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Agenda





- Overview of the core theory exams
- Assessment objectives-relating to question types
- Use of command verbs in questions
- Question types using sample assessments
- Hints and tips



- Individual specific sector related questions in the exams
- Occupational specialism assessments
- ESP
- Delivery and curriculum planning outside of the Technical Qualification





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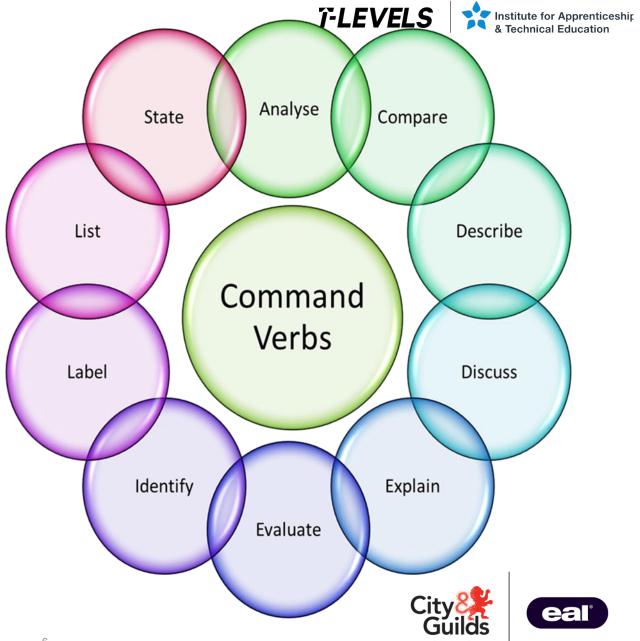




Exam Preparation

In examinations, certain words, often called command words, are used as prompts to give an indication to learners of the type of response that is expected by the question. These words include 'state', 'describe', 'explain' and 'discuss'.

Command verbs in exam papers are the words your learners need to understand. They tell you what level of /depth of response the examiner is looking for.



Assessment Weightings (more detailed explanations available in QHB)

	ASSESSIII	ent Meidi	tiligs (illore deta	illeu explatiations available ill Qi	
Assessment Objective (AO)	Description The learner is required to	Weightings (for OSC and BSE)	Typical Tariffs (marks)	Questions/ examination tasks that might prompt this sort of evidence	Typical command words used
Note: All AOs i	equire the ability to re	ecall knowledge			
AO1 a Demonstrate knowledge	demonstrate basic recall	10%	Short, lower-tariff (marks) question types, typically require a separate point per mark	Simple questions that require knowledge that could be learned by rote (facts) with no requirement to go beyond recall & statement of fact: Labelling a diagram with names/locations definitions, facts, recall of purpose of something description of physical appearance of something.	 List Label Identify State Name Select Define Describe a Describe the process
AO1 b Demonstrate understanding	explain principles and concepts beyond recall	25%	Low to Medium- tariff (marks), may require a point or limited explanation for 1 mark with a further mark available for more depth or explanation	Straightforward questions requiring demonstration, beyond recall, of understanding about something. Response is in general terms, why is what does mean? explain the use of explanation of how something works explanation of the benefits/weaknesses of	 Compare (and contrast) Differentiate between Give examples Summarise Explain

Assessment Weightings (more detailed explanations available in QHB)

Assessment Objective (AO)	Description The learner is required to	OSC Weightings (for OSC and BSE)	Typical Tariffs (marks)	Questions/ examination tasks that might prompt this sort of evidence	Typical command words used
AO2 Apply knowledge and understanding to different situations and contexts	take the understanding of generalities (AO1b) and apply them to specific novel situations.	45%	Medium to high tariff (marks), will require the candidate to take their knowledge and understanding and apply it to the context/scenario given within the question	Given a clear, straightforward/narrow situation, the question requires selection and application of relevant principles and procedures in a way that is specific to the situation (rather than in general terms): what is the best approach to in this situation? explain the process/ procedure to take when what are the implications of (specific rather than general situation).	Given information/ a narrow situation: • What is the best • Explain the process when • Use • Apply • Calculate • Work out • Estimate

