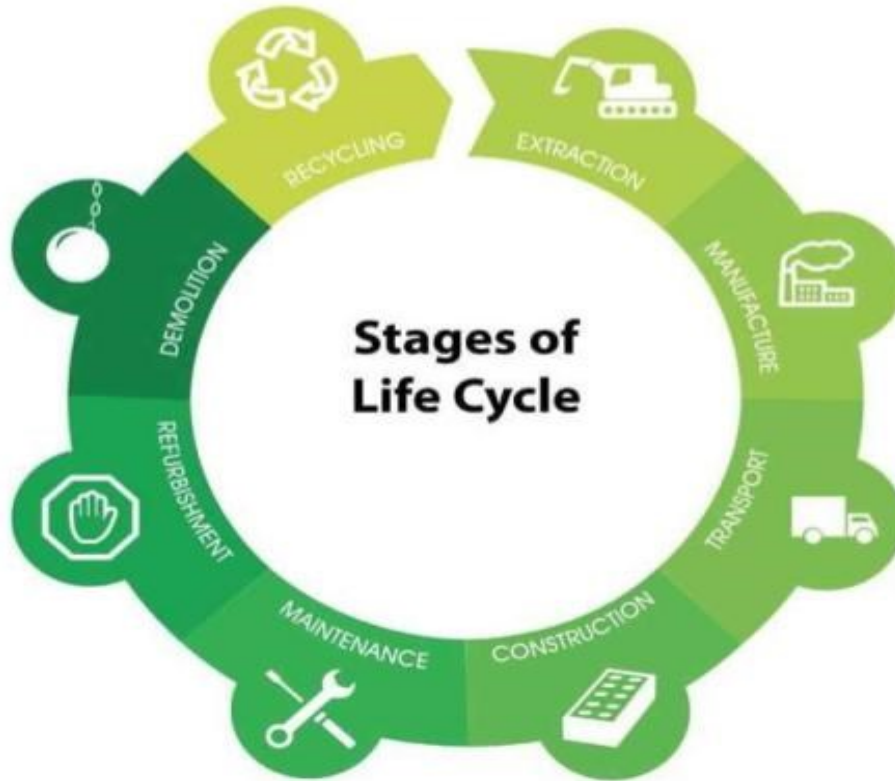




CONSTRUCTION

Quiz 1 LCA – Life Cycle Assessment



MDPE pipe



MDPE elbow



Quiz 1 Types of extraction

Forestry extraction
 Oil and Gas Extraction
 Quarry Extraction
 Mining Extraction



Timber, wood products
 Plastic and fuel
 Aggregate, sand, gravel, rocks, metal ore (for copper and aluminium)

