

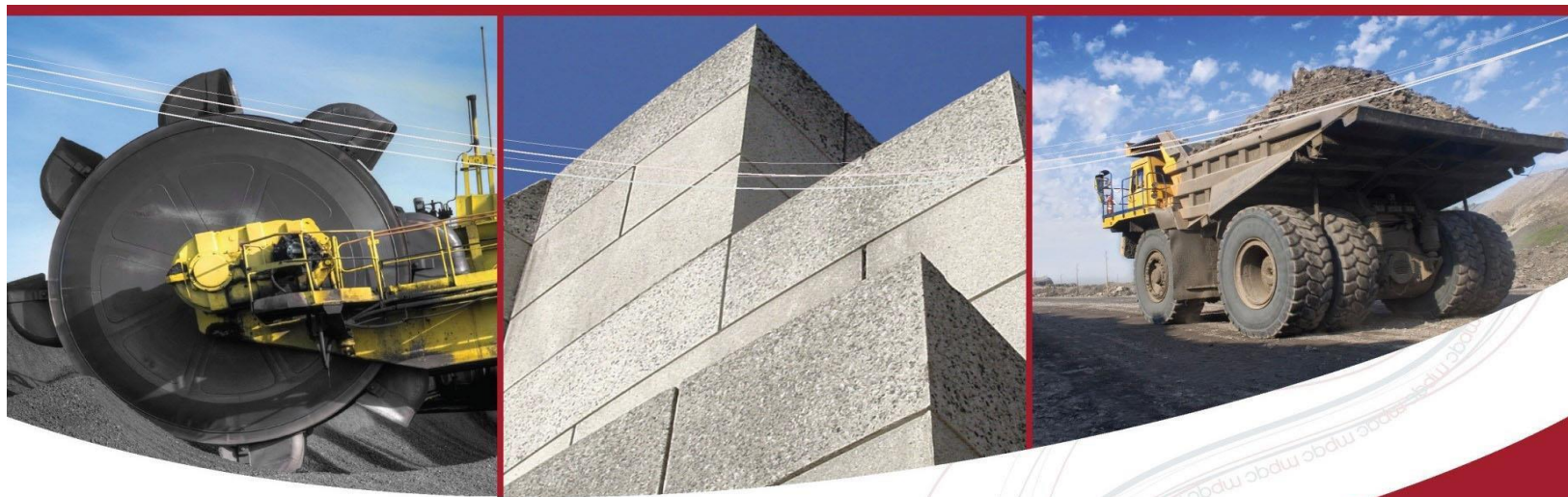


As of 1 August 2022, the English and maths requirements for on-programme and new apprentices undertaking level 2 apprenticeships have changed and are detailed as part of the [apprenticeship funding rules](#). These requirements supersede the current wording in this apprenticeship standard and EPA plan.

ST0511/AP03

# End-Point Assessment Plan

## Mineral and Construction Product Sampling and Testing Operator Level 2



# End-Point Assessment Plan: MINERAL AND CONSTRUCTION PRODUCT SAMPLING AND TESTING OPERATOR

## 1. Introduction and Overview

This end-point assessment (EPA) plan is written for end-point assessment organisations (EPAO) who need to know how EPA for this apprenticeship must operate. It will also be of interest to Mineral and Construction Product Sampling and Testing Operator apprentices, their employers and training providers.

Full time apprentices will typically spend 14-18 months on-programme working towards the apprenticeship standard, with a minimum of 20% off-the-job training.

The EPA should only start once the employer is satisfied that the apprentice is consistently working at or above the level set out in the standard, the pre-requisite gateway requirements for EPA have been met and can be evidenced to an EPAO.

As a gateway requirement, apprentices must complete a Portfolio of Evidence which will be used to support a Professional Discussion. Apprentices without English and Mathematics at level 1 will need to achieve this level and take the test for level 2 English and Mathematics prior to taking the EPA. For those with an education, health and care plan or a legacy statement the apprenticeship's English and Mathematics minimum requirement is Entry Level 3 and British Sign Language qualification are an alternative to English qualifications for those whom this is their primary language. The MPQC Level 2 Certificate in Laboratory and Associated Technical Activities for Mineral Products Operations must also be achieved before the EPA can commence.

The EPA must be completed over a maximum total assessment time of 3 hours and 30 minutes (i.e. 60 minutes for the Knowledge Assessment, 90 minutes for the Observations with Questions and 60 minutes for the Professional Discussion), within a 16-week period starting once the apprentice has met the Gateway requirements.

EPA must be conducted by an end-point assessment organisation (EPAO) approved to offer services against this standard, as selected by the employer, from the Education & Skills Funding Agency's Register of End Point Assessment Organisations.

The EPA consists of three distinct assessment methods:

- Knowledge Assessment
- Observation with Questions
- Professional Discussion (supported by a Portfolio of Evidence)

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

The Apprenticeship Standard has been designed to operate as the professional standard for people working as a Mineral and Construction Product Sampling and Testing Operator. This End-Point Assessment Plan document complements the Apprenticeship Standard. This End-Point Assessment Plan focusses on synoptic End-Point Independent Assessment of the Apprentice.

The principles driving the design of the EPA Plan are:

- ⚙️ **Apprenticeship Experience** by detailing the planning, delivery, monitoring and end-point assessment process ensuring relevance to the job in terms of skills, knowledge and behaviours
- ⚙️ **Employer Participation** by outlining the elements of the recommended off/on-the-job training and on-site assessments and the final end-point assessment
- ⚙️ **Industry Recognition** by acknowledging the practical nature and technical knowledge requirements of the job roles
- ⚙️ **Guiding Principles** for valid and reliable delivery of the End-Point Assessment Plan
- ⚙️ **Added Value** to the Apprenticeship journey, both during and at the end of the Apprenticeship
- ⚙️ **Access and Affordability** by ensuring access is flexible to meet the requirements of all sizes of employers; manageable for all key partners and is cost effective.

