



Knowledge Organiser

Constructing The Built Environment

Level 1/2 WJEC

Constructing The Built Environment

Level 1 / 2 WJEC

YEAR 10 & 11

2023-2025

NAME: _____

TUTOR GROUP: _____

	Unit 1 Health and Safety LO1 Know health and safety legal requirements for working in the construction industry 1.1 Summarise responsibilities of health and safety legislation January 2023 (Re-sit)	Year 11 only
1	What is the Health and safety at work Act 1974?	<i>Employer responsibilities</i> – Provide PPE, Clear instructions so everyone knows what to do , Health & Safety Training, Regular health and safety risk assessment, responsible for the HASAWA Act <i>Employee responsibility</i> - Take care of own health & safety, co-operate with employer to help comply with health & safety legislation ,inform employer about work situations that present a serious and imminent risk
2	What does RIDDOR mean?	Reporting of injuries, diseases and dangerous Occurrences Regulation 1995 (RIDDOR)
3	What does HASAWA mean?	The Health and Safety at Work Act 1974 is the primary piece of legislation covering occupational health and safety in Great Britain.
4	What does PUWER mean?	Provision and use of work equipment regulation 1998
5	What does PPER mean?	Personnel Protective Equipment Regulation
6	What does COSHH mean?	Control of Substances Hazardous to Health Regulation 2002
	1.2 Identify safety signs used by construction industry	
7	What does a blue Circular sign stand for?	Mandatory – must do
8	What does a red circle sign stand for?	Prohibition
9	What does the green rectangle sign stand for?	Information about safety ie Fire exits, emergency routes
10	What does a yellow triangle stand for?	Warning
	AC1.3 Identify Fire Extinguishers used in different situations	
11	What is a red Extinguisher used for?	Water – Used on (A fire) Wood, paper , textiles – NOT (B Fires) Flammable liquids, live electrical equipment
12	What is a Blue Extinguisher used for?	Dry Powder –Used on (A,B,C Fires) Wood paper textiles flammable liquids- Gaseous fires live electrical
13	What is a Black extinguisher used for?	CO2 Carbon Dioxide – (B Fires) Flammable liquids, live electrical equipment NOT Confined spaces
14	What is a yellow extinguisher used for?	Wet Chemicals –(A, F Fires) wood paper textiles , Cooking oil fires
15	What is a red fire blanket used for?	It is place over the top of the fire to smother it and put out
16	What is the Cream Extinguisher used for?	Foam – Used on (A,B fire)Wood paper textiles NOT Live electrical equipment
	AC1.4 Describe the role of the health and safety executive	
17	What is the Health and Safety Executive? HSE	1. Issue an improvement notice, 2. Issue a prohibition notice, 3. Close site down
	LO2 understand risks to health and safety in different situations	
18	What is the Hazard?	A hazard is something that can cause harm or damage to you or property ie working at height, slips, trips and falls
19	What is a Risk ?	The likelihood that a hazard will cause a specified harm to someone ie if you do not use correct PPE when working at height it is likely you will fall and break a bone or even death
	LO3 Understand how to minimise risks to health and safety	
	AC 4.2 Describe measures used in construction to minimise risk to security	
20	What is a control measure?	Are actions that are taken to prevent, eliminate or reduce the occurrence of a hazard that you have noticed ie to protect a site , security camera could be used security staff, alarm systems, perimeter fence

