this is completed, please call the Highfield scheduling team to arrange the retake.

For resits and retakes, the apprentice must undertake a new scenario.

A resit is typically taken within three months of the EPA outcome notification. The timescale for a retake will be dependent on how much retraining is required but is typically taken within six months of the EPA outcome notification.

When undertaking a resit or retake, the assessment method(s) will need to be reattempted in full, regardless of any individual assessment criteria that were passed on any prior attempt. The EPA Report will contain feedback on areas for development and resit or retake guidance.

Any EPA component resit/retake must be taken within a six-month period from the EPA outcome notification, otherwise the entire EPA will need to be resat or retaken in full. Apprentices should have a supportive action plan to prepare for the resit/retake.

Apprentices who achieve a pass grade cannot resit or retake the EPA to achieve a higher grade.

Where any assessment method has to be resat or retaken, the apprentice will be awarded a maximum grade of **merit**, unless there are exceptional circumstances that are beyond the control of the apprentice as determined by Highfield.

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Assessing the scenario demonstration with questioning

The assessor will observe the apprentice completing a task or series of tasks set by Highfield. The scenario demonstration will allow the apprentice to be presented with scenarios that cover the breadth and depth of practice required and will avoid situations where occupational activities are not available or do not occur. The assessor will only observe one apprentice at a time to ensure quality and rigour.

The scenario demonstration with questioning will take a total of **90 minutes**. The assessor can increase the time by up to 10% to allow the apprentice to complete a task or respond to a question if necessary.

Highfield will give the apprentice two weeks' notice of the scenario demonstration with questioning. Up to one week in advance of the scenario demonstration with questioning, Highfield will provide the apprentice and employer with a guidance document, including information on the format of the test, the data set to be used and timescales. Apprentices will be provided with both written and verbal instructions on the tasks they must complete. This does not count towards the assessment time.

The scenario demonstration with questioning cannot be split, other than for comfort breaks or to allow apprentices to move from one location to another. Where breaks occur, they will not count towards the total EPA time.

On the day of the scenario demonstration, the independent assessor must explain to the apprentice the format and timescales of the scenario test and questions before it starts. The assessor will also provide the apprentice with an additional data set related to the data set they were given to ensure fair and consistent assessment. Apprentices must be provided with both written and verbal instructions on the tasks they must complete. This does not count towards the assessment time.

The scenario may use data sets that are in a different business domain to the one in which the apprentice normally works.

The scenario demonstration with questioning must take place in either the employer's, training provider's or another employer's premises. Assessment can be conducted via live streaming.

There will be a minimum of one scenario which must enable the apprentice to demonstrate the following:

- data gathering
- data analysis
- data validation

The apprentice will be provided with a scenario description of **not more than 750 words**, accompanied by annexes containing relevant documentation. For example, data source locations, data set content descriptions, context on data provenance and purpose. The assessor may supplement the scenario description with verbal guidance for the purpose of clarification but will not give additional guidance on how to interpret or execute the tasks required.

During the scenario demonstration, the apprentice can use the internet as a tool to follow instructions to complete tasks. The scenario is classed as an 'open book' assessment to reflect occupational practice. The apprentice **cannot** use the internet or artificial intelligence tools to complete tasks only to source information and guidance.

Questioning can occur both during and after the practical assessment. The time taken for questioning is included in the overall assessment time. To remain as unobtrusive as possible, the assessor will ask questions during natural stops between tasks and after completion of work rather than disrupting the apprentice's flow. The assessor will ask **at least five questions**. The independent assessor can ask follow-up questions to clarify answers given by the apprentice. These questions are in addition to the above set number of questions for the scenario demonstration with questioning.

Before the assessment

Employers/training providers should:

- ensure the apprentice knows the date, time and location of the assessment
- ensure the apprentice has been provided with the guidance document, detailing information on the format of the test, the data set to be used and timescales
- ensure the apprentice knows which data technician criteria will be assessed (outlined on the following pages)
- encourage the apprentice to reflect on their experience and learning on-programme to understand what is required to meet the standard and identify real-life examples
- be prepared to provide clarification to the apprentice, and signpost them to relevant parts of their on-programme experience as preparation for this assessment

Grading the scenario demonstration with questioning

Apprentices will be graded against the pass and distinction criteria included in the tables on the following pages (under 'Scenario demonstration with questioning criteria').

- To achieve a **pass**, apprentices must achieve all of the pass criteria
- To achieve a **distinction**, apprentices must achieve all of the pass criteria **and** all of the distinction criteria
- **Unsuccessful** apprentices will not have achieved all of the pass criteria

Scenario demonstration with questioning mock assessment

It is the employer/training provider's responsibility to prepare apprentices for their end-point assessment. Highfield recommends that the apprentice experiences a mock scenario demonstration with questioning in advance of the end-point assessment, with the training provider/employer giving feedback on any areas for improvement.