Assessment Weightings (more detailed explanations available in QHB)

	Ass	essment Weightii	ngs (more detailed explai	nations available in QHB)	
Assessment Objective (AO)	Description The learner is required to	Weightings (for OSC and BSE)	Typical Tariffs (marks)	Questions/ examination tasks that might prompt this sort of evidence	Typical command words used
AO3 Analyse and evaluate information and issues	Use information they have been provided with e.g. in the form of a detailed scenario requiring them to analyse the interrelated issues arising and evaluate, e.g., the strengths and weaknesses or advantages and disadvantages of approaches they may take to achieve a good outcome	20%	Higher tariff (9-12 mark question types, 'discuss'-type questions expect a higher quality of response for higher marks, and these are usually marked using level of response marking (bands).	Analyse Given a relatively complex, realistic occupationally relevant scenario, analyse the situation recommending an approach to be taken to analyse how the situation can be managed in order to analyse the consequences of Evaluate information and issues related to the content justify your decisions/approach evaluate how well meetsstandards evaluate how effective/ /efficient	 Determine Analyse Discuss • Evaluate Justify

Command word	Definition	Likely AO(s)
Identify	recognise something, usually from an image, and state what it is	AO1a
Label	add names or descriptions, indicating their positions, on e.g. an image/ drawing	AO1a
List	give as many answers/ examples as the question indicates	AO1a
State	give the answer, clearly and carefully	AO1a
Name	give the (technical) name of something	AO1a
Select	choose (e.g. the correct material/tool for the job) by making careful decisions	AO1a
Define	give the meaning of something, usually of a technical term	AO1a
Describe a	write what something is like – usually what it looks, tastes, feels, sounds like etc,	AO1a
Describe the process for	give the steps in a process	AO1a
Compare (and contrast) (or <i>describe</i> the similarities/differences)	look for and describe the similarities (and differences) between two or more things/circumstances	AO1b
Differentiate between	show or find the characteristic differences between two or more similar things/ concepts	AO1b
Distinguish between	describe the characteristic differences between two things, or make one thing seem different from another	AO1b
Annotate	add explanatory notes and comments	AO1b
Give example(s)	use examples or images to support, clarify or demonstrate e.g. an explanation	AO1b
Illustrate/		
Calculate	work out the answer to a problem using mathematical operators and concepts	AO1b
Summarise	give the main/ key points, which give a broad overview of something	AO1b
Explain the	make clear or easy to understand by giving details and linked reasoning	AO1b

Command word	Definition	Likely AO(s)
Explain why /consequences of/ reasons for	give the causes of/ rational for something	AO1b, AO2
Explain how	Give the steps in e.g. a process, clarifying causal relationships	AO2/AO3
Discuss	talk/write about a topic in detail, considering the different issues, ideas, opinions related to it	AO3
Analyse	study or examine usually a complex issue in detail to identify essential elements, causes, characteristics etc	AO3
Give a rationale	Explain why you have taken particular actions/ decisions	AO3
Justify your decisions	Make a case for the decisions/ actions taken explaining why they particularly meet the particular circumstances/ context	AO3
Describe the effect of (e.g. an event) Describe the effect on	write about what has changed/happened because of the e.g. event	AO2/AO3
Evaluate	Make an analysis about the success/ quality of e.g. end product/outcome – usually systematic, proposing improvements	AO3



Overview of the Core Assessments BSE

Learners must complete:

- **Two** externally set exams covering knowledge from the building services engineering core (component 350)
- One employer-set project covering knowledge and skills from the building services engineering core (component 350)

Technical qualification scheme of assessment overview

Core Component – Learners must complete all assessment components							
Assessment component (number)	Method	Duration	Marks	Weighting	Marking	Grading	
Exam paper 1 (031)	Externally set exam	2.5 hours	110	35%	Externally marked	This component will be awarded on the	
Exam paper 2 (032)	Externally set exam	2.5 hours	110	35%	Externally marked		
Employer-set project (033)	Externally set project	17 hours	100	30%	Externally marked	grade scale A* - E	



BSE Core Theory Papers



The two exam papers have each been split into two sections which will be made up of different question types including short answer questions, structured questions, and extended response questions.