21	Wood sampling tools and equipment needed to make a Bird box	
	Coping saw	Can be used on thin wood and plastic
22	Sand paper/abrasive paper different grains	180 to 400 grit to higher the grit number the finer the grit
23	Band facer	Used for shaping and finishing wood or plastic
24	Vice	Secures material to enable you to work safely on it
25	Bow saw /Tenon saw	To cut thicker pieces of wood
26	Hammer	Used to put pins or nail in the wood
28	Engineers Square	To measure accurately
	Unit 3 planning Unit 3 exam in January 2023 (Re-sit) LO : know jobs roles involved in realising construction and built environment projects	Year 11 only
29	Client Team job roles	Client, Architect, Engineer, Quantity surveyor, Project manager, Designer
30	Contractors team job roles	Builder/site engineer, Site supervisor, Safety officer, Tradespersons (Bricklayer, Electrician, Plumber, Painter and decorator, Etc.) Specialist sub-contractors (Asbestos team)
31	Statutory personnel job roles	Building Inspector, Town Planner, Public Health Inspector
32	General job roles	Administrator, Finance officer, Public liaison officer , Purchasing/procurement officer Catering, Security
33	Carpenters are responsible for:-	First fix (floors, roofs, studwork, frames Beams) Second fix (hanging doors, fixing mouldings, fitting units in kitchens, Windows, skirting boards, architraves) <u>Responsibilities including health and safety for a carpenter/Joiner</u> To follow instructions as directed by the senior person To work to drawing and specifications To work safely as part of a team To wear appropriate PPE at ALL Times
34	Painters and Decorators are responsible for:-	First fix Preparing surfaces (Sanding, filling in holes) Second fix Applying paint systems , Hanging wallpaper, Top coats and finishing
35	Electricians are responsible for:-	First fix Wiring, Power supply wiring , applying back boxed to walls Second fix , Socket faces, light fixings, thermostats, boilers <u>Responsibilities including health and safety for a Electricians</u> To follow instructions as directed by the senior person To work to electrical drawings and specifications To work safely as part of a team To wear appropriate PPE at ALL Times Must follow the electrical regulations
36	Plumbers are responsible for:-	First fix – Drainage , water pipes, sewage pipes, hot and cold water tanks, plumbing in of appliances Second fix – Bathroom installations, boiler, radiators <u>Responsibilities including health and safety for a Plumber</u> To follow instructions as directed by the senior person To work to drawing and specifications To work safely as part of a team To wear appropriate PPE at ALL Times
37	Bricklayers are responsible for:-	Foundations (concrete, substructure) use of Mortar, stone and blocks Walls (brick and block laying) super structure, internal and external walls, <u>Responsibilities including health and safety for a Bricklayer</u> Inspection chambers, feature walls To follow instructions as directed by the senior person To work to drawing and specifications To work safely as part of a team To wear appropriate PPE at ALL Times

38	Spring 1 and 2	AC 2.2 – Calculator resources to meet requirements for built environment development project	
39		Area	Area = Width x Height
40		Volume	Volume = length X Width X Depth
41		Percentages	Percentages = per 100
42		Scaling	The ratio of measurements to a consistent scale
43		Best Value	What will last longer but at a good price
44		Tolerance	Dimensions, construction limits,
45		Value added tax	Know a VAT all businesses pay VAT which is 20 % added
46		Super structure	Any element of the building that is above the damp proof course (DPC).
47		Sub structure	Any element of the building that is below the damp proof course (DPC).
48	Summer 1 and 2	Gantt ordering	An ordering of a projects schedule
49		Practical coursework and Brief LO – AC1.1 To be able to interpret technical information	Year 10 and 11
50		Symbols	Are illustration as part of the best practice to allow the reader to fully understand their meaning
51		Conventions	A series of accepted, traditional graphical aspects and impacts of a design process (Plans, sections, elevations, isometrics, vanishing point drawing, freehand sketches)
52		Terminology	The terminology often reflects the same use of language as the main contract, hence its formal – sounding content.
53		Specifications	This is a prescriptive document that are generally commissioned by the employer to summarise the anticipated materials and associated workmanship standards that the employer desires.
54		Building regulations	Is an institutional standard that building are constructed to in the UK
55		Drawings	Drawings are produced by the design team and specialist contractors to illustrate concepts, designs and what could be possible to achieve.
56		Design Brief	Is a document often produced in the format of a report includes (Reference to client, Site information, Spatial requirements, Technical aspects, material and component required, Projects requirements)
57		RAMS in place	Consider if they are in an issue to this or other work ongoing. Check for danger while you work.
58		Position/orientation on grid	Consider the relationship to your work in relation to setting out
59		Line	Consider how the line of this element impacts of other proposed lines. Consider impact on cutting or modular dimensions of other material
60		Level	Consider how the level of this element impacts on proposal adjacent levels. Consider impact on other adjacent work.
61		Certification and testing	Consider if your work needs to be photographed or signed off
62		Execution and approach	It is the method agreed? Right skill set deployed? Sensitive areas?
63		Construction detail compliance	Has the detail been followed or proposed alternative solutions agreed with them?
64		Cleanliness and protection	Can it be cleaned up now? Is cleanliness acceptable? Can it be better? Covered skips? Perimeter clean? Is protection required?
65		Public protection, work slips, trips and falls	Can the scope be reduced to make ramps less of an issue? Is the material to make – good ordered? Is there a requirement for other material on site, cleaning up ready for emergencies?
66		Timeliness	Enough material, resources and stakeholder buy in present?
67		Next Phases	Consider implications on next phases? Is there a better sequence available? Do you need to report anomalies (irregularities or inconsistencies) up line?
68	BIM	Building Information Modelling	