This End-Point **Assessment Plan** covers the following aspects:

- ⚙️ End-Point Assessment Gateway
- ⚙️ End-Point Assessment Methods
- ⚙️ Grading
- ⚙️ Re-sits and Re-takes
- ⚙️ Roles and Responsibilities, ensuring independence
- ⚙️ EPAO Internal Quality Assurance
- ⚙️ External Quality Assurance
- ⚙️ Affordability and Flexibility
- ⚙️ Likely Volumes

## 2. End-Point Assessment Gateway

The EPA should only start once the employer is satisfied that the apprentice is consistently working at or above the level set out in the standard, the pre-requisite gateway requirements for EPA have been met and that these can be evidenced to an EPAO. Employers may wish to take advice from their apprentice's training provider(s).

The pre-requisites for accessing the End-Point Assessment are that the apprentice must have:

- ⚙️ demonstrated and agreed with the Employer, and the Training Provider that they are ready for End-Point Assessment
- ⚙️ completed a Portfolio of Evidence
- ⚙️ completed a minimum period of 12 months of learning
- ⚙️ completed the MPQC Level 2 Certificate in Laboratory and Associated Technical Activities for Mineral Products Operations.
- ⚙️ for apprentices that have not yet achieved Level 2 English and mathematics; as a minimum apprentices will be required to achieve at least a Level 1 in English and Mathematics and the apprentice will also be required to take the test for the Level 2 in English and Mathematics .

The employer is responsible for confirming that the apprentice is ready to pass through the gateway and must be satisfied that the apprentice has fulfilled the above criteria and is ready for End-Point Assessment.

**Mandatory Portfolio of Evidence** On commencement of the apprenticeship the apprentice must begin to retain a Portfolio of Evidence which will be finalised before passing through the gateway.

A completed portfolio or evidence is a compulsory EPA gateway requirement that underpins the EPA Professional Discussion assessment method.

Employers/training providers are free to devise their own version of the Portfolio of Evidence but should typically contain the following information:

- ✿✿ the name of the apprentice
- ✿✿ details of the apprentice's workplace
- ✿✿ a minimum of 1 and a maximum of 3 pieces of evidence to support each of the knowledge, skills and behaviours (KSBs) assigned to the Professional Discussion (see Appendix 1) . It is expected that each piece of evidence will cover multiple KSBs and the evidence will be mapped to these KSBs
- ✿✿ records of learning activities targeting their own performance (to support demonstration of Behaviour 30)
- ✿✿ confirmation from the apprentices line manager that tasks were completed to the required standard of the employing organisation
- ✿✿ documentation of off-the-job training that has taken place during the on-programme phase, with at least 20% of their employed time off-the-job
- ✿✿ a copy of the required English and Mathematics certificates and the MPQC Level 2 Certificate in Laboratory and Associated Technical Activities for Mineral Products Operations

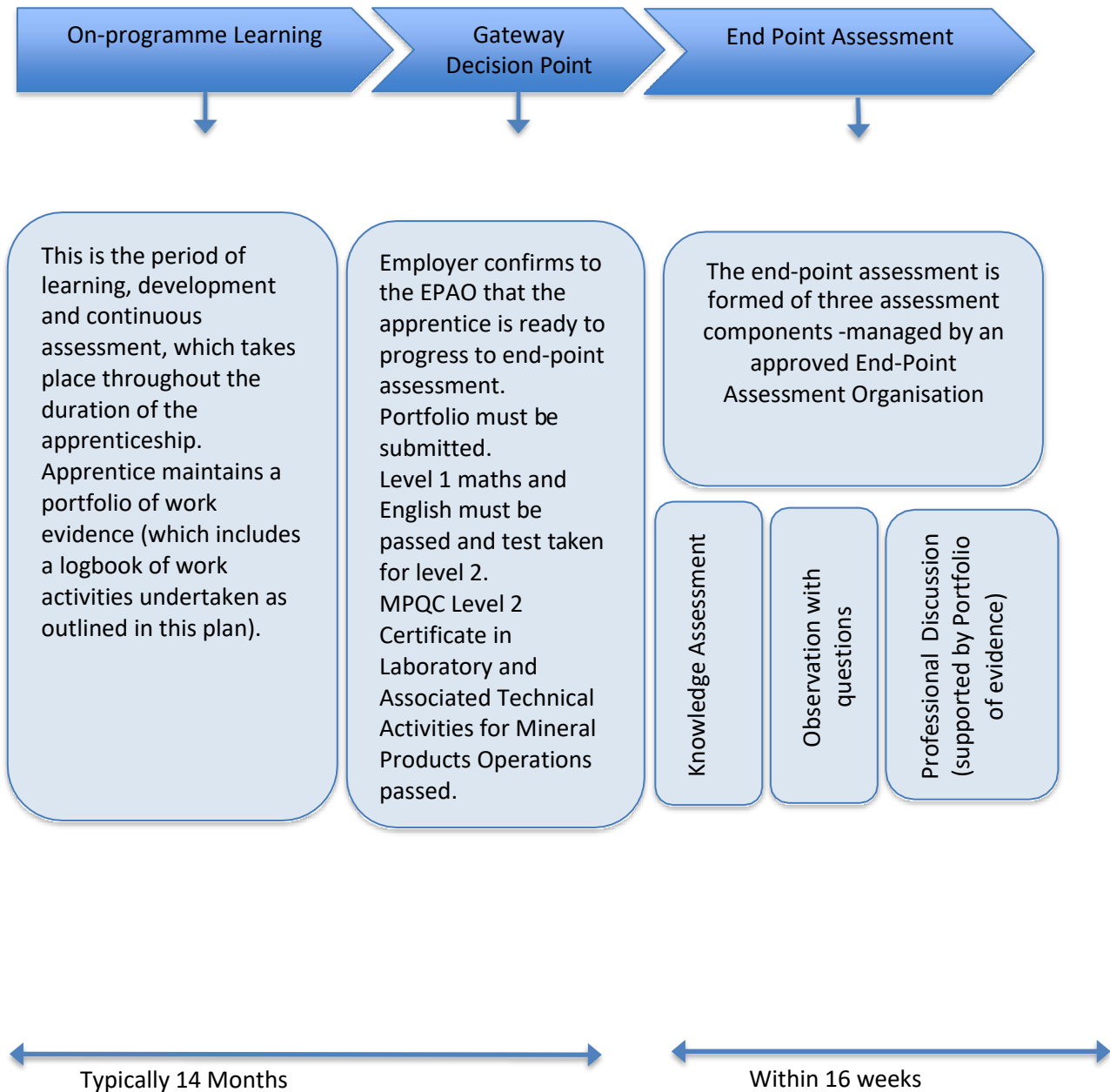
It is recommended that the employer and apprentice signs off the Portfolio of Evidence, thereby authenticating that this is the apprentice's work and confirming the demonstration of competence against the KSBs across the standard, and verifying that the apprentice is ready to take the EPA.

