

# The construction industry

## Introduction to Module 1

The construction industry is very large and employs more than 2 million people in a wide range of jobs, from engineering and technical staff to skilled tradespeople and operatives. It is important for new or potential entrants to the industry to understand about the sector so that they can make informed career choices.

In this module, learners have the opportunity to explore some facts and figures about the industry and to see how these can be presented in different ways. There is also some material on work processes and job roles and work-related language which will serve as an introduction to the rest of the materials. At the end of the module, learners are asked to think about some of the important issues facing the industry, such as sustainability.

The module covers the following:

- statistics about the construction industry
- different ways to present data
- construction processes
- specialist words for construction work
- wages and conditions of employment
- research into an aspect of the industry.

The construction industry is diverse and learners will have their own areas of interest. It will be important to show learners how they can apply the skills learned in this module to other areas of research.

Skills for construction – Module 1: The construction industry					
Theme	Page reference	NOS/NVQ	Literacy	Numeracy	Key Skills
About the construction industry	Co 1:1–1:4		SLlr/E3.2	HD1/E3.1; HD1/L1.1; HD1/E3.2; N1/L1.1	N1.1
Construction processes and job roles	Co 1:5–1:6		Rt/E3.6; Rt/E3.8; Rw/E3.4; SLlr/E3.2		
Elements and components	Co 1:7–1:8		Rw/L1.1; Rw/L1.2; Rw/L1.3		C1.2
Pay and conditions of employment	Co 1:9–1:11			MSS1/L1.1; N2/L1.11	N1.1; N1.2
Sustainability and the built environment	Co 1:12–1:14		Rt/L2.5; Wt/L2.4	HD1/L1.1	C2.2; C1.3; ICT1.1; ICT2.1; ICT1.3; ICT2.3



# Skills checklist

The construction industry is huge. It employs more than 2 million people in the UK and covers all aspects of building and renovation.

If you are interested in a career in construction it is important to know about the industry and to find out what jobs are available and the sort of work people do.

This module will give you an introduction to construction and some facts and figures about the industry. You can then use the skills here to find out more about an area that interests you.

The skills listed in the table below will help you to find out more about the construction industry and the opportunities it offers. Tick the skills you feel confident about now. Complete the activities in this module to help you improve on the skills you have not ticked. Return to the list later to check any areas where you still need some practice.



Skills for the construction industry	Now	Later
Understanding facts and figures		
Reading graphs and tables		
Understanding specialist words for the construction industry		
Understanding information about wages and money		
Finding information from different sources		



## PAGES 1:1–1:4

# About the construction industry

### Occupational setting

Numbers are widely used in all areas of construction. As well as acting as an introduction to the construction industry, this theme explores the different ways in which statistics and other data can be presented and interpreting what this might mean. Learners will be looking at tables, block graphs and pie charts as well as large numbers. This may be new work for some learners, so expect them to need additional support.

### Materials

Examples of relevant tables, block graphs and pie charts

Card activity (1) and (2) from the Source material (0:01–0:02)

Did you know? sheet from the Source material (0:03)

Spending on construction table from the Source material (0:04)

Pie charts and Bar charts from the Source material (0:05, 0:06)

### Learning outcomes

- 1 To explore the ways in which numerical information can be presented (focus page)
- 2 To read and write numbers, including large numbers (focus page, Tasks 1 and 2)

### Suggested teaching activities

#### Introduction

- Ask learners to imagine the following numbers:
  - a coach full of people (about 50)
  - a wedding venue (about 300 people)
  - a large secondary school (about 1200 people)
  - Manchester United FC's stadium full of people (about 68 000)
  - all the people living in a town the size of Cambridge (about 109 000)
  - all the people living in Northern Ireland (about 1 700 000).
- Write the numbers on the board/flipchart, lining up the zeros like this:
 

50  
 300  
 1200  
 68 000  
 109 000  
 17 000 000
- Discuss each number and the reasons for using the zeros (i.e. to be a place holder for another digit). Explain to learners how the number changes if the zero is missed out.
- What is the value of the other numbers? For example, the 5 in 50 is worth 5 tens, the 1 in 1200 is worth one thousand, the 1 in 109 000 is worth one hundred thousand, etc.
- About 2 million people work in the construction industry. Ask learners how they could represent this number, both in figures and graphically (e.g. a pictogram).
- Use the Card activity from the Source material to illustrate the way in which numbers are constructed. Each player has a blank card (B). The cards from set (A) are placed upside down in the centre of the table. A target number is chosen from the selection provided (C) or any relevant number. Learners take turns to select a card from the centre pile and attempt to 'construct' the target number from the individual digits.