In designing a mock assessment, the employer/training provider should include the following elements in its planning:

- the mock scenario demonstration with questioning should take place in a suitable location.
- a 90-minute time slot should be available for the scenario demonstration with questioning, if it is intended to be a complete mock scenario demonstration with questioning covering all relevant standards (outlined in the following pages). However, this time may be split up to allow for progressive learning.
- consider a video or audio recording of the mock scenario demonstration with questioning and allow it to be available to other apprentices, especially if it is not practicable for the employer/training provider to carry out a separate mock scenario demonstration with questions with each apprentice.
- ensure that the apprentice's performance is assessed by a competent trainer/assessor, and that feedback is shared with the apprentice to complete the learning experience. Mock assessment sheets are available to download from the Highfield Assessment website and may be used for this purpose.
- use at least 5 structured, 'open' questions that do not lead the apprentice but allows them to give examples for how they have met each area in the standard, for example:
    - data gathering
        - What types of data formats did you work with and how do they differ in precision or accuracy?
        - How did you make sure the dataset was stored securely and clearly organised?

        - How did you combine data from multiple sources and ensure it was accurate?
    - data analysis and validation
        - What checks did you complete to make sure your data results were accurate and traceable?
        - Which statistical methods did you use to analyse your data and why were they suitable?

Scenario demonstration with questioning criteria

Throughout the **90-minute** scenario demonstration with questioning, the assessor will review the apprentice's competence in the criteria outlined below.

Apprentices should prepare for the scenario demonstration with questioning by considering how the criteria can be met.

Data gathering
To pass, the following must be evidenced.
DG1 Explains different data element formats and how their selection can impact precision, analysis and communication (K4)
DG2 Demonstrates how to access and extract data as well as select and migrate data from identified sources (K5, S1)
DG3 Demonstrate how to collate and format data in line with organisational standards and able to collect, format and save datasets whilst being able to summarise and explain their gathered data (K6, S2, S3)
DG4 Demonstrate how to combine data from multiple sources using tools to identify trends and is able to present these in an appropriate format and enable manipulation of data sets as required (K13, S4)
To gain a distinction, the following must be evidenced
DG5 *Demonstrates a comprehensive understanding of collating, formatting, and saving data in strict adherence to industry standards, while efficiently analysing, summarising, and explaining the gathered data in a highly organised, systematic, and precise manner (K6, S2, S3)*

Data analysis and validation
To pass, the following must be evidenced.
DA1 Demonstrates how to audit data results to ensure accuracy, completeness, consistency, and traceability from original data. Understands how data analysis and querying tools can answer questions, solve problems and have the potential to use automation for repeated data manipulation (K14, S7)
DA2 Demonstrates how to filter details by focusing on information relevant to the data tasks and purpose, while identifying faults and cleansing the data (K15, S6)
DA3 Uses basic statistical methods to extract relevant information from both structured and unstructured data (K16, S5)
DA4 Demonstrates the use of tools or methods that can or have been applied as prompts to research and evaluate data transformation techniques (K26, S16)
To gain a distinction, the following must be evidenced
DA5 *Identify how automation could be used for repeatable data manipulation to improve efficiency and accuracy (K14, S7)*

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Assessing the professional discussion underpinned by a portfolio of evidence

In the professional discussion underpinned by a portfolio of evidence, the assessor and the apprentice will have a formal two-way conversation. It will consist of the independent assessor asking the apprentice questions to assess their competence against the relevant criteria outlined in this kit.

Apprentices can refer to and illustrate their answers with evidence from their portfolio of evidence during the professional discussion. However, the portfolio of evidence is not directly assessed. The apprentice must have access to their portfolio of evidence during the professional discussion.

The purpose of the assessor's questions will be to assess the apprentice's competence against the following themes:

- data gathering
- data analysis
- data validation
- distribution and dissemination
- approaches to work

Highfield will give the apprentice two weeks' notice of the professional discussion. The assessor will have at least two weeks to review the supporting documentation. It will take place in a suitable environment and can be conducted by video conferencing. It must last for **60 minutes**. The assessor can increase the time of the professional discussion by up to 10% to allow the apprentice to respond to a question if necessary.

The assessor will explain to the apprentice the format and timescales of the professional discussion before it starts. This does not count towards the assessment time.

The assessor will ask **at least eight questions**. Follow-up questions are allowed where clarification is required.

Before the assessment

Employers/training providers should:

- ensure the apprentice knows the date, time and location of the assessment
- ensure the apprentice knows which criteria will be assessed (outlined on the following pages)
- encourage the apprentice to reflect on their experience and learning on-programme to understand what is required to meet the standard

- be prepared to provide clarification to the apprentice, and signpost them to relevant parts of their on-programme experience as preparation for this assessment

Grading the professional discussion underpinned by a portfolio of evidence

Apprentices will be marked against the pass and distinction criteria included in the tables on the following pages (under 'Professional discussion underpinned by a portfolio of evidence criteria').

- To achieve a **pass**, apprentices must achieve all of the pass criteria
- To achieve a **distinction**, apprentices must achieve all of the pass criteria **and** all of the distinction criteria
- **Unsuccessful** apprentices will have not achieved all of the pass criteria

Professional discussion underpinned by a portfolio of evidence mock assessment

It is the employer/training provider's responsibility to prepare apprentices for their end-point assessment. Highfield recommends that the apprentice experiences a mock professional discussion underpinned by a portfolio of evidence in preparation for the real thing. The most appropriate form of mock professional discussion underpinned by a portfolio of evidence will depend on the apprentice's setting and the resources available at the time.