The apprentice must submit their Portfolio of Evidence to their EPAO at the gateway. An independent assessor will review the portfolio to glean personalised information that will assist the Professional Discussion assessment method. The assessor will review the portfolio prior to the EPA in order to prepare questions. The portfolio itself is not assessed.

The portfolio will contain work based evidence that synoptically demonstrates the application of the KSBs in the Apprenticeship Standard. A range of types of evidence can be included within the portfolio to allow for the different roles and working environment of apprentices but might typically include.

- ✿✿ A record of work activities undertaken (which may include evidence of direct observation, questioning, or products of work)
- ✿✿ Quarterly Performance Review Records completed by the on-programme Assessor
- ✿✿ A Record of achieved knowledge, skills and behaviours
- ✿✿ Recorded professional discussions between the apprentice and the on-programme Assessor to evaluate underpinning knowledge and understanding; particularly covering non-observed scenarios and behaviours

### 3. Summary of Apprenticeship Journey



#### 4. End-Point Assessment – Assessment Methods

The End-Point Assessment is intended to be a synoptic assessment, taken at the end of the Apprenticeship, to assess that the apprentice has developed the knowledge, skills and behaviours identified by employers for this particular occupation. Successful completion of the End-Point Assessment means that the apprentice has met the requirement of the Apprenticeship Standard and is competent in their occupational role. The apprentice will then be issued with the Apprenticeship Certificate from the Issuing Authority.

The End-Point Assessments can only be developed by End-Point Assessment Organisations (EPAOs) who have been assessed as being suitable to conduct independent end-point assessment for this apprenticeship and are on the ESFA's Register of End-Point Assessment Organisations (RoEPAO). They will use this End-Point Assessment Plan to develop the end-point assessments. Employers are free to choose any EPAO from the RoEPAO.

It is anticipated that the End-Point Assessment will take a working day or shift to fit in with the employer's production commitments. The End-Point Assessment will consist of 3 mandatory components which are equally weighted, and form 100% of the assessment of achievement of the Apprenticeship; all of which must be passed:

##### **Knowledge Assessment**

Knowledge assessment consisting of 30 multiple-choice questions picked from a question bank to assess the Knowledge described in the Standard. There will be one correct answer and three distractors. The bank of questions will be reviewed annually and EPAOs must develop and maintain a knowledge assessment question bank of sufficient size to prevent predictability and review them regularly (at least once a year) to ensure they, and the specifications they contain, are fit for purpose. The knowledge assessment (digital or paper based) will be conducted by an invigilator or independent assessor under controlled conditions as part of the overall end-point assessment and will be subject to time constraints of 60 minutes. The pass rate for the **Knowledge Assessment** is 70% and 90% for a distinction.

##### Key Facts:

- ⚙️ 60 minute, multiple-choice test comprising of 30 questions, with four possible answer choices per question.
- ⚙️ Each correct answer worth 1 mark. Overall mark converted to a %.
- ⚙️ Externally set and marked by an EPAO.
- ⚙️ Taken under controlled conditions.
- ⚙️ Closed book with no supporting documents allowed.
- ⚙️ Graded as a fail/pass/distinction.

All tests will take place in a controlled environment, which must be made available by the EPAO. This could include the employer's workplace, subject to the minimum requirements of a controlled environment (as set out later on in this plan) being met.

The knowledge assessment should take place before the Observation with Questions and the Professional Discussion (supported by a Portfolio of Evidence) assessments.

Questions will have been developed by EPAOs and will have undergone a process of testing and

verification to ensure they are valid, sufficient, authentic fit for purpose and reliable.

