

Year 7 SOW lessons1-3

Lesson/ do now	What I want pupils to learn/ how	What teacher/ pupils will do
1.Seating	- Intro to the project - Related careers - Why this, why now? - Client profile - Brief and specification - Tools and equipment /PPE required - To use basic hand tools to measure, mark and cut.	- Teacher explanation/ examples - Class discussion - Questioning - Name tools in booklet - Practice measuring, marking, cutting with scrap timber - evaluate

Success criteria	
☐ Name 3 jobs/ careers relating to this project	
☐ Explain what FORESTRY is	
☐ Give 2 advantages and 2 disadvantages of forestry	
☐ Discuss the advantages and disadvantages of LANDFILL	
☐ Give 2 ways in which government and companies can use wood sustainably	
☐ Outline the difference between natural timber and engineered wood products.	
Extension task	
☐ Write a letter to Mr Burnham explaining why wood is the best material to use for school projects.	
W - What have they done Well?	N- Next steps (feedback)
☐ Answered all bullet points ☐ Given detailed responses ☐ Used full sentences and checked spelling and punctuation ☐ Completed the extension task	Student response
I - How can they improve their work?	
☐ Complete missed bullet points ☐ Answer in more detail ☐ Use full sentences and correct spelling/ punctuation ☐ Complete the extension task	

What jobs/ careers relate to this project?

Careers



Architect



Joiner



Site manager



Ornamental carpenter

In charge of all the day to day activities on a building site, including the health and safety of everybody.

Designs buildings and alterations. Meets with the client to see what they want and produces detailed drawings.

Uses hand tools to create ornamental wood work, such as decorative bannisters and fireplaces.

Makes and fits kitchens, door frames, staircases and any parts of a building made from wood.

TASK= Read the careers relating to this project. Can you think of any others?

DO NOW

Make a list of jobs/ careers relating to this project!
How many can you think of?



Year 8 SOW lessons1-3

Lesson/ do now	What I want pupils to learn/ how	What teacher/ pupils will do
1.Seating	- Intro to the project - Related careers - Why this, why now? - Client profile - Brief and specification - Tools and equipment /PPE required - To use basic hand tools to measure, mark and cut.	- Teacher explanation/ examples - Class discussion - Questioning - Name tools in booklet - Practice measuring, marking, cutting with scrap timber - evaluate

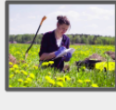
Name	Success criteria
☐	Name 3 jobs/ careers relating to this project
☐	Explain what FORESTRY is
☐	Explain the difference between recycling and reusing materials.
☐	Discuss the advantages and disadvantages of LANDFILL
☐	Explain how bug hotels support diversity (helping a wide range of bugs to survive)
☐	Outline the difference between hardwood and softwood.
Extension task	
☐	Design an advertisement for your bug hotel. Include reasons why bug hotels are needed, materials it is made from and an image.
W - What have they done Well?	N- Next steps (feedback)
☐ Answered all bullet points ☐ Given detailed responses ☐ Used full sentences and checked spelling and punctuation ☐ Completed the extension task	Student response
I - How can they improve their work?	
☐ Complete missed bullet points ☐ Answer in more detail ☐ Use full sentences and correct spelling/ punctuation ☐ Complete the extension task	

Careers

Careers

 Forest ranger

 Joiner

 Ecologist

 Biodiversity manager

 Ornamental carpenter

a. A trade which involves carving wood into detailed shapes using hand tools

b. A trade which involves fitting kitchens, making staircases, door frames and any furniture or parts of a building made from wood.

C. A science based job which involves studying the relationships between living organisms and their environment, including the interactions between plants, animals, and humans

D A forest ranger, also known as a park ranger or warden, is a professional dedicated to protecting and managing forestlands and protected areas

E. A job which involves protecting endangered species, and promoting sustainable practices.

DO NOW

Make a list of jobs/ careers relating to this project!
How many can you think of?



Year 9 construction skills- SOW lesson

Lesson/ do now	What I want pupils to learn/ how
1.Seating	- Intro to the project - Related careers - Why this, why now? - Trade 1- carpentry- what a carpenter does, materials they use, origin of materials, types of timber - Tools and equipment required

Year 9 construction skills- SOW lesson

Lesson/ do now	What I want pupils to learn/ how
4 tools	- Disposal theory- reuse, recycle, landfill - Intro brief/ specification - Trade 2- painting decorating- what a decorator does, materials they use, origin of materials, types of paint, Tools and equipment required

Year 9 Construction skills

An introduction to trades and skills

Tiler

- Prepares and levels off the surface
- Cuts tiles to correct size using manual or electric tile cutter
- Fixes tiles with adhesive
- Grouts tiles



Painter and decorator

- Wallpapers. Paints interior walls and woodwork
- Strips old paper and paint
- Fills holes and cracks in surfaces
- Stains and varnishes timber work



Carpenter/ Joiner

Joiner

- Marks and measures wood from technical drawings
- Cuts wood by hand or machine
- Joins wood to form structures such as staircases, windows, door frames, roof trusses

Carpenter

- Installs wall partitions, roof trusses, doors, skirting, cupboards, kitchens
- Replicates ornamental mouldings
- Fits interior woodwork in shops, public buildings.