Both core exams will follow the same structure but each core exam covers different technical content. In both papers the level of difficulty will increase through the papers with lower demand questions at the beginning of the question paper to higher demand questions at the end of the question paper.

Part A (70%) made up of 77 marks. Made up of a range of low tariff and medium tariff, short answer questions which target recall of knowledge, demonstration of understanding and application of knowledge and understanding.

Part B (30%) made up of 33 marks and includes 3 extended response questions which target application of knowledge and understanding and analysis and evaluation of information and issues.

BSE paper 1 content overview:

- Health and safety in construction
- Construction design principles
- Construction and the built environment industry
- Construction sustainability principles
- Building technology principles
- Tools, equipment and materials

BSE paper 2 content overview:

- Construction science principles
- Construction measurement principles
- Construction information and data principles
- Relationship management in construction
- Digital technology in construction
- Construction commercial/business principles
- Building Services Engineering (BSE) systems
- Maintenance principles







Overview of the Core Assessments Onsite Construction

Learners must complete:

- **Two** externally set exams covering knowledge from the on-site construction core content (component 300)
- One employer-set project covering knowledge and skills from the on-site construction core (component 300)

Technical Qualification Scheme of Assessment overview

Core Component – Learners must complete all assessment components							
Assessment component (number)	Method	Duration	Marks	Weighting	Marking	Grading	
Exam paper 1 (031)	paper 1 (031) Externally set exam		90	35%	Externally marked	- This component will	
Exam paper 2 (032) Externally set exam		2 hours	90	35%	Externally marked	This component will be awarded on the	
Employer set project (033)	Externally set project	17 hours	100	30%	Externally marked	grade scale A* - E	





Onsite Core Theory Papers



The two exam papers have each been split into two sections which will be made up of different question types including short answer questions, structured questions, and extended response questions.

Both core exams will follow the same structure but each core exam covers different technical content. In both papers the level of difficulty will increase through the papers with lower demand questions at the beginning of the question paper to higher demand questions at the end of the question paper.

- Part A (70%) made up of 60 marks. Made up of a range of low tariff and medium tariff, short answer questions which target recall of knowledge, demonstration of understanding and application of knowledge and understanding.
- Part B (30%) made up of 30 marks and includes 3 extended response questions which target application of knowledge and understanding and analysis and evaluation of information and issues.

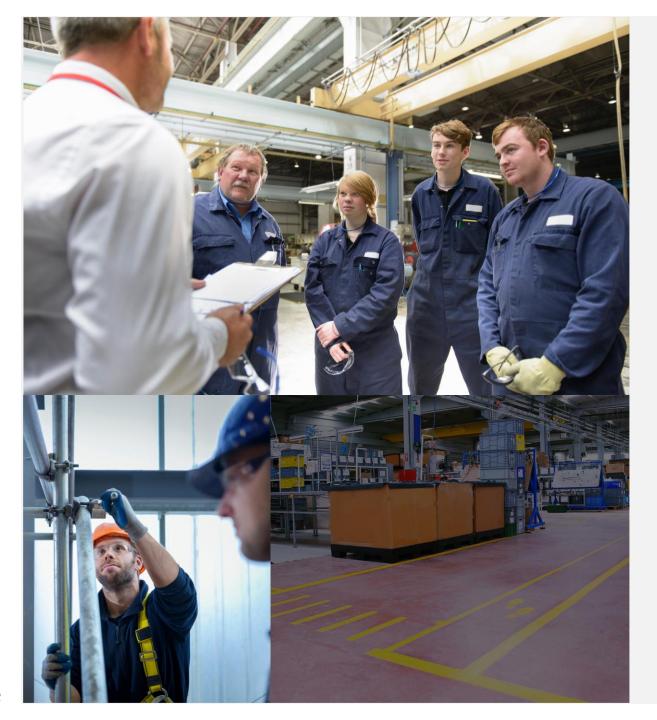
Onsite paper 1 content overview:

- Health and safety in construction
- Construction design principles
- Construction and the built environment industry
- Construction sustainability principles
- Building technology principles
- Tools, equipment, and materials

Onsite paper 2 content overview:

- Construction science principles
- Construction measurement principles
- Construction information and data principles
- Relationship management in construction
- Digital technology in construction
- Construction commercial/business principles





BSE

Core exam

Paper 1

Paper 2

Extended response questions

Section A 1. State one statutory document that specifically regulates each of the following activities. a) The use of power tools on a construction site. [1 mark] b) The hazards of working on live electrical systems during maintenance procedures. [1 mark]

Q1



Command verb is State:

State-give the relevant points briefly

Key words learners need to understand are **statutory** and **regulates**

	a) The use of power tools on a combined by the hazards of working on live.	, 0		
	Acceptable answer(s)	Guidance	Max marks	Test Spec ref & AO
	a) The Provision and Use of Work Equipment Regulations - PUWER b) The Electricity at Work Regulations - EWR	Award 1 mark for each Accept answers in full or acronyms	2	1.3 AO1a
ко	KO1 Health and safety		'	1

State **one** statutory document that specifically regulates **each** of the following activities.





4. List two professional bodies in Buildir they are affiliated with.	ng Services Engineering, including the specialism [2 marks]

Q4	List two professional bodies in Building Services Engineering, including the specialism they are affiliated with.								
	Acceptable answer(s)	Guidance	Max marks	Test Spec ref & AO					
	IET- Institution of Engineering and Technology-electrical CIBSE- Chartered Institution of Building Services Engineers-general building services CIPHE- Chartered Institute of Plumbing and Heating Engineering plumbing heating Institute of Refrigeration (IoR) – Refrigeration	Both the professional body and the specialism is required for 1 mark . Accept any other answer that identifies a professional body relevant to BSE	2	7.5 AO1a					
ко	KO7 Building technology principles								





Question is in two parts.

The command verb is **List** with a further instruction to **include**.

List- Provide an itemised series of parts.

Key word learners need to understand is **affiliated** (associated or linked to something)





14. A contractor has won the contract to design and build a high-rise block of flats. The building will be constructed using a structural steel frame.
Give four advantages of steel that makes it suitable for the structural frame of the high-rise building.
[4 marks]

Q14



Picking out the relevant parts of a question that requires understanding;

Common errors learners make is to answer a question in part only.

Acceptable answer(s)	Guidance	Max marks	Test Spec ref & AO
Award 1 mark for each of the following points up to a maximum of 4 marks: • High strength • Relatively low weight • Ease of installation • Availability of a wide range of readymade structural sections • Ability to resist dynamic forces such as wind and earthquakes	Do not accept properties of steel that are not relevant to the context	4	7.7 AO2

A contractor has won the contract to design and build a high-rise block of flats. The building

Give four advantages of steel that makes it suitable for the structural frame of the high-rise

will be constructed using a structural steel frame.



Part B type questions-extended response



What is the key Information

A client wants a two-storey extension constructed on the back of an office. The site has very easy access for materials and machinery.

The main constraint is that the time allowed for the construction work on site, from commencement to handover, is extremely limited.

Evaluate the different types of construction methods and processes and suggest the most suitable for this project.

(12 marks)

These type of questions are designed for stretch and challenge and provide opportunity for differentiation of learners.



Part B type questions-extended response



What is the key Information

A client wants a two-storey extension constructed on the back of an office. The site has very **easy** access for materials and machinery.

The **main constraint is that the time** allowed for the construction work on site, from commencement to handover, is extremely limited.