#### Focus page 1–2

- Discuss the statistics and the way they are represented. Are the figures in the first sentence easier to imagine when compared with the number of people living in cities? Is it easier to imagine 1 in 14 by looking at the pictogram? Is 35 miles easier to picture if you know how long it takes to drive it? Is it easier to imagine the weight of a bus than a tonne of steel?
- Discuss comparing numbers. How can this be done? Mention graphs, pie charts and tables and show examples of each. These are dealt with in more detail on the following pages.
- Discuss the numbers themselves. Remind learners of work done in the introduction.



- Play the audio clips to complete the two tasks at the bottom of the page.
- Note: numbers in thousands are common in construction – both to be written and read. If learners are having trouble writing and reading numbers up to thousands, they should be referred for further practice (e.g. *Skills for Life* Numeracy Entry 3 Unit 1 and Level 1 Unit 2).
- Give all learners practice at saying large numbers: write up some large numbers for volunteers to verbalise, or practise this in pairs. Extend to include millions and billions. Do learners know what each of these means? Ensure they know that a million is a thousand thousands, and a billion is a thousand millions. (This information is relevant in Task 2.)
- Graphical representation is explored in *Skills for Life* Numeracy Entry 3, Unit 5 and Level 1, Unit 5.

Curric. refs	NOS/NVQ	Key Skills
HD1/E3.1		N1.1
HD1/L1.1		
HD1/E3.2		
N1/L1.1		
SL1r/E3.2		

## Task 1

Find information in a table using row and column headings

### HD1/L1.1

- Before beginning the task, make sure learners know how to access information from a table. Include the following:
  - the vocabulary associated with tables – row, column, heading
  - using the title as a guide to what the table is about
  - using row and column headings
  - using a finger or straight edge, such as a ruler or card, to track across the rows and down the columns.
- Use the table on the page (a full-sized version of which is in the Source material) to exemplify each point.
- Help learners to understand the vocabulary in the first column of the table, referring to the glossary as necessary (e.g. 'infrastructure', 'public', 'private', 'industrial' and 'commercial'). Provide examples of the use of

each. Learners may need a significant amount of input here depending on their progress through their course.

- The skill focus for this task is the ability to read information from a table. However, you may find that this is a good opportunity to discuss the different sectors of work in the construction industry (although this may already have been covered elsewhere in the learners' course). Photocopy and cut up the terms and definitions from the glossary for learners to match.
- ESOL learners may need some additional support to cope with the unfamiliar concepts such as 'Public and Social Housing'. Draw on their experiences to enhance the discussion.
- Make sure learners are aware that the amount of money spent in the different areas per year is in millions of pounds. Offer comparisons to ensure learners comprehend the very large sums of money involved.
- Work together to find information on the table – tracking up and down columns and across rows. Pose simple questions and work out answers before progressing to the actual questions set in the task.

### If the learner has difficulty

- Learners who have problems with visual tracking skills will have difficulty keeping their place in rows and columns on the table. Use a ruler or piece of paper to help with this. An L-shaped or inverted-L-shaped card can help with tracking information on a table.
- Some learners may have problems with the scanning skills required to answer the questions and may need support to decide on the key words to look for.
- If learners are having difficulty using large numbers, refer to *Skills for Life* materials.
- Encourage learners to verbalise the numbers.

### Extension

- Ask learners to construct a list of typical buildings that would come under the headings of industrial, commercial and infrastructure, adding their own suggestions.
- Ask learners to pose questions to each other based on the data in the table.



## Task 2 3

Listen for information and find it in a table  
SLIr/E3.2

### N1/L1.1

- Make sure learners each have a copy of the Spending on construction table from the Source material and that they understand how to record their answers.
- Remind them about the row and column headings and remind them to listen out for these in the audio clip to help them find where they should be looking for the information to be circled.
- Play the first part of the audio clip. The words to listen out for are '2002' and 'new public housing'. If these row and column headings are used, the answer £1668 million pounds should be circled. Record the information as a group.
- Play the rest of the audio clip, one item at a time, for learners to record their own answers.

#### If the learner has difficulty

- ESOL learners may need extra support with saying large numbers. It may be worth pointing out some rules such as saying 'and' after a hundred, and that we say 'two thousand', not 'two thousands'. Give extra practice articulating the numbers.
- Play each item on the audio clip or read out the script several times for learners to listen for a different thing each time (i.e. column heading, row heading, number).
- Repeat the activity but use a more restricted list initially. Use different numbers and facts for extra practice if required.