The definition of controlled conditions will be set out by the End-Point Assessment Organisation, which will clearly define and explain the requirements. However, as a minimum, the controlled conditions must include apprentices not accessing internet sites (other than that used for the on-line test. If restriction of internet access or web/cloud based sites isn't possible then software must be used by the assessment organisation to monitor this), email or data stored on the hard drive of a computer or portable storage media (e.g. memory sticks) and must also include apprentices not having access to any unauthorised materials, including web enabled sources of information (tablet devices, smart watches, music or media players, phones and electronic smart data devices of any type) during the knowledge assessment. EPAOs must also ensure appropriate measures are in place to prevent misrepresentation, for example, screen share and 360-degree cameras with assessors when the assessments are undertaken remotely. The controlled conditions should also include any specific requirements in relation to the assessment environment, such as, lighting, space, privacy and the requirements for an invigilator to follow best practice processes.

### Observation with questions

This will be a timed synoptic practical observation of the apprentice in the workplace followed by a period of follow up questions based on the observation all to take place on the same day without a break between the observation and questions.

(This list is not exhaustive, and is provided to help employers identify suitable tasks).

- ⚙️ Able to sample the product produced.
- ⚙️ Able to test the sampled product.
- ⚙️ Able to produce testing result data and analyse the results.
- ⚙️ Able to communicate the result data using the company procedures and systems.

The Independent Assessor will observe the apprentice at work completing the daily tasks required by their employer as per their job description. This must enable the independent assessor to observe the apprentice carrying out day to day tasks, testing products and reviewing associated documentation, communicating with colleagues and updating testing records. The follow up questions are intended to draw out the reasoning behind their actions; and scenario based questions may be asked relating to what was observed to assess the breadth and depth of understanding. Questions will therefore be open style, such as "Why did you...?", "What were your reasons for...?" etc:

#### Key facts:

- ⚙️ Administered in the workplace.
- ⚙️ Lasts for 60 minutes, with a 10% tolerance.
- ⚙️ Followed by 30 minutes of open questions, with a 10% time tolerance
- ⚙️ There will be 6 core questions based on the Independent Assessor's observations, and follow up questions are allowed.
- ⚙️ Although the observation task should be selected to cover the KSBs assigned to this assessment method, any that are not directly observed in the observation can be covered by the scenario questions. The aim of the Independent Assessor must be to give the apprentice the best possible opportunity to meet the KSBs mapped to the assessment method.
- ⚙️ Observed, marked and scored by an Independent Assessor on behalf of the Independent EPAO.
- ⚙️ Must cover specified knowledge, skills and behaviours as outlined in Appendix 1 .

The Independent Assessor must:

- ✿✿ plan the Observation prior to it taking place.
- ✿✿ inform the apprentice and their employer of the schedules, date and time of the observation, at least 5 days prior to it and explain that this will be followed up with questions about the observation, explaining the knowledge, skills and behaviours that will be assessed.
- ✿✿ ensure any special needs are highlighted by the employer and training provider to the end-point assessment organisation when the apprentice passes through the gateway to end-point assessment in-line with the EPAOs Reasonable Adjustments policy. The independent assessor must ensure they are taken into consideration. Assessment methods must meet the requirements of the Equalities Act and any related legislation, including making reasonable adjustments where appropriate.
- ✿✿ ensure that the apprentice understands the process, the possible outcomes and how it is graded.
- ✿✿ ensure that he/she has the grading matrix and relevant documentation produced by the EPAO to hand before commencing the observation.
- ✿✿ complete the relevant documentation prepared by the EPAO, taking notes of what is observed and said, as appropriate and send it to the assessment organisation within the agreed timescale (which must be no later than 4 weeks after the date of assessment).
- ✿✿ ensure that the outcome of the observation is notified to the assessment organisation within the agreed timescale.

After the observation Independent assessors must ask apprentices to explain their actions using open questions. As with all roles within the sector health and safety is paramount, if the apprentice does not adopt the culture of safety first or breaches any of the regulations, policies and procedures in place to keep themselves and others safe, this should be viewed by the Independent Apprenticeship Assessor as a failure. These are specified in the knowledge, skills and behaviours outlined in Appendix 1, with particular reference to:

- Operations: all the hazards and risks of operating sampling and testing equipment in accordance with company policies and procedures.
- Health and Safety: As part of the Observation with Questions the assessor must therefore ensure they ask the apprentice to explain how they would go about assessing risk, make use of a risk assessment and to describe safe systems of working.

The EPA assessor can use the company processes, procedures, job description and standard operating procedure for guidance on the daily tasks required of the apprentice and these must be provided to the assessor at least one working week prior to the assessment.

They will use the fail, pass and distinction descriptions for guidance on the grading of the Observation with Questions.

### **Professional Discussion (supported by a Portfolio of Evidence)**

A Professional Discussion between the independent assessor and the apprentice will take place after the Observation with Questions. Appendix 1 makes clear which elements of the standard must be covered. The purpose of the assessment is to determine the extent to which the apprentice understands the requirements of his/her role as defined by the standard and to explore them



through discussion. Independent assessors must ask apprentices 10 open questions, covering underpinning knowledge, skills and behaviours as specified in Appendix 1 . Follow up questions are allowed to seek clarification. EPAOs are responsible for producing sample questions for assessors.

The Professional Discussion will be supported by a **Mandatory Portfolio of Evidence** containing the information outlined earlier in this plan.

The assessor will use the portfolio as a basis to develop questions which test the KSBs defined in Appendix 1 . Questions will be formulated based on a review of the portfolio as this will provide a context for them that is familiar to each apprentice. Assessors will use the pass and distinction descriptions for guidance on the grading of the Professional Discussion. Preferably the discussion will take place at the workplace as part of the overall EPA process, the duration of the discussion will be one hour with a 10% +/- tolerance. As with all roles within the sector, health and safety is paramount, if the apprentice cannot describe the culture of safety first or breaches any of the regulations, policies and procedures in place to keep themselves and others safe, this should be viewed by the Independent Apprenticeship Assessor as a failure. The relevant Health and Safety criteria are defined in the knowledge, skills and behaviours at Appendix 1 .

