

Parkhall Integrated College

Revision Fact File



Subject	Construction and the Built Environment
Exam Board	CCEA
Specification	GCSE Construction Specification
Unit 1: 1 hour	Introduction to the Built Environment
Specific equipment required	Black pen, pencil



Exam paper specific skills/knowledge

Unit 1:

- define the built environment.
- identify and discuss the following main stages of the construction cycle - **(RIBA) Plan of Work (POW) 2013**.
- identify the types of low-rise building and compare the main characteristics of each: e.g., detached, semi-detached, terraced etc.
- demonstrate knowledge and understanding of the main materials used in domestic buildings.
- demonstrate knowledge and understanding of the properties and functions of these materials. Analyse the advantages of each of these materials.
- identify the forms of domestic dwelling and explain the main characteristics that define each type.
- demonstrate knowledge and understanding of the main activities in the construction industry and the contribution to the built environment:
- demonstrate knowledge and understanding of the structural forms used in a range of building types:
 - cellular
 - rectangular framed concrete and rectangular framed steel
 - portal framed; and
 - modern timber framed
- evaluate the advantages and disadvantages of using each of these structural forms, referring to the building's function
- demonstrate knowledge and understanding of how to provide structural stability to each of the structural forms, the construction industry, and identify the main roles for each occupational area:
- demonstrate knowledge and understanding of the main craft occupations and subcontractor roles:
- demonstrate knowledge and understanding of the resource considerations in construction, evaluating the importance of each and their interdependence:
 - supply chain
 - costing
 - planning
 - plant labour and materials; and
 - social and environmental issues
- demonstrate knowledge and understanding of the Health and Safety at Work (Northern Ireland) Order 1978, the current Work at Height Regulations and other relevant regulations in relation to the following:
 - slips, trips, falls, excavations, working on scaffolding/ladders
 - site safety signs

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	<ul style="list-style-type: none"> - personal protective equipment (PPE) - duties of designers, manufacturers, and suppliers; and - safety when working with water and gas • demonstrate knowledge and understanding of the Electricity at Work Regulations (Northern Ireland) 1991 on using electricity and power tools on site, including working near overhead power cables. • demonstrate knowledge and understanding of the current Control of Substances Hazardous to Health (COSHH)
Subject Specific Strategies for Revising	<ul style="list-style-type: none"> • Mind maps are useful when learning essay answers. • Make flash cards to learn subject terminology.
Useful Websites	<ul style="list-style-type: none"> • RIBA Plan of Work 2013 • Craft Occupations in the Construction Industry • Careers and Team • Building Information Modelling (BIM) Concept • Student Guide • Google Classroom
How can parents help?	<ul style="list-style-type: none"> • through encouraging daily revision. • Keeping an eye on the presentation and organisation of revision notes is also supportive.
Where could I find past papers and mark schemes?	GCSE Construction past papers and mark schemes

Subject	Construction and the Built Environment
Exam Board	CCEA
Specification	GCSE Construction Specification
Unit 2: 1 ½ hour	Sustainable Construction
Specific equipment required	Black pen, pencil



Exam paper specific skills/knowledge	<p>Unit 2:</p> <ul style="list-style-type: none"> • prepare a cutting list for a specified task as set out in the pre-release materials • prepare material costs associated with the cutting list • interpret drawings of simple domestic buildings and carry out the following: <ul style="list-style-type: none"> - identify different elevations and how they relate to the plan and/or drawing - read dimensions from the drawing, including running dimensions, individual dimensions, floor area and wall area - use a scale rule to calculate accurate measurements from plans - interpret the structural make-up of a building as set out in the pre-release materials; and - produce freehand sketches to communicate and explain their responses to a given scenario.
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- demonstrate knowledge and understanding of the following issues surrounding sustainable development:
 - impact on the natural environment
 - impact on the community
 - social benefits
 - regeneration of buildings
 - pollution
 - impact on local resources; and
 - carbon footprint
- discuss and demonstrate knowledge and understanding of why planning permission may or may not be granted for construction projects and/or plans, referring to the following:
 - current planning legislation
 - environmental protection
 - green belts and conservation areas
 - design, scale, and massing
 - types of planning permission; and
 - enforcement of planning legislation
- demonstrate knowledge and understanding of using the following in sustainable construction:
 - timber framed construction
 - wall structures
 - roof structures
 - water; and
 - recycling
- demonstrate knowledge and understanding of the following renewable energy technologies and/or materials and identify their component parts, using examples from local, European and/or global contexts related to the built environment:
 - heat pumps (ground source and air source)
 - wind turbines
 - solar panels, including photovoltaic cells and water heaters
 - biomass
- identify how each of these technologies and/or materials can be used in construction and the built environment; and analyse and evaluate the advantages and disadvantages of using these technologies and/or materials as alternatives to fossil fuels, referring to the following:
 - cost
 - performance; and
 - reliability.
- demonstrate knowledge and understanding of the need to reduce the environmental impact of building materials
- demonstrate knowledge and understanding of the following methods used to reduce the environmental impact of building materials:

	<ul style="list-style-type: none"> - modern quarrying practice, recycling, reusing; and managing site waste effectively • describe the following main elements and component parts of low-rise buildings and evaluate their purposes and performance requirements, providing standard construction details that comply with the building regulations in the Building Regulations (Northern Ireland) 2012: <ul style="list-style-type: none"> - strip foundations, including setting out - domestic pile foundations - walls, including head and sill (block, brick, timber, and stud) - damp-proof course (DPC) or membrane - insulation (wall, roof, and floor) - floors (solid and suspended) - roofs (pitched and flat) - doors (timber, uPVC, flush, panelled, framed, legged, braced, and sheeted, and associated ironmongery) - windows (uPVC and hardwood) and styles; and - stair design for domestic dwellings using mathematical formulae • describe and evaluate how construction methods for the following are changing over time (including the development of sustainable construction methods): <ul style="list-style-type: none"> - walls, including stone, brick, block and timber walls, roofs, and floors, including subfloors and suspended floors. • demonstrate, through contextualised scenarios, knowledge and understanding of the term retrofit.
Subject Specific Strategies for Revising	<ul style="list-style-type: none"> • Mind maps are useful when learning essay answers. • Make flash cards to learn subject terminology. • Practice drawing labelling the four incomplete drawings (sill, head, foundation, and eaves).
Useful Websites/PowerPoints	<ul style="list-style-type: none"> • Domestic Stair Design • Renewable Energy Technologies • Building Information Modelling (BIM) Concept • The Planning System • Wind Turbines • Student Guide • Google Classroom
How can parents help?	<ul style="list-style-type: none"> • Parents can help support their child in GCSE Construction through encouraging daily revision. • Keeping an eye on the presentation and organisation of revision notes is also supportive.
Where could I find past papers and mark schemes?	<p>GCSE Construction past papers and mark schemes</p>