#### Extension

- Learners read numbers from the table for their partner to circle.
- Ask learners to access further construction information presented in the form of tables from sources such as the Internet or CITB publications.

## Task 3

Find out about pie charts

### HD1/L1.1

- This task involves interpretation of a pie chart. If learners' experience of pie charts is limited, expect to spend some time on the skills required for this task. Further support can be

found in *Skills for Life* Numeracy materials Level 1, Unit 5. There may also be a need for some preparatory work on percentages, in particular to develop an understanding of what percentage means (rather than calculating percentage). This is covered in *Skills for Life* Numeracy Level 1, Unit 2.

- Find out learners' experiences of using pie charts. Ask: *Why is it called a pie chart?* Discuss the different terminology used for the 'slices of pie', for example 'section', 'sector'. 'Sector' is the word used in this task.
- Ask learners what the pie chart is about (Title). Ask learners what they understand by percentage.
- Make sure learners understand the key and the information it contains. Ask learners to answer question 1. This question helps learners to relate the information in the key to the sectors in the pie chart.
- Ask simple questions about the chart to help learners become familiar with the data (e.g. *What percentage of construction firms employ 2–3 people?*).
- Give practice in manipulating the data by combining two or more sectors for comparison with another sector (in preparation for question 5).

#### If the learner has difficulty

- Learners may have difficulty understanding that pie charts usually represent percentage or fractional amounts. Assist them by going back to the basics, for example: *Imagine there are 100 construction companies in Great Britain ...*
- ESOL learners may need some help in using comparatives such as bigger than, biggest, etc.

#### Extension

- Question 3 is a good discussion point and an interesting fact about the industry – 44% of all construction companies are one-person concerns.
- Refer learners to the other Pie charts in the Source material and ask them to write some sentences making comparisons between the two pie charts. For example: Only 2% of construction firms employ more than 34 people yet this 2% undertakes 65% of all construction work. (Note that the top pie chart is the same as the one on the learner task page.)



- Ask learners to access further construction information presented in the form of pie charts from sources such as the Internet or CITB publications.

### Task 4

Compare data in a bar chart

HD1/L1.1

- Ensure learners understand bar charts, including the following:
  - **Vocabulary:** bars, rectangle, axis, axes, headings, title, vertical, horizontal. Pose questions about the bar chart to ensure learners understand these terms.
  - **Scale on the vertical axis** *What does each mark represent? How do you mark off 20, 40, 60, etc.? How do you mark off 50, 70, 90, etc.?*
- Question learners about information they can obtain from the chart. (Note that the vocabulary/terminology used on the horizontal axis of the bar chart was covered in Task 1.)
- Ask learners to complete Task 4.

#### If the learner has difficulty

- Some learners may have difficulty reading off the vertical axis. Help learners by going through the value of each bar in turn. Ask simple questions to confirm their understanding.
- Use a straight edge to read off the value on the vertical axis.
- Check that learners understand the missing values on the scale – use other examples if this is a problem.

#### Extension

Ask learners to compose similar questions about the Bar charts in the Source material to pose to each other. (Note that the top bar chart is the same as the one on the learner task page.)

### Task 5 4

Listen to some information about a bar chart and count the errors

HD1/L1.1

SLlr/E3.2

- Remind learners to check each item one by one and to count up the total number of errors. Play the audio clip or read the script aloud.
- Play the audio clip again for learners to confirm their answer.

- Ask learners to list the errors and to correct them.

#### If the learner has difficulty

Play/read the audio clip one sentence at a time and allow learners to decide whether the information is correct.

#### Extension

- Ask learners to compose a similar script, using information from the bar chart to read to other learners.
- Ask learners to access further construction information presented in the form of bar charts from sources such as the Internet or CITB publications.

## Theme assessment

- Ask learners to read across a whole row of the table, for example: In 2002 £1668 million was spent on new public housing but in 2003, £2009 million pounds was spent; other learners guess which row is being read out. Allow time for individual learners to practise before reading aloud.
- Use the Pie charts in the Source material to make a quiz based on comparisons, for example: *Is it true that the 44% of firms employing one person undertake only 3% of all construction work?*
- Using the two Bar charts in the Source material, ask pairs of learners to explain the information shown on the chart to a partner. Give questions that will enable learners to pick out specific information.