Evaluate the different types of construction methods and processes and suggest the most suitable for this project.

Command verbs are evaluate (Consider several options, ideas) and suggest (Give possible reasons) (12 marks)

For less able learners you may need to break these types of questions down during formative assessments to support learners in accessing marks

These type of questions are designed for stretch and challenge and provide opportunity for differentiation of learners.





Band 1

1-3 marks
Demonstrates a basic use of analysis of the different types of construction methods. Demonstrates basic application of knowledge and understanding of the use of different construction methods relevant to the time constraints. Demonstrates basic evaluative skills with limited reasoning to which method would be most suitable

Band 2

4-6 marks

Demonstrates a good use of analysis of the different types of construction methods. Demonstrates good application of knowledge and understanding of the use of different construction methods relevant to the time constraints. Demonstrates good evaluative skills with clear reasoning to which method would be most suitable.

Band 3

7-9 marks

Demonstrates a thorough use of analysis of the different types of construction methods. Demonstrates thorough application of knowledge and understanding the use of different construction methods relevant to the time constraints. Demonstrates thorough evaluative skills with thorough reasoning and justifications to which method would be most suitable.

Band 4

10-12 marks

Demonstrates comprehensive use of analysis of the different types of construction methods. Demonstrates comprehensive application of knowledge and understanding the use of different construction methods relevant to the time constraints. Demonstrates comprehensive evaluative skills comprehensive reasoning and justifications to which method would be most suitable.





Section B-extended response type questions





The top two floors of a large office building have their water supplied by a set of two pumps. Following a temporary interruption to the water supply, it has been discovered that one of these pumps had failed, leaving only one in service.

As a contractor who offers building services maintenance, you have been asked to investigate the failed pump. You discover blocked filters have caused the pump to seize. There are no isolation points on the supply pipework, meaning the cold-water service to the entire building will need to be isolated to enable the exchange of the pump.

Discuss the best course of action to replace the pump whilst minimizing disruption to the building, **giving recommendations** for what could be put in place to prevent this type of failure in the future. (9 Marks)

It may be useful to practice these types of questions with learners.

Get them to list the key points of the question- what is the question asking them to do? Highlight the key information and command verbs.

Command verb is **discuss**--Talk/write about a topic in detail, considering the different issues, ideas, opinions related to it

Give recommendations- a suggestion that something is good or suitable for a particular purpose or job

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The top two floors of a large office building have their water supplied by a set of two pumps. Following a temporary interruption to the water supply, it has been discovered that one of these pumps had failed, leaving only one in service.

As a contractor who offers building services maintenance, you have been asked to investigate the failed pump. You discover blocked filters have caused the pump to seize. There are no isolation points on the supply pipework, meaning the cold-water service to the entire building will need to be isolated to enable the exchange of the pump.

Discuss the best course of action to replace the pump whilst minimizing disruption to the building, giving recommendations for what could be put in place to prevent this type of failure in the future.

Answer guide

The intention of this question is to allow the candidate to demonstrate their understanding of the scenario in terms of the task at hand (changing the pump) but also a more holistic view of the overall scenario and how future issues could be resolved or prevented. The candidate should be able to identify that the pump must be replaced, but that it's not an emergency as the water supply is still working, albeit without a backup. It should be identified this form of maintenance is purely reactive. The water supply being switched off will cause major disruption to the rest of the building and its users and should consider when the works take place, such as outside of working hours, giving advance notification, informing all users of the building. The candidate should introduce the principle of planned/preventative maintenance and what this entails. Recommendations: It's been identified that there is a lack of isolation, rectifying this should be considered, such as fitting isolation points for future maintenance tasks.

Bands



Band 1 1- 3 marks

Demonstrates basic analysis of the information provided. Demonstrates basic application of knowledge and understanding of the type of maintenance activity and action required to repair. Demonstrates basic use of evaluative skills providing only brief recommendations of how to prevent this from occurring in the future.