Year 9 construction skills- SOW lesson

Lesson/ do now	What I want pupils to learn/ how
7 calculating	- Intro brief/ specification - Trade 3- tiling- what a tiler does, materials they use, origin of materials, Tools and equipment required

Name	Success criteria
☐	Name 3 trades relating to this project.
☐	Choose 1 trade and explain 2 activities associated with that role.
☐	List 3 RAW MATERIAL EXTRACTION industries and the materials produced from each.

1.1 The sector

INFRASTRUCTURE

- Buildings
- Roads
- Railways
- Bridges
- Pipe systems for clean water
- Sewerage systems
- Powerlines for electricity and telecommunications
- Pipe systems for gas

Designer/ Architect

- Creates new buildings/ renovates existing buildings
- Produces designs to meet the clients requirements
- Considers all regulations, laws and legislations, and environmental requirements
- Produces detailed drawings for the contractor

Site/ contract manager

- Responsible for coordinating construction site activities
- Organises resources of labour, plant and materials
- Undertakes the day-to-day activities on site
- Is responsible for health and safety on site and for the welfare of workers.

The construction industry is responsible for the **designing, building and maintenance** of all the buildings that surround us. These include all buildings in which we live, work, shop and socialise in.



To **function** as intended, these buildings need to be connected by transport networks (roads, railways, bridges, tunnels)

They also need to receive essential services (energy, telecommunications, water, sewerage) provided by a system of pipes and powerlines

MECHANICAL ENGINEER



LIFTS/ ESCALATORS

VENTILATION/ AIR CONDITIONING



HEATING

ELECTRICAL ENGINEER

Communication lines- phone, internet, IT network

Energy supply

Security alarms, fire detection, sprinkler systems



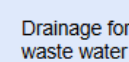
Lighting



PUBLIC SERVICE ENGINEER



Plumbing for water supply/ domestic hot water



Drainage for waste water



Storm water drainage

Surveyor

Surveys land, measuring existing features of the natural and built environment
Sets out construction works in accordance with the drawings and specification
Produces built data and drawings for architects and structural engineers



Quantity Surveyor

- Makes payment to subcontractors and suppliers
- Produces a final account at the end of a project
- Is responsible for the control of

DO NOW

The design and construction of a project involves several professional and managerial roles. A site manager is needed during the construction phase of a project.

- Describe 2 responsibilities of a site manager (4)
- Identify two other managerial or professional roles involved in the design and construction of a project (2)
- Describe one responsibility associated with each of the roles identified in part b. (4)

Structural engineer

- Designs, plans and manages construction projects including roads, water distribution, bridges, railways etc
- Produces a structural



- All these Year 10 students are looking for a career in construction..... Identify which role would be carried out by each,
- Managing the cost and budget, paying the contractors,
 - Inspecting the land before planning and building
 - Overseeing the whole building project on a day to day basis
 - Designing the building in detail, ensuring the design brief is met
 - Assesses structural safety and ensures it meets british standards
 - Installs lifts, escalators and air conditioning systems
 - Installs energy supply, lighting, telecommunication systems
 - Plans and installs drainage and water supply.

PROFESSIONALS

Who am I ?

I am in charge of the day to day running of the site, I am responsible for the safety of everyone on site, as well as managing the materials, sub-contractors and overall organisation of the project.



PROFESSIONALS

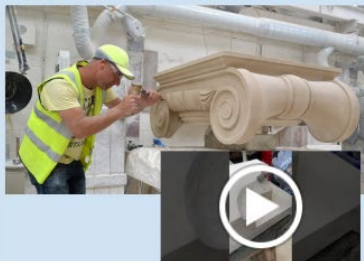
Who am I ?

I am in charge of the budget and all the costs of the project. I pay all the wages.

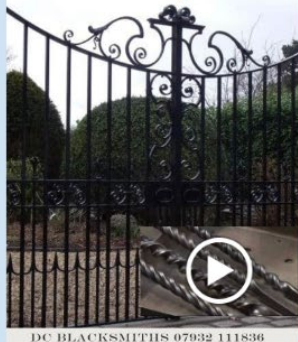


Heritage and traditional construction methods

Masonry and stone carving



Blacksmithing



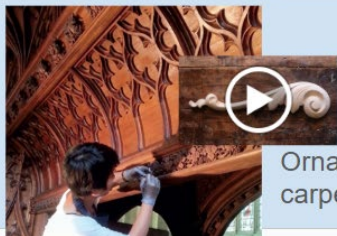
Ornamental
plaster work



Thatching a roof



Ornamental
carpentry



DO NOW 1.5
Name the trade!