Lintels



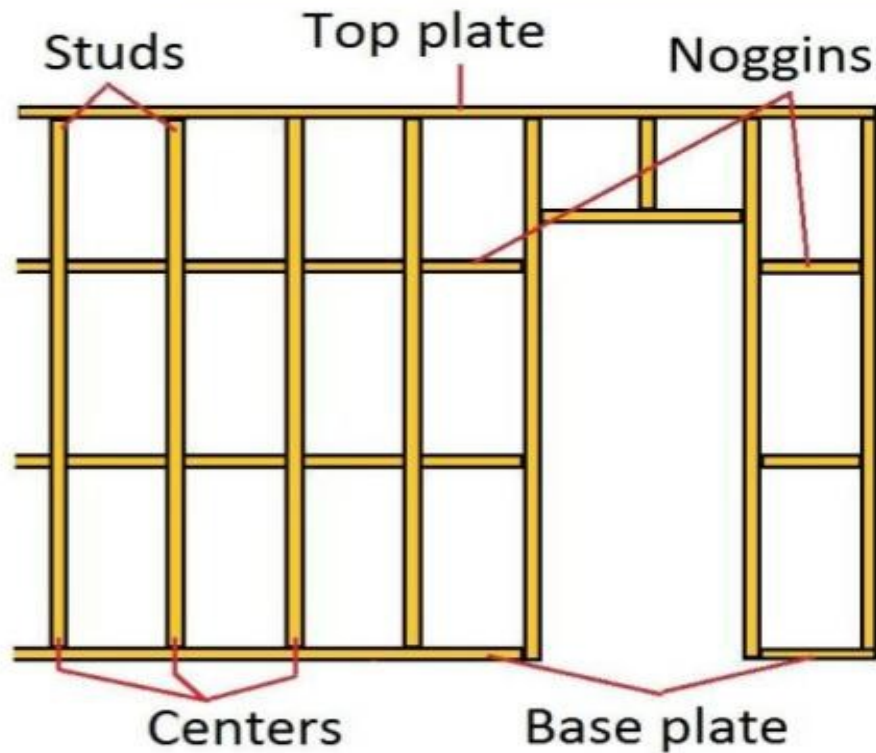
Construction Knowledge Organiser 2

Quiz 2

A stud wall

Quiz 2

Materials:



Steel beam

Mild Steel Lintel

Timber

Steel Column

Mild Steel Rail



Aggregate

Steel Fixings

Cables



UPVC

PVC

Mild Steel Purlins

Pipes



Copper

Quiz 3

Types of jobs:

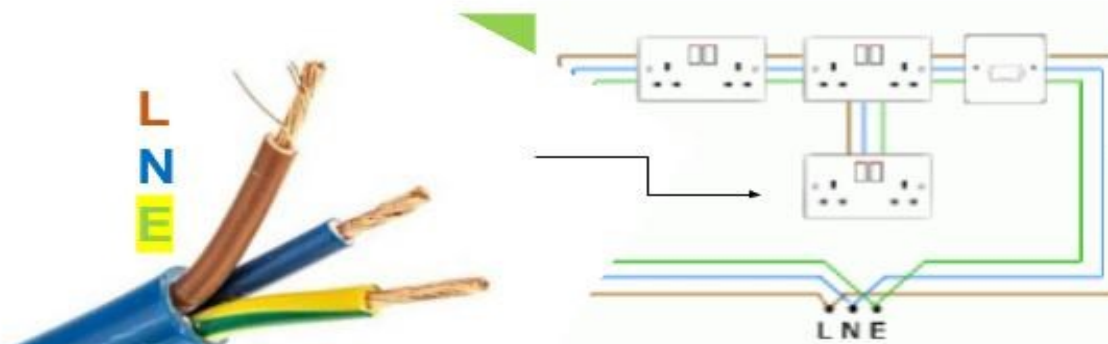
RIBA



Royal Institute of British Architects

ice

Institution of Civil Engineers



Construction: Learning Cycle 3



Quiz 3

Types of jobs:

Client



Output

The client should end up with the building they require at the end of the project.

Activities & responsibilities

- The person or company that has asked for the construction project
- Wants value for money
- Works along side architect during design stage and construction
- Provides funding for the project
- Has opportunities to make decisions during all stages of project.
- Works with construction designer to ensure inside of building is fit for purpose



Activities & responsibilities

Architect



Output

A sustainable & cost effective final design that can be passed on to the local authority planners



- Advising on restoration and conservation of existing buildings
- Creating design to meet client requirements
- Considering budget, safety and community needs for a project
- Ensuring building regulations, planning laws and environmental considerations are met
- Creating detailed drawings for the contractor, with exact measurements and building materials needed
- Working with contractors, engineers, surveyors, lawyers and planning departments
- Inspecting the building as it's built to make sure it meets the requirements
- Using computer design programmes to produce detailed workings and specifications

Site

Quantity Surveyor

Responsibilities & Activities

- Manages all costs of building projects
- Aims to get best value for money
- Calculates all materials needed
- Calculates trades needed
- Works out machinery & equipment needed
- Values completed work and arranges payment
- Works out exactly what the client wants
- Arranges sub contractors



Output

- Ensures a good value for money project is produced.
- Make sure the project runs smoothly without delay due to lack of machinery, contractors or materials.