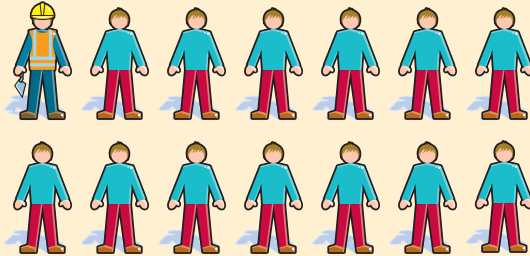
# About the construction industry

Focus

## Did you know?

There are 40 000 professionals and consultants and 1 500 000 site workers in the UK construction industry. That's 1.54 million in total – the same as all the people who live in Leicester, Bristol, Leeds, Coventry, Bradford and Derby combined.

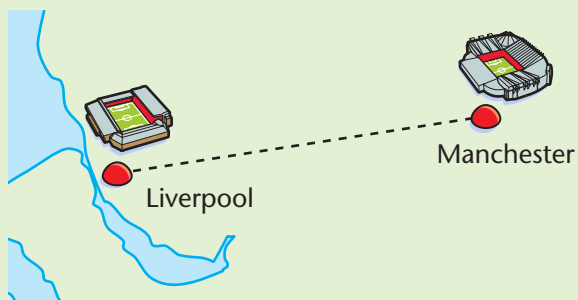
1 in 14 workers in the UK is a construction worker. That's 2 in every 28, 3 in every 42, 4 in every 56 ... 10 in every 140 ... 100 in every 1400.



Vast quantities of materials are used in the construction industry. For instance ...

- There are 35 miles of heavy-duty power cables in the new Wembley stadium.

That's the same as the distance between Liverpool FC's stadium and Manchester United FC's stadium. It would take about 45 minutes to drive this distance.



- A total of 1700 tonnes of steel were used in the construction of the London Eye. That's heavier than 250 double-decker buses.



## Try this



Listen to the numbers. Circle the numbers you hear.

170

107

1007

2450

2045

2405

602

620

6002

3080

3008

3800



Listen to the numbers. Write down the numbers you hear. (The first one has been done to help you.)

9073



# About the construction industry

## Task

Tables are one way of presenting information clearly.

Spending on construction in Great Britain		
	New construction	
	2002 £ million	2003 £ million
Public housing	1668	2009
Other public work	6148	8782
Infrastructure	7997	7270
Private housing	9624	13 183
Private industrial	3351	3603
Private commercial	14 960	14 930
Total	<b>43 748</b>	<b>49 777</b>
	Repair and maintenance	
	2002 £ million	2003 £ million
Public housing	6217	7490
Other public work	6530	7867
Private housing	12 698	13 953
Other private work	12 211	13 567
Total	<b>37 656</b>	<b>42 877</b>
<b>Total spending</b>	<b>81 404</b>	<b>92 654</b>

### Remember!

- Look up and down the columns.
- Look across the rows.
- Use the column and row headings to help you find your way.

## Task 1

Look at the information in the table on Spending in construction from the Source material. Decide whether these statements are true or false.

- 1 The table is about how much money was spent on construction in Great Britain in 2002 and 2003. True / False
- 2 More money was spent on infrastructure in 2002 than in 2003. True / False
- 3 In 2002, more money was spent on building new public housing than on repairing public housing. True / False
- 4 Three thousand and sixty-three million pounds was spent on new private industrial constructions in 2003. True / False
- 5 In 2003, the total cost of repair and maintenance to buildings was more than the total cost of new construction. True / False