Band 2 3-6 marks

Demonstrates good analysis of the information provided. Demonstrates good application of knowledge and understanding of the type of maintenance activity and action required to repair. Demonstrates good use of evaluative skills providing some good considerations and recommendations of how to prevent this from occurring in the future.

Band 3 6-9 marks

Demonstrates thorough analysis of the information provided. Demonstrates thorough application of knowledge and understanding of the type of maintenance activity and action required to repair. Demonstrates thorough use of evaluative skills providing detailed considerations and recommendations of how to prevent this from occurring in the future



Construction Onsite Section

Core exam

Paper1

Paper 2

Extended response questions

6. You are contracted to assist in the refurbishment of a grade II listed building.	
State the two main cost factors that would need to be consider during the planni design stage of the refurbishment.	ng and
	[2 marks]

Q6	You are contracted to assist in the refurbishment of a grade II listed building.				
	State the two main cost factors that would need to be consider during the planning and design stage of the refurbishment of the Grade 2				
	Acceptable answer(s)	Guidance	Max marks	Test Spec ref & AO	
	Award marks for a suitable answer that covers the following points: • Listed buildings require specialist materials which cost more • Use of specialist labour skills which cost more • Paying for professional fees	Award 1 mark for each up to a maximum of 2	2	3.1 AO1b	
ко	KO3 Construction design principles	27	1		



Command verb is **State-**give the relevant points briefly









Q. A new build office is to be illuminated. The client is considering the installation of light tunnels in the roof space to allow for natural lighting and has asked for your opinion.

Describe **four** benefits of utilising natural lighting in a building with regards to a person's **health**. (4 Marks)

Acceptable answer(s)	Guidance	Max marks	Test Spec ref & AO
can provide health benefits such as creating a more comfortable environment (1), preventing seasonal affective disorder (1)	Award 1 mark for each benefit up to a maximum of 4 marks Accept any other suitable answer that is relevant to the context	4	2.6 A02



Q. A building has suspected asbestos in the walls, ceilings, and pipe insulation. The structure of the building needs to be partially demolished as part of the installation work of building services equipment, which includes the removal of the pipe insulation.

Explain what must be considered to deal with the hazard before work proceeds.

Acceptable answer(s)	Guidance	Max mark s	Test Spec ref & AO
Award marks for answers that demonstrate understanding of the considerations of dealing with asbestos relative to the context, to include	Award marks for any other suitable explanations that is relevant to the context	4	1.3 AO2
 Management of demolition (1) Extends beyond unlicensed work (1) Pipe lagging is licenced (1) Specialist contractors must be used to remove and dispose of these items (1) 			

[4 marks]

Command verb is explain-make clear







Section B-extended response type question

A client wants a two-story extension constructed on the back of an office. The site has very easy access for materials and machinery. The main constraint is that the time allowed for the construction work on site, from commencement to handover, is extremely limited.

Discuss the construction method most suitable for this time constraint. (9 Marks)

These type of questions are designed for stretch and challenge and allow for differentiation of learners.

For less able learners you may need to break these types of questions down during formative assessments to support learners in accessing marks.



Section B-extended response type question

Picking out the key information

A client wants a two-story extension constructed on the back of an office. The site has very easy access for materials and machinery. The main constraint is that the time allowed for the construction work on site, from commencement to handover, is extremely limited.

Discuss the construction method most suitable for this time constraint.

(9 Marks)

Command verb is **discuss-**Talk/**write** about a topic in detail, considering the different issues, ideas, opinions related to it





Indicative content

As the **amount of time allowed on site is extremely limited**, a modular or premanufactured superstructure is the best option. This is where the main structure of the building is constructed elsewhere or off-site and then broken down into sections, moved to site then assembled or put together in a much shorter time.

As the site has **easy access**, the items can easily be delivered and lifting equipment can place it in correct position for quick assembly This system requires long planning times for construction. Co-ordination between superstructure size and sub-structure installation and dimensions is very important to minimise problems

Discussion can also be negative such as reasons for not using traditional methods of construction due to the time taken on site to set-out, build and cure.