	LO1 AC1.12 Plan Sequences of work to meet requirements of sources of information	
66	Oral Communications	Instructions on variation, change, management
67	Timescale	Communication, knowledge and experience are used to agree WHEN and HOWLONG the works will take to from
68	Sequence	Communication, collaboration, knowledge and experience are used to agree what ORDER the activities should occur in
69	Health and safety	Produce risk assessments and method statements following company, procedures and systems; they must be task and site specific and capture HOW the works will be done
	LO2 – AC2.1 To be able to identify tools, equipment and PPE required for brick work and apply to practical task	
	<u>Woodworking tools & equipment</u>	
70	Cross Saw	To cut small or large pieces of wood , it cuts perpendicular to the wood grain
71	Tenon Saw	Used in woodwork to cut pieces ie dovetail, mitres
72	Coping Saw	A type of bow saw used to cut intricate external shapes
73	Scroll Saw	A small electric saw to cut curves in wood and other materials, easier then a coping saw
74	Jigsaw	A sharp power tool used to cut curvy lines in wood
75	Band Saw	A power saw with a long sharp blade
76	Pillar Drill	A free standing machine that uses a motor to rotate a drill bit, can cut holes different diameters
77	Hand Drill	To make round holes, you ca change drill bits for different size holes
78	Countersink bit	To fit a screw in, to make it sit flush,
79	Forstner bit	To make a flat bottomed hole to get the required depth needed
80	Hole Saw	Also known as a hole cutter, creates a larger hole without cutting up the core material
81	Chuck key	For tightening the chuck of the drill so the bit doesn't fall out and is safe
82	Files- flat, half round, rat tail	Used on metal to round or smooth corner, for wood wrap abrasive paper around it
83	Chisels - firmer, half round, rat tail	To curve or cut wood or to cut with the sharpened edge
84	Wooden mallet	To knock pieces of wood together, it reduces the force driving the cutting edge of the chisel with better control
85	Wood turning lathe	To cut a sharp that is symmetrical around the axis of rotation
86	Hand Plane	To shape wood using muscle power to force the cutting blade over the wood surface
87	Belt sander	Used in shaping and finishing wood and other materials – removes paint from wood
88	Band facer	An electric sander tool to sand wood, it is a long belt which spins round
89	Router	Powered tool or hand tool used to rout(hollow out) on an area in wood or plastic
90	pencil	Best used sharp to mark out you measurements
91	Tape measure/ruler	To measure a line and straight edge in engineering and carpentry
92	Marking gauge	Used in woodwork and metal work to mark out lines for cutting, it scribes a Parallel line
93	Bobbin sander	An oscillating sander for sanding curved cuts
94	Buffing Machine	Also called a polishing machine, polishes soft metal copper and brass as well as plastic
95	PVA glue	Means Polyvinyl acetate – this is best known as wood glue, white glue, carpenters glue
96	Bench Hook	Can be used to support wood like a vice
	<u>Bricklaying</u>	
97	Walling trowel	Also known as a mason trowel, they have a pointed nose to spread the mortar onto the bricks to be more precise
98	Jointing Iron	To create a strong and durable mortar joints of consistent quality and cosmetic appearance
99	Sprit Level	To check whether a surface is level
100	Pins	To keeps the bricks straight and level along each course of the wall