## Task 2

3

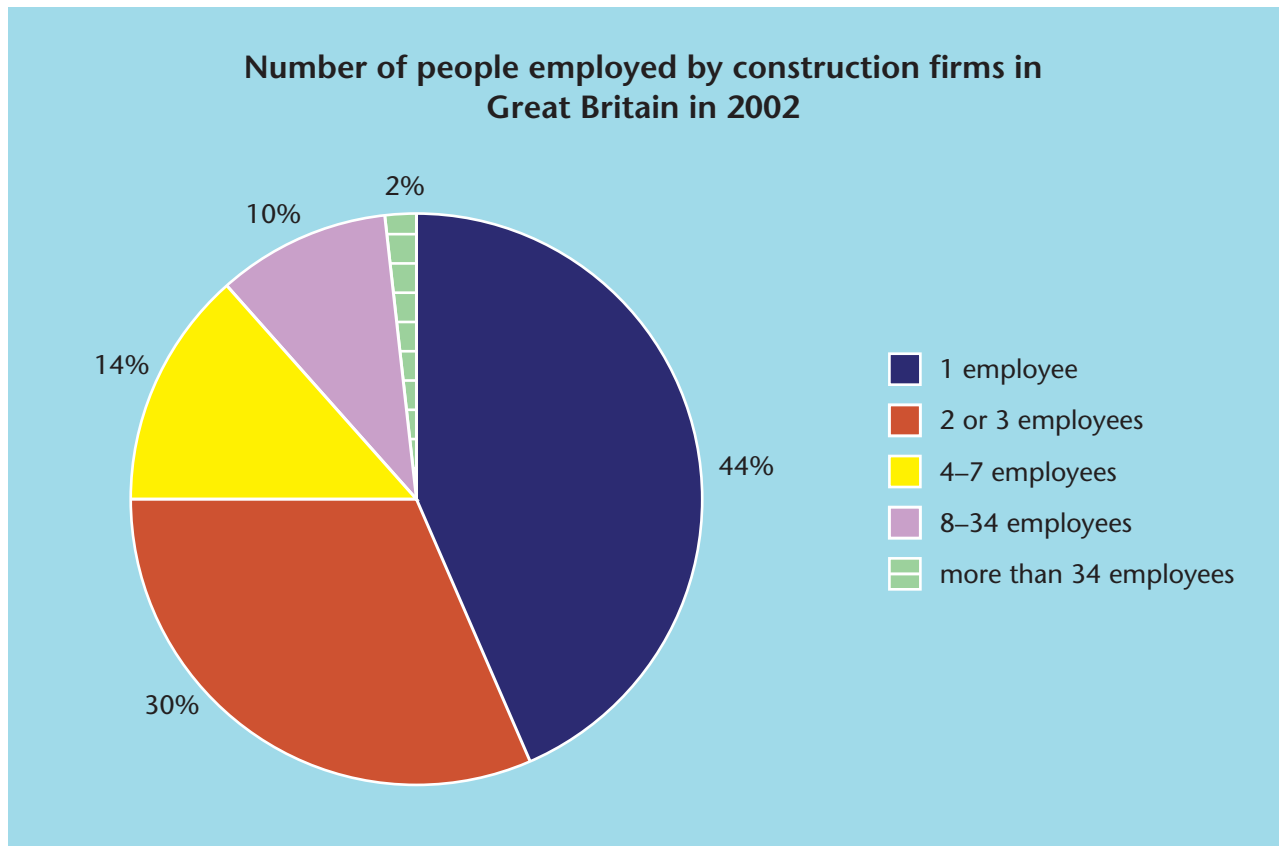
Listen to the newsreader talking about the information in the table. Circle each number on the table that you hear.



# About the construction industry

**Task**

You may also see information about the construction industry presented as a pie chart.



## Task 3

Use the information in the pie chart above to answer the questions.