It is important for the discussion to note the risks such as the super structure and sub-structure being built in different places, so communication is key to ensure correct dimensions



Band 1

1-3 marks



Demonstrates a basic use of analysis of the different types of construction methods. Demonstrates basic application of knowledge and understanding of the use of different construction methods relevant to the time constraints. Demonstrates basic evaluative skills with limited reasoning to which method would be most suitable

Band 2

4-6 marks

Demonstrates a good use of analysis of the different types of construction methods. Demonstrates good application of knowledge and understanding of the use of different construction methods relevant to the time constraints. Demonstrates good evaluative skills with clear reasoning to which method would be most suitable.

Band 3

7-9 marks

Demonstrates a thorough use of analysis of the different types of construction methods. Demonstrates thorough application of knowledge and understanding the use of different construction methods relevant to the time constraints. Demonstrates thorough evaluative skills with thorough reasoning and justifications to which method would be most suitable.

Section B-extended response type question





A client wants to plan and develop sustainable offices for small business enterprises on a brownfield site surrounded by a mixture of residential and commercial properties.

Discuss the environmental performance measures that need to be considered during the design stage of this project to support the planning application to the local authority

Intention: To allow learners to evaluate a retail/commercial development in terms of the environmental factors that are faced in order to develop a sustainable project.

[12 marks]



Section B extended response question



A client wants to plan and develop sustainable offices for small business enterprises on a brownfield site surrounded by a mixture of residential and commercial properties.

Discuss the environmental performance measures that need to be considered during the design stage of this project to support the planning application to the local authority

Intention: To allow learners to evaluate a retail/commercial development in terms of the environmental factors that are faced in order to develop a sustainable project.

Key words:

Command verb-**discuss**-talk/write about a topic in detail, considering the different issues, ideas, opinions related to it

Consider-think carefully about (something), typically before making a decision

Key facts

- Sustainable
- brownfield site
- environmental performance measures to be considered in the design
- support a planning application to local authority

Knowledge Outcomes: KO3 Construction design principles KO5 Sustainability principles





Indicative content:

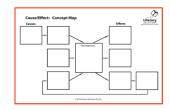
Performance measures include, as examples

- **Materials**: these should be sympathetic with other buildings in the surrounding location and preferably locally sourced
- Energy Sources and consumption: measures should be taken to reduce energy consumption with careful selection of fuel sources so the development will not have a negative impact on the supplies to surrounding properties
- Water sources/consumption: Consideration should be given to water recycling and conservation such as rainwater harvesting or greywater recycling to reduce mains water consumption
- **Transport**: Links to public transport to reduce parking conflicts and vehicle use. Provision of electric charging points to promote electric vehicles, provision of secure cycle storage to promote cycling
- **Ecology**: landscape and planting to soften development and promote eco systems
- **Pollution**: restrictions on the type of businesses allowed to use development to reduce pollution such as noise, smell. Designs to reduce light pollution and as well as visual impact.
- Other environmental considerations acceptable with justification including emissions, product use etc.

5 top tips to support your learners ("Edu-tainment") 7-LEVELS







Use graphic organisers, concept maps, Kahoot, Quizlet or Quizizz sites

https://www.glorify.com/learn/types-of-graphic-organizers/



Take the fear away, use analogy of a book with different chapters-then what chapters they will be tested on are.... Many learners will have taken exams at some point-re-learn revision skills



Provide revision fact sheets at the end of every lesson – ask the learners to tell you what they have learnt today and write it down-use round robin techniques round robin pedagogy support



Encourage learners to highlight key areas they need to learn, introduce mnemonics for processes, key legislation, memory palace technique,



On programme formative assessment – sample assessments test-check-test-check-encourage timed tasks so learners manager their time effectively



Remember—what engaged you when learning, how did you like to learn?









Thank you

Q&A

Survey Link

https://forms.office.com/r/EuZNg3Rbpx