Tiler

- Prepares and levels off the surface
- Cuts tiles to correct size using manual or electric tile cutter
- Fixes tiles with adhesive
- Grouts tiles



Bricklayer

- Works from plans/ specifications
- Lays rows of bricks/ blocks
- Shapes and trims bricks using chisels or power tools
- Applies mortar with trowel
- Checks vertical and horizontal alignment with spirit level/ plumb line
- Uses stretcher bond or other types of layout



Painter and decorator

- Wallpapers. Paints interior walls and woodwork
- Strips old paper and paint
- Fills holes and cracks in surfaces
- Stains and varnishes timber work



Trades, employment and careers

The construction industry requires a range of skills and work to be carried out by various trades, be that on a new build, a renovation or heritage project. The following trades are the most common, although there are many more within the sector.

WE HAVE ALREADY LOOKED AT THE PROFESSIONAL ROLES WITHIN THE SECTOR-

- Architect
- Surveyor
- Quantity surveyor
- Site manager

AND THE ENGINEERING ROLES-

- Mechanical engineer
- Public services engineer
- Electrical engineer
- Structural engineer

Plasterer



- Prepares and levels surfaces
- Mixes plaster
- Applies wet plaster to walls, ceiling, outdoor areas
- Creates ornamental plaster work such as ceiling decoration
- Fixes plasterboard on to stud walls (drylining)

1.7 Trades and employment

Plumber



- Follows regulations (gas safety)
- Installs cold and hot water systems, boilers and heating.
- Cuts and joins pipes
- Installs showers, washing machines
- Unblocks drains

Carpenter/ Joiner

Joiner

- Marks and measures wood from technical drawings
- Cuts wood by hand or machine
- Joins wood to form structures such as staircases, windows, door frames, roof trusses

Carpenter

- Installs wall partitions, roof trusses, doors, skirting, cupboards, kitchens
- Replicates ornamental mouldings
- Fits interior woodwork in shops, public buildings.



Electrician



- Installs, inspects and tests electrical services and equipment
- Follows relevant safety regulations
- Installs street lighting and traffic lights
- Fits electrical sockets and switches
- Rewires buildings in need of



UNIT 1.7 Trades, employment and careers

In addition to construction professionals, the development will also require many trades.

State **two** activities associated with each of the following trades:

(i) Plumbers

Activity 1

[1]

Activity 2

[1]

(ii) Electricians

Activity 1

[1]

Activity 2

[1]

(c) In addition to construction professionals, the development will also require many trades. State **two** activities associated with the following trades: (4)

(i) Plumbers

One mark for each activity, to a maximum of **two**.

- Installs cold water (1), hot water (1), sanitation (toilets) (1), boilers (1), and central heating systems (1)
- Follows relevant safety regulations, (e.g. 'Gas Safe') (1)
- Installs traditional lead flashings and roof coverings (1)
- Any other reasonable response (1)

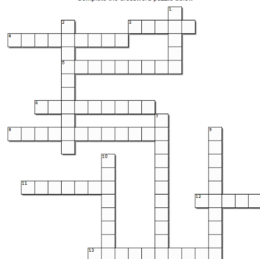
(ii) Electricians

One mark for each activity, to a maximum of **two**.

- Installs electrical services and equipment (1)
- Inspects electrical services and equipment (1)
- Tests electrical services and equipment (1)
- Follows relevant safety regulations (1)
- Any other reasonable response (1)

1.7 keyword crossword

Complete the crossword puzzle below



Across

- A type of engineer who installs and maintains sewage pipes, drainage, roads and bridges
- Who am I? I strip walls, apply wallpaper, paint doors, ceilings and walls
- Who am I? I cut and fit door frames and skirting, build roof trusses and stud walls
- Who am I? I prepare walls for plaster, fit plasterboard and skim ceilings
- The roles in construction that require degree level training
- Who am I? I cut pipes, fit hot and cold water systems, unblock drains
- A particular area of skill within the construction industry. Training and qualifications are varied
- A type of engineer who fits lifts, air conditioning and heating systems

Down

- Who am I? I prepare surfaces, cut tiles, apply tiles with adhesive and grout them
- Who am I? I mix cement, lay rows of bricks and check the levels
- Who am I? I install and check lighting, power sockets and rewire building if needed
- A type of engineer who installs and checks lighting, power sockets
- A building or structure which has some architectural or historical interest