101	Heavy Hammer	Also known as a brick hammer has a flat traditional face and a short or long chisel. To be used to clip off edges of small pieces of stone
102	Hard Hat	To protect your head from injury due to falling objects
103	Barrier Cream	Moisturiser can be used before work making it easier to clean the skin at the end of the day
104	Safety Boots	They have steel toecaps and protect the tendons in the foot when workers perform heavy work. They protect against dropping objects onto your feet
105	High Vis Jacket	Made from fluorescent material to make the wearer more visible to those around them
	<u>Decorating</u>	
106	Scraper	To prepare the surface before you re paint it or cover it in wall paper
107	Filling Knives	Used to work putty around the edges to smooth it, a flexible blade used to apply as a filler
108	Wall paper Table	A fold away table , portable , used to paste glue onto the wall paper
109	Paste Bucket	To mix and store paste for wall papering
110	Paper hanging brush	To smooth down your freshly hung wall paper
111	Caulker	A spreading tool with a wide handle and flexible blade
112	Trimming Knives	To remove excess and peeling
113	Scissors	To cut any excess material off
114	Plumb Bob	A weight with a pointed tip on the bottom suspended from string, it gives you a straight vertical line
115	PPE	Personal Protective Equipment
116	Material characteristics	Include = Qualities, sustainability, limitation
117	Material Qualities	Attractive and hard wearing, wide range of colours, quickly applied
118	Material sustainability	Cost, Availability, Recyclability
119	Material Limitation	High VOC content when not water based, requires several coats, requires regular reapplication
	AC 2.2 Calculate materials required to complete construction task	
120	Volume	Volume = length X Width X Depth
121	Area	Area = Width x Height
122	Perimeter	$P = X+X+Y+Y = P$
123	Time	Is defined in the contract document. In broad terms, time is measured by one or more of the terms (Working hours, Working day, Working week, Out of hours working, Limitation of working hours)
124	Ratio	Plaster , mortar concrete resin rely upon being mixed off and on site ie cement :lime: sand = 1:1:5 1 part cement , 1 part lime , 5 part sand
125	Cost	Cost of the job must be estimated accurately scheduled by the contractor, on completion of the project the actual cost may vary from estimated cost
	AC 2.3 set success criteria for completed of construction task	
126	Level of tolerance	Variation in dimension
127	Timescale	Braking down procedures into some simple activities
128	Quality	High standard of finish
	AC 2.4 Prepare for construction tasks	See 3.1 practical skills
	AC 3.1 Apply techniques in construction to complete task	Practical
	AC 3.2 Apply health and safety practices in completion of construction task	
129	Cleanliness and safety of work area	Can it be cleaned up now? Is cleanliness acceptable? Can it be better? Covered skips? Perimeter clean? Is protection required?
130	Safe working practice	To perform a task with minimal risk to people, equipment, materials environment
131	Use of PPE	A device or appliance designed to be worn or held by an individual for protection against one or more health and safety hazards