#### Key facts

- ⚙️ 1:1 discussion with the external assessor.
- ⚙️ will last 1 hour with a 10% time tolerance.
- ⚙️ will take place in a room, free from distractions with no other people present.
- ⚙️ may be recorded with the agreement of the employer and the apprentice.
- ⚙️ underpinned by a Portfolio of Evidence which the assessor will have been given at least four weeks in advance of the date of the assessment.

#### The Assessor must:

- ⚙️ plan the Professional Discussion prior to it taking place and ensure that it is relevant to the standard.
- ⚙️ ensure any special needs highlighted by the employer and training provider are taken into consideration in-line with the EPAOs Reasonable Adjustments policy.
- ⚙️ ensure that the apprentice understands the process, the possible outcomes and how it is graded.
- ⚙️ ensure that he/she has the grading matrix and relevant documentation produced by the EPAO to hand before commencing the Professional Discussion.
- ⚙️ complete the relevant documentation prepared by the assessment organisation, taking notes of what is said, as appropriate, and send it to the assessment organisation within the agreed timescale (which must be no later than 4 weeks after the date of assessment).
- ⚙️ ensure that the outcome of the Professional Discussion is notified to the assessment organisation within the agreed timescale.

The assessor will use the fail, pass and distinction descriptions for guidance on the grading for the professional discussion. The apprentice will achieve a mark for this element of the end assessment that will contribute to the final grade of the apprenticeship award.

## 5. Grading

Grading descriptors can be found in Appendix 2.

Please note: A Fail grade will be allocated if an apprentice fails to demonstrate the required health and safety critical components of the apprenticeship as outlined in this EPA plan, or if they do not demonstrate all of the pass criteria required for each assessment method. These KSBs are marked with an asterisk in Appendix 2.

There are three overall grades available for the Apprenticeship:

Overall Grading	Measure
<b>Fail</b>	Apprentice did not achieve a minimum of a pass in all 3 assessment methods
<b>Pass</b>	Apprentice achieved a minimum of a pass in all 3 assessment methods
<b>Distinction</b>	Apprentice achieved a distinction in all 3 assessment methods

The grading will be based on how the evidence contributes to:

- ⚙️ What the apprentice has shown they **know** against the Apprenticeship Standard and how they implement this **Knowledge** in their **Behaviours**.
- ⚙️ What the apprentice has shown they can **do** against the Apprenticeship Standard in their **Skills** and **Behaviours**
- ⚙️ How the apprentice **has approached the tasks** and the **way they have completed them using the full range of Knowledge, Skills and Behaviours** required in the standard.

## 6. Re-sits and re-takes

Re-takes/re-sits will be available to apprentices who fail one or more end-point assessment methods. Apprentices may re-take/re-sit one or more elements within a timescale agreed between the EPAO and employer.

A re-sit does not require further learning, whereas a re-take does. The apprentice's employer will need to agree that a re-sit/re-take is an appropriate course of action. Apprentices must have a supportive action plan to prepare for re-take/re-sit. Resits/retakes must not be offered to apprentices who pass and wish to achieve a higher grade. The maximum grade awarded to an assessment method re-sit/re-take will be pass, unless the EPAO identifies exceptional circumstances accounting for the original fail.

Further re-takes/re-sits would be at the discretion of the employer, who would review the suitability of further testing with the apprentice.

In circumstances where the Knowledge Assessment or Professional Discussion must be taken again, the assessment organisation will ensure that the questions are not the same as those used previously.

## 7. Roles and Responsibilities, ensuring independence

### a. Apprentice

The apprentice is responsible for:

- ✿✿ completing the on-programme element of the apprenticeship
- ✿✿ preparing for and completing the EPA
- ✿✿ completing the mandatory Portfolio of Evidence as outlined in this plan

### b. Employer

The employer is responsible for:

- ✿✿ employing the apprentice
- ✿✿ ensuring that resources are available to maximise the apprentice's chances of success
- ✿✿ mentoring or coaching the apprentice in the workplace and giving them a breadth and depth of knowledge and experience
- ✿✿ selecting the Training Provider from the ESFA's RoATP.
- ✿✿ ensuring the apprentice completes the mandatory Portfolio of evidence
- ✿✿ negotiating and agreeing fees
- ✿✿ determining the Training Plan
- ✿✿ selecting the End-Point Assessment Organisation from the Register of End-Point Assessment Organisations (RoEPAO)
- ✿✿ liaising with the Training Provider and making the final decision regarding when the apprentice is ready to undertake the synoptic End-Point Assessment
- ✿✿ notifying the EPAO that the apprentice is ready to take the EPA.

### c. End-Point Assessment Organisation

The independent EPAO is responsible for:

- ✿✿ designing, implementing and delivering the synoptic EPA
- ✿✿ selecting, recruiting and appointing of the independent assessor/invigilators and markers
- ✿✿ training, CPD and monitoring of independent assessors
- ✿✿ ensuring moderation, standardisation of assessment and grading and the overall EPA process take place
- ✿✿ internal quality assurance, to ensure employer and public confidence in the outcomes of the assessment process and Apprenticeship, and review this on a regular basis.
- ✿✿ reviewing and evaluating processes and component parts of the EPA to accommodate future improvements and enhancements
- ✿✿ creating apprentice specifications detailing the EPA, process, content etc.
- ✿✿ ensuring there is no direct connection with the apprentice, their employer or training provider i.e. there must be no conflict of interest
- ✿✿ organising standardisation events and activities in accordance with this plan's IQA section
- ✿✿ organise and conduct moderation of independent assessors marking in accordance with this plan
- ✿✿ having, and operating, a robust appeals process