In designing a mock assessment, the employer/training provider should include the following elements in its planning:

- the mock professional discussion underpinned by a portfolio of evidence should take place in a suitable location.
- a 60-minute time slot should be available to complete the professional discussion underpinned by a portfolio of evidence, if it is intended to be a complete professional discussion covering all relevant standards. However, this time may be split up to allow for progressive learning.
- consider a video or audio recording of the mock professional discussion underpinned by a portfolio of evidence and allow it to be available to other apprentices, especially if it is not practicable for the employer/training provider to carry out a separate mock assessment with each apprentice.
- ensure that the apprentice's performance is assessed by a competent trainer/assessor, and that feedback is shared with the apprentice to complete

the learning experience. Mock assessment sheets are available to download from the Highfield Assessment website and may be used for this purpose.

- use at least 8 structured, 'open' questions that do not lead the apprentice but allows them to express their knowledge and experience in a calm and comfortable manner. For example:
    - data gathering
        - What are the main types of data you work with and how do they differ from each other?
        - Why is anonymising personal or sensitive data important in your role?
    - data analysis and validation
        - What types of data quality issues have you encountered and how did you identify them during validation?
        - How do you test the integrity of data against standard formats to ensure accuracy and consistency?
    - distribution and dissemination
        - How did you decide which presentation or visualisation tools were most suitable for your audience?
        - What steps did you take to make sure your data insights were clear and easy to understand for non-technical audiences?
    - approaches to work
        - How do you decide which tasks to prioritise when managing multiple deadlines or shared responsibilities?
        - What actions do you take in your role to reduce environmental impact and work sustainably?

Professional discussion underpinned by a portfolio of evidence criteria

Throughout the **60-minute** professional discussion underpinned by a portfolio of evidence, the assessor will review the apprentice's competence in the criteria outlined below.

Apprentices should prepare for the professional discussion underpinned by a portfolio of evidence by considering how the criteria can be met.

Data analysis and validation
To pass, the following must be evidenced.
DA6 Demonstrates testing and assessing the integrity of data against standard formats while explaining common data quality issues that can arise, methods for validating data to mitigate these issues, and corrective actions that can be taken (K17, K18, S12)
To gain a distinction, the following must be evidenced.
No distinction criteria available for this component.

Distribution and dissemination
To pass, the following must be evidenced.
DD1 Demonstrate management and presentation tools to visualise data, collaborate using communication technologies to share findings, and apply appropriate methods to help audiences understand data insights and their implications, tailoring communication to meet audience needs (K9, K10, K11, S8)
DD2 Identifies roles within an organisation that require access to data or an understanding of data findings, and determine how these roles influence the level of detail needed in data communications and be able to produce clear and consistent documentation of the data shared and actions taken, using standard organisational templates where applicable or required (K12, S9)
DD3 Outlines the value of data to an organisation (K21)
DD4 Explains how they store, manage, and distribute data in compliance with legal and regulatory requirements, ensuring adherence to organisational, national and sector standards, and applicable legislation (K19, S10)
DD5 Understands the significance of cultural awareness, diversity and accessibility with respect to data sets and any bias that may be present in them (K22)
To gain a distinction, the following must be evidenced.

DD6 *Shows a deep understanding of the various roles within an organisation that require access to data or an understanding of data findings, and expertly determines how these roles impact the level of detail required in data communications, while consistently producing clear, comprehensive, and well-documented reports on the data shared and actions taken, adhering to standard organizational templates where applicable or required (K12, S9)*

DD7 *Evaluates advanced strategies for storing, managing, and distributing data in strict adherence to evolving data security standards, sustainable best practices, and comprehensive legislation, while proactively addressing emerging compliance challenges (K19, S10)*

Approaches to work
To pass, the following must be evidenced.
AW1 Demonstrates how they prioritise activities based on the duties to be performed, considering any known or expected impact on others. Working independently to meet deadlines and manage stakeholder expectation. Explains how they prioritise activities taking account of others when working towards a common goal or on the same data sets (S13, S14, B1, B2)
AW2 Explains how they follow policies and procedures related to environmental impact and sustainability, adhere to equity, diversity, and inclusion policies for a common goal, consider ways to reduce impact, support social inclusion in the workplace, and take responsibility for acting sustainably in your role (K24, K25, S11, S15, B3, B4)
To gain a distinction, the following must be evidenced.
No distinction criteria available for this component.

Data gathering
To pass, the following must be evidenced.
DG6 Identifies types of data and common sources of data (K1, K2)
DG7 Identifies types of data storage formats and their importance for analysis (K3)
DG8 Explains the importance of anonymising data and how to do so (K7, K8)
DG9 Explain the relationships between data, machine learning, AI, and Generative AI, and how ethical data use in AI and automated systems impacts organisations, including the potential consequences of unethical data use (K20, K23)
To gain a distinction, the following must be evidenced.
No distinction criteria available for this component.

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