132		AC .3.3 Evaluation quality of construction tasks	
		Self -evaluation	Critically reflection about yourself as a professional in your field
133		specific tolerance	Any dimensions between any 2 points can have tolerance. Limits are a type of tolerance that specifies a different lower and upper deviation
134		Success criteria	A list of features to include in you work to show your understanding of the task
	Autumn 1 and 2	Unit 1: Written exam June 2024	Year 10 only
1		Building trades	Trades that are essential to and practised in connection with building construction, such as carpentry, plumbing and bricklaying.
2		Built Environment	The man-made surroundings that provide the setting for human activity that includes cities, infrastructures buildings, the spaces between them such as parks.
3		Construction Industry	The term used to describe the sector of the national economy that carries out building and infrastructure projects
4		Hazard	Something that can cause harm, such as working at height and using heavy plant and machinery.
5		Infrastructure	The general term for a basic physical system that supports human activity, such as transportation systems, communication networks and energy distributions.
6		Manufacturing	The processes required to transform raw materials into useful products
7		Primary Industries	Industries that extract raw materials from nature for use in their unprocessed state; such as coal, iron ore or for use in manufacturing.
8		Renewable energy technologies	Technologies involved in the generation or collection of energy from renewable sources, as opposed to generating energy by burning finite resources such as fossil fuels or natural gas.
9		Risk	A risk is the chance, high, medium, or low, that any hazard will actually cause harm.
10		Risk assessment	A critical examination of health and safety hazards at a construction site, usually involving a five-step process.
		Unit 3: Practical Element exam Jan to May 2024	Year 10 Only
11	Summer Term 1 and 2	Analyse	To examine in detail in order to discover meaning, essential features, etc. to break down into components or essential features.
12		Assessment	The action or an instance of making a judgment about something.
13		Building trades	Trades that are essential to and practised in connection with building construction, such as carpentry, plumbing and bricklaying.
14		Built Environment	The man-made surroundings that provide the setting for human activity that includes cities, infrastructures buildings, the spaces between them such as parks.
15		Client	A person or organisation using the services of a professional person or company.
16		Code of Practice	A document that complements occupational health and safety laws and regulations to provide detailed practical guidance on how to comply with legal obligations.
17		Construction Industry	The term used to describe the sector of the national economy that carries out building and infrastructure projects.
18		Contingencies	This is a potential negative event that may occur in the future, such as an economic recession, natural disaster, fraudulent activity, or a terrorist attack.
19		Critical Path Analysis	This is a project management technique which considers the timing and interrelationship of the key activities required to complete a construction project.
20		Design Brief	A written description of what a new project or product should do, what is needed to produce it, how long it will take, etc.
21		Evaluate	To evaluate is to judge the value or worth of someone or something.
22		Fit for Purpose	The appropriate, and of a necessary standard, for its intended

		use.
23	Gantt Charts	A chart in which a series of horizontal lines shows the amount of work done or production completed in certain periods of time in relation to the amount planned for those periods.
24	Hazard	Something that can cause harm, such as working at height and using heavy plant and machinery.
25	Infrastructure	The general term for a basic physical system that supports human activity, such as transportation systems, communication networks and energy distributions
26	Interpreting	The act of explaining, reframing, or otherwise showing your own understanding of something.
27	Legislation	Rules or laws relating to a particular activity that are made by a government.
28	Manufacturing	The processes required to transform raw materials into useful products.
29	Milestones	A significant or important event in a project or task.
30	Pathway	A pathway is a particular course of action or a way of achieving something.
31	Primary Industries	Industries that extract raw materials from nature for use in their unprocessed state, such as coal, iron ore or for use in manufacturing.
32	Project Tolerance	A feature of a project's plan, as it recognises allowance of certain variation in duration, budget or quality, to which the project is approved as still successful.
33	Recycled	Materials or products that have been treated using a special industrial process so that they can be used again.
34	Regulations	These are rules made by a government or other authority in order to control the way something is done, or the way people behave.
35	Renewable energy technologies	Technologies involved in the generation or collection of energy from renewable sources, as opposed to generating energy by burning finite resources such as fossil fuels or natural gas.
36	Risk	A risk is the chance, high, medium, or low, that any hazard will actually cause harm.
37	Risk assessment	A critical examination of health and safety hazards at a construction site, usually involving a five-step process.
38	Specifications	A written document describing in detail the scope of work, materials to be used, methods of installation, and quality of workmanship.
39	Sustainability	To focus on meeting the needs of the present, without compromising the ability of future generations to meet their need.



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