- ✿✿ conforming to the requirements of the nominated EQA provider

#### **d. Independent Assessor for End-Point Assessment**

The assessor who is appointed by the EPAO must be independent of the apprentice, their employer and training provider and there must be no conflict of interest. The following are required:

- ✿✿ occupationally competent in the area in which they will be assessing at, or above, Level 2 vocational qualification.
- ✿✿ at least two years assessment experience with up to date knowledge of the sector, even if they have not worked directly in the occupation. They must have a good understanding of the extractive, mining, mineral processing and related products sector
- ✿✿ had training from their EPAO in terms of good assessment practice, operating the assessment tools and grading and attend the specified number of standardisation training days
- ✿✿ evidence and maintenance of CPD related to the subject area; typically 35 hours, or more, per annum to show ongoing competence
- ✿✿ be independent of the apprentice, their employer and training provider(s) i.e. there must be no conflict of interest
- ✿✿ hold or be working towards an independent assessor qualification e.g. A1 and have had training from their EPAO in terms of good assessment practice, operating the assessment tools and grading
- ✿✿ have the capability to assess the apprentice at this level i.e. meeting the occupational requirements as set out in the IQA section of this assessment plan
- ✿✿ attend the required number of EPAOs standardisation and training events per year (as defined in the IQA section)

### **8. EPAO Internal Quality Assurance**

End-point assessors must make the final decision on the grade to be awarded and the EPAO will check the End-Point Assessments on a risk-based sampling system. Sampling involves the EPAO checking that the assessor has completed his/her assessments as outlined in the assessment plan and followed the EPAOs procedures.

It will be expected that for newly qualified assessors there will be a 100% check carried out, reducing to a minimum of 20% for experienced Apprenticeship Assessors where there has been consistency and comparability of assessment decisions demonstrated over time.

The entire EPA is focused on the competence of the apprentice in the role, as evidenced by their ability to demonstrate the KSBs as set out in the Apprenticeship Standard. Each of the components of the EPA builds a cumulative picture of competence against the Apprenticeship Standard.

To ensure consistent and accurate judgements are made, it is expected that the EPAO will conduct and retain evidence of the following:

- ✿✿ marked knowledge assessments
- ✿✿ questions and outcomes of Observation with Questions and Professional Discussion
- ✿✿ results and data analysis for each component part of the EPA

- ✿✿ reports relating to the overall assessment and grading outcomes together with the rationale for the decision and final grade

Consistency and accuracy of assessments and judgements will be achieved through the EPAO conducting the following:

- ✿✿ training for Apprenticeship Assessors and other administration and management staff members
- ✿✿ advanced planning of internal quality assurance activities to ensure these cover all assessment methods; all end-point assessors; all component parts of the Apprenticeship and EPA elements
- ✿✿ monitoring and reviewing of the end-point assessors including physical on-site monitoring (20% of assessments)
- ✿✿ reviewing of results and data analysis to identify issues/areas of concern, conduct evaluation exercises to inform future areas for improvement on an annual basis
- ✿✿ moderating and standardisation activities and events for all assessors involved in the End-Point Assessment and other administration and management staff involved in its delivery; it is expected that these activities will take place at least annually
- ✿✿ annually reviewing CPD records to ensure Assessors maintain their knowledge and qualifications.

## 9. External Quality Assurance (EQA)

Ofqual have agreed to deliver the end-point assessment for this apprenticeship standard

## 10. Affordability & Feasibility

When developing this EPA, employers have consistently sought to keep the approach simple but effective by the use of:

- ✿✿ the apprentice's workplace for the Observation with Questions and Professional Discussion
- ✿✿ modern technologies that enable on-line assessment methods

In addition, all assessment methods can be completed on the same day in order to minimise cost. This has led to a well-defined, cost-effective and deliverable process that employers will find easy to understand and apply to their own environment.

## 11. Likely volumes

60 starts in the first year of this apprenticeship standard being available growing to 120 once established.

## Appendix 1

The table below shows the knowledge, skills and behaviours listed in the standard and how each statement can be assessed as part of the Knowledge Assessment, Observation with Questions and the Professional Discussion. Some elements can be assessed in two assessment methods.

<b>KNOWLEDGE</b>	<b>What is required, an understanding of:</b>	<b>Knowledge assessment</b>	<b>Observation with questions</b>	<b>Professional Discussion supported by a Portfolio of Evidence</b>
Health and safety*	1. the risks of activities and equipment both on site and within normal place of work. H&S at Work Act 1974, Manual Handling Operations Regulations and COSHH regulations.	✓		
	2. risk assessments, mineral products and industry related legislation, safe systems of work, site specific hazards.	✓		✓
	3. the importance of promoting a positive health, safety and environmental culture through situational awareness and by personal example, taking appropriate actions if others are acting unsafely	✓		✓
Effective communications	4. reporting lines in both day-to-day and emergency situations.			✓
	5. how to communicate with customers and colleagues (e.g. completing product reports, verbally briefing site manager) and how to develop and maintain working relationships.			✓
Commitment to code of ethics	6. the wider business in which the company operates including personal role within the organisation, ethical practice, policies and procedures			✓
Product and technical knowledge	7. products ranging from clay, aggregates, gypsum, cement, concrete and	✓		