Project Manager

Responsibilities & Activities

- Responsible for entire building project
- Must bring in project on time & on budget
- Is involved from start to finish of project
- Handles any problems that arise in terms of budget or trades
- Has good time management and organisational skills
- Involved with all trades & contractors including architect.
- Knows all stages of construction project and its timings.

Output

- Ensures project is completed on time and within given budget
- A successful end product





Quiz 3

Types of jobs

Activities & responsibilities

- Supervising project teams and giving progress reports to clients and senior managers
- Using computer simulations to predict how structures will react under different conditions, for example high winds or earth tremors
- Making sure projects meet legal guidelines, environmental directives, and health and safety requirements
- Preparing bids for tenders
- Inspecting unsafe buildings and recommending options for repairs or demolition
- Working closely with the design team and other professionals on construction plans
- Developing design ideas
- Advising on most suitable materials for the job
- Working out the loads and stresses on different parts of a structure like the foundations, beams, arches and walls

Structural Engineer



Output

- Ensure a safe building location
- Ensuring a structurally stable building is produced.

Responsibilities & Activities

- liaising with clients and reporting progress, professional staff (such as architects and surveyors) and the public
- supervising contracted construction workers
- meeting subcontractors
- making safety inspections and ensuring construction and site safety
- checking and preparing site reports, designs and drawings
- maintaining quality control checks
- motivating the workforce throughout the project
- day to day problem solving
- using specialist construction management computer applications

Site Manager



Output

- Organise and supervise the construction project until completion
- Ensuring quality of work and productivity is maintained throughout the project.



Joiner



The joiner will be responsible for all wood work such as doors and windows. They will adhere to site rules and ensure all work is complete to the highest standard.

Their output is to complete all tasks as requested to the given timescale.

They will work alongside the builder to construct the roof.

Carpenter

Responsibilities & Activities

- Installing floor joists, floorboards, roof trusses, wall partitions
- Fitting interior woodwork (staircases, doors, skirting boards, cupboards, kitchens)
- Understanding technical drawings
- having expert knowledge in different types of wood and their uses

Output

- Ensures all interior woodwork is completed to a high standard.
- Ensures all interior wooden fittings are installed correctly.





Quiz 3

Types of jobs:

Health and Safety Officer



Output

- Makes sure the site is a safe working environment for all tradesmen, contractors and visitors
- Ensures any risks are identified and controlled effectively to reduce chances of injury.

Responsibilities & Activities

- Regular inspections of construction sites
- Liaising between different departments
- Monitoring the complete building process
- Safeguarding the quality of work
- Ensuring adherence to proposed plans
- Arranging meetings
- Predicting potential problems
- Ensuring adherence to legislation
- Makes checks on the machinery and equipment used on site.

Plasterer

Responsibilities & Activities

- Applies plaster to internal walls and ceilings ready for decorating
- Usually employed at later stages of building project
- Works on the exterior of the building to apply required finish such as plaster, render or pebble dash
- Works with other trades such as electrician to ensure all cables are installed before plastering takes place.
- Ensures all corners and window openings are completed tidily and are aesthetically pleasing.



Output

- Cover internal and external walls with a high quality finish ready for decorating.



Electrician



They will work alongside the project manager to all the electrical components in buildings. Their job is to plan, install and maintain electrical wiring systems across a wide variety of environments. These may be located in residential homes and commercial buildings, or even large pieces of equipment such as industrial machinery.

Plumber

Responsibilities & Activities

- Installing basic cold water, hot water, sanitation (toilets), rainwater harvesters, central heating systems and sheet lead systems
- Installing domestic fuel-burning appliances using gas, oil or solid fuel
- Responsible for installing any pipework above or below ground
- Installs drainage inside and out
- Installs sinks, baths & showers
- Works with electrician to install items such as showers.



Output

- Ensures fresh water is connected and supplied to the property and makes sure all waste water is disposed of correctly.