	asphalt. How these are produced from raw and recycled constituents; end uses; production requirements; customer requirements; production process and product specifications.			
	8. how products are interlinked (e.g. Aggregates are raw material in both concrete and asphalt. Gypsum is a raw material in cement.)			✓
	9. relevant BSEN or EN product standards for each product produced and how they apply in the workplace.	✓		
	10. the implications of sub-standard/out of specification products to customers, end users and the wider business.			✓
	11. sampling and testing equipment, processes and procedures. (For example air entrainment testing for external concrete slabs)			✓
<b>SKILLS</b>	<b>What is required, an ability to:</b>			
Health, safety & environment*	12. minimise waste and recycle or dispose of waste in line with business environmental and sustainability policies.			✓
	13. comply with risk assessments, safe systems of work, company safety policy and procedures at all times.		✓	
Sampling and testing tasks	14. sample product either on production site or on customer's site using the appropriate equipment for the product. For example, asphalt testing would include tests such as: organoleptic analysis, binder content, grading analysis, temperature, bulk density, %			✓

	refusal density, insitu density and texture depth – when thinking of asphalt testing – assessing whether the material correct and whether it been laid correctly			
	15. plan and perform tasks following Standard Operating Procedures (SOP) and safe systems of work.		✓	
	16. produce reliable and accurate reports		✓	
	17. Follow industry guidance when completing sampling tasks and and record progress against them.		✓	
	18. diagnose faults with sampling and testing equipment and take appropriate actions.			✓
	19. identify deficiencies in both product and the placement of the product. (e.g. concrete being poured into foundations which are holding rain water)			✓
	20. analyse, interpret and evaluate data and identify results requiring further investigation (non-conformance) seeking advice from colleagues as appropriate.			✓
Communications	21. deal with issues calmly and diffuse difficult situations.			✓
	22. provide courteous and attentive customer service in every aspect of the role, this includes preparing clear written reports and listening and speaking to customers politely, explaining issues factually and clearly.		✓	
	23. communicate information, including the use of			✓



	information management systems, either digital or paper based.			
	24. communicate with people at all levels effectively ensuring accurate information is passed clearly and promptly.			✓
Commitment to code of ethics	25. work within the company rules and regulations.			✓
I.T.	26. use IT software and systems in line with company policy and procedures. This will include using test data entry, analysis and reporting systems.		✓	
<b>BEHAVIOURS</b>	<b>What is required, will:</b>			
Professional judgement	27. work within own level of competence or limits of responsibility and judge when to seek advice from line manager or colleagues.			✓
Continuing professional development (CPD)	28. identify own development needs and take action to meet those needs.			✓
	29. use own knowledge and expertise to help others.			✓
	30. proactively participate in continuous personal development.			✓
Customer service	31. maintain a professional, courteous, polite and friendly approach at all times.			✓
Accepting responsibility	32. take responsibility for own behaviours, actions and standards of work.			✓
	33. work well in a team.			✓
Efficiencies	34. strive to work efficiently, meet deadlines whilst maintaining accuracy.			✓

## Appendix 2 Grading Criteria

### Professional Discussion supported by a Portfolio of Evidence

**Fail** - The apprentice will be deemed to have failed if they do not meet the criteria outlined in the pass descriptor.

**Pass** - In order to achieve a pass, all of the pass criteria must be met.

**Distinction** - All of the criteria in at least 5 of the 10 areas which include distinction criteria must be met.

		Pass	Distinction
<b>KNOWLEDGE</b>	<b>What is required, an understanding of:</b>		
Health and safety*	2 - risk assessments, mineral products and industry related legislation, safe systems of work, site specific hazards.	Is able to explain the reasons for conducting a comprehensive risk assessment, is able to explain industry best practice for risk assessment. Is also able to explain the implications of not conducting a risk assessment.	
	3 - the importance of promoting a positive health, safety and environmental culture through situational awareness and by personal example, taking appropriate actions if others are acting unsafely.	Can explain the importance of promoting a positive health, safety and environmental culture through situational awareness.	
Effective communications	4 - reporting lines in both day-to-day and emergency situations.	Can explain the reporting lines in both day-to-day and emergency situations and the relevance of these reporting lines.	Demonstrate how they have made improvements to reporting or communications on site that has impacted positively to reporting and or communications.
	5 - how to communicate with customers and colleagues (e.g. completing product reports, verbally briefing site manager) and how to develop and maintain working relationships.	Can explain how they decide on the type of communication method to use, including why that method was chosen over other forms in order to achieve the best results.	
Commitment to code of ethics	6 - the wider business in which the company operates including personal role within the	Explains the organisational structure and can show	Can demonstrate how being aware of the wider business in which the company operates has affected their approach to

	organisation, ethical practice, policies and procedures	understanding of the roles of each department and how their own objectives fit into company objectives  Can explain policies and procedures relevant to the role and demonstrate how they work ethically.	the role and how they have made a positive impact as a result
Product and technical knowledge	8 - how products are interlinked (e.g. Aggregates are raw material in both concrete and asphalt. Gypsum is a raw material in cement.)	Can explain the link from raw materials to end use product	Can demonstrate when they have recommended preventative action that may stop poor product quality or inconsistency.
	10 - the implications of sub-standard/out of specification products to customers, end users and the wider business.	Can explain the implications of sub-standard product or out of specification products to customers, end users and the wider business	Can demonstrate when they have recommended and implemented improvements due to rigorous and robust sampling and testing regime.  Can explain in detail the production process and how each part could affect final product quality or consistency.
	11 - sampling and testing equipment, processes and procedures. (For example air entrainment testing for external concrete slabs)	Can discuss when they have sampled and tested equipment adhering to company processes and procedures.	Demonstrates how they diagnose product issues both at source and on site and is able to advise the customer on resolutions.
<b>SKILLS</b>	<b>What is required, an ability to:</b>		
Health, safety & environment*	12 - minimise waste and recycle or dispose of waste in line with business environmental and sustainability policies.	Can give examples of how they minimise waste and maximise on recycling.  Can give an example of when they have applied the environmental and sustainability policies.	Can discuss improvements they have made in relation to Health, safety & environment, including improvements made by analysing data to show potential issues or improvements.

Sampling and testing tasks	14 - sample product either on production site or on customer's site using the appropriate equipment for the product. For example, asphalt testing would include tests such as: organoleptic analysis, binder content, grading analysis, temperature, bulk density, % refusal density, insitu density and texture depth - when thinking of asphalt testing - assessing whether the material is correct and whether it been laid correctly	Can discuss when they have sampled a product either on production site or on customer's site using the appropriate equipment for the product.	Can demonstrate improvements achieved through consistent and high quality sampling.
	18 - diagnose faults with sampling and testing equipment and take appropriate actions.	Can demonstrate how they diagnose for faults with sampling and testing equipment and taken appropriate action.	
	19 - identify deficiencies in both product and the placement of the product. (e.g. concrete being poured into foundations which are holding rain water)	Can demonstrate when they have identified deficiencies in both product and the use of the product.	
	20 - analyse, interpret and evaluate data and identify results requiring further investigation (non-conformance) seeking advice from colleagues as appropriate.	Can demonstrate when they have analysed, interpreted and evaluated data and how they have identified results requiring further investigation.	
Communications	21 - deal with issues calmly and diffuse difficult situations.	Can give examples of dealing with issues calmly and diffusing difficult situations, communicating information in a	Can demonstrate when they have led improvements to the communication process or where they have utilised technology to speed or improve the process.
	23 - communicate information, including the use of information management systems,		

	either digital or paper based.	clear, calm and prompt manner, using a range of methods, ensuring information is shared with all relevant stakeholders.	
	24 - communicate with people at all levels effectively ensuring accurate information is passed clearly and promptly.	Can explain how they manage this information depending on the level of the recipient to ensure its clear for them.	
Commitment to code of ethics	25 - work within the company rules and regulations.	Can give examples of working within the company rules and regulations and explain why this is important.	
<b>BEHAVIOURS</b>	<b>What is required, will:</b>		
Professional judgement	27 - work within own level of competence or limits of responsibility and judge when to seek advice from line manager or colleagues.	Can describe their own level of competence, limits of responsibility and give examples of what decisions they can make and where they must seek advice.	
Continuing professional development (CPD)	28 - identify own development needs and take action to meet those needs.	Able to demonstrate they have identified skills gaps and taken action to resolve the gap.	Can discuss CPD records that are detailed, robust and easily on target for the industry guidelines of 35 hours per annum.
	29 - use own knowledge and expertise to help others.	Is able to give examples of when they have been proactive in sharing their knowledge with colleagues within their team and the wider organisation.	Can give clear examples of working towards long term objectives for career progression.
	30 -proactively participate in continuous personal development.	Is able to give examples of being active in CPD and	

		eager to develop within the role.	
	33 - work well in a team.	Is able to give examples where they have worked well in a team and how this behaviour provided a benefit.	
Efficiencies	34 - strive to work efficiently, meet deadlines whilst maintaining accuracy.	Is able to provide evidence of efficient work and consistently meeting deadlines.	Can demonstrate when they have made recommendations and implemented improvements in efficiencies.
Customer service	31 - maintain a professional, courteous, polite and friendly approach at all times.	Can explain how they maintain a professional, courteous, polite and friendly approach at all times using examples of customer feedback.	Can provide examples of where it has been viewed by the employer that they have gone above and beyond in dealing with a customer and or stakeholder. This may include praise from their line manager, company reward/recognition or positive communications from customers.
Accepting responsibility	32 - take responsibility for own behaviours, actions and standards of work.	Can provide examples of when they have taken responsibility for their own behaviours and actions	Is able to demonstrate a proactive approach to self-development, evaluating own strengths and weaknesses and taking action to make improvements through training and or CPD.

### Observation with Questions

**Fail** - The apprentice will be deemed to have failed if they do not meet the criteria outlined in the pass descriptor.

**Pass** - In order to achieve a pass, all of the pass criteria must be met.

**Distinction** - All of the distinction criteria must be met

<b>SKILLS</b>	<b>What is required, an ability to:</b>	<b>Pass</b>	<b>Distinction</b>
Health and Safety	13 - comply with risk assessments, safe systems of work, company safety policy and procedures at all times.	Demonstrates that they comply with risk assessments, safe working systems and company safety processes.	
Sampling and Testing	15 - plan and perform tasks following Standard Operating Procedures (SOP) and safe systems of work.	Demonstrates that they can follow Standard Operating Procedures correctly.	
	16 - produce reliable and accurate reports	Can prepare and produce reliable and accurate reports.	
	17 - follow industry guidance when completing sampling tasks and and record progress against them.	Demonstrates that they follow correct industry guidelines when completing sampling and testing tasks.	
Communications	22 - provide courteous and attentive customer service in every aspect of the role, this includes preparing clear written reports and listening and speaking to customers	Is observed being attentive and polite when communicating with others.  Explains issues	Takes steps to check customer's understanding and can provide context to their explanations.

	politely, explaining issues factually and clearly.	clearly, factually and in a manner appropriate to the audience.	
I.T.	26 - use IT software and systems in line with company policy and procedures. This will include using test data entry, analysis and reporting systems.	Can demonstrate correct and accurate use of software or systems in line with company policy or procedures.	Uses software or systems to a high level. Has suggested improvements to the procedures or systems to improve efficiencies.