1 How many sectors are there in the pie chart? \_\_\_\_\_

2 In 2002, 14% of the construction companies in Great Britain employed 4-7 people.

True / False

3 Which is the biggest sector? \_\_\_\_\_

4 What percentage of all construction firms employ more than 34 people? \_\_\_\_\_

5 More companies employ 4-34 people than employ 2 or 3 people.

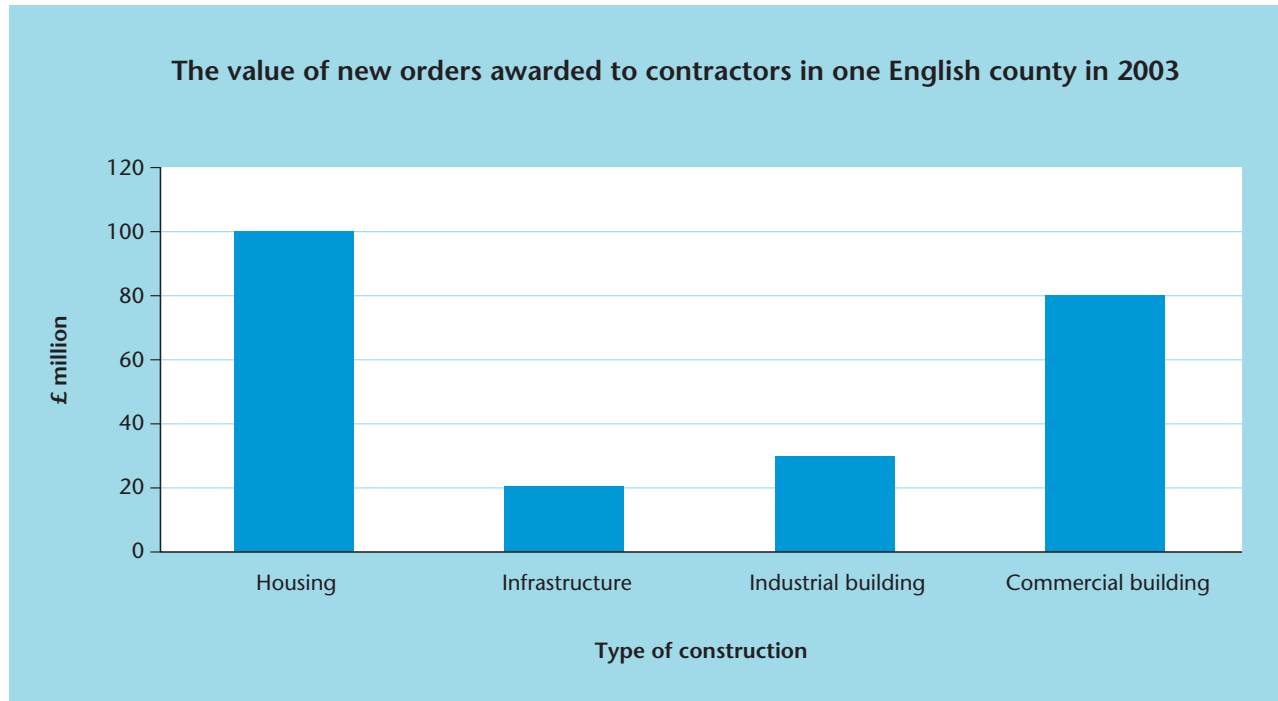
True / False



# About the construction industry

## Task

Bar charts are another way of representing data. This bar chart gives information about the construction industry.



## Task 4

Decide whether the following statements are true or false by looking at the information in the bar chart.

- 1 More money was spent on housing than on commercial building. True / False
- 2 20 million pounds was spent on infrastructure. True / False
- 3 80 million pounds was spent on industrial building. True / False
- 4 20 million pounds more was spent on housing than on commercial building. True / False
- 5 20 million pounds less was spent on infrastructure than on industrial building. True / False

## Task 5



Listen to the information about the bar chart. List the errors you hear.

4

How many errors are there? Circle your answer below.

1   2   3   4   5



## PAGES 1:5–1:6

# Construction processes and job roles

### Occupational setting

As demonstrated on page 1:1, the construction industry is vast and involves many workers and many trades and professions. An understanding of the cycle of construction activity gives the learner knowledge of where he or she fits into the cycle and of the value of the part he or she plays. It also demonstrates where job roles overlap. This theme demonstrates the cycle of construction activity and encourages the learner to think about job roles within the industry.

### Materials

Access to the Internet

Selection of job profiles (from CITB, Connexions or LearnDirect)

Trades and professions sheet from the Source material (0:07)

Job descriptions from the Source material (0:08–0:09)

### Learning outcomes

- 1 To use alphabetical order to locate information (focus page)
- 2 To use format to locate information (focus page, Tasks 1 and 2)
- 3 To read in detail (focus page, Tasks 1, 2)

### Suggested teaching activities

#### Introduction

- Give learners a copy of the Trades and professions sheet from the Source material. Ask them to categorise the trades and professions cards. (There are blank spaces for learners to add further relevant job titles if required.) Discussion might produce categories such as: by qualification; indoor/outdoor; desk/manual; operative/craft/technical; skilled/unskilled; technical/professional. If necessary, cut out the job titles so that learners can move them between chosen categories.

#### Focus page 5

- Introduce and discuss the cycle of construction. Begin at the town and country planning stage and take learners through the cycle to actual construction. Talk about the terms maintenance, demolition, restoration and refurbishment. Point out the difference between refurbishment and restoration. Restoration is bringing a building back to its original condition whereas refurbishment is bringing a building up to modern standards. Maintenance involves keeping existing buildings at acceptable standards fit for use.
- Ensure learners know how to access the glossary to help with/remind them of the definitions of terms used.
- Fit the job titles on the page into the different stages in the cycle. On the board/flipchart, take one stage, and using it as a heading, list the job roles that may be involved in that stage, first from the page and then from the Source material. The point here is to note that the majority of the job roles will be involved in more than one stage of the construction process. For example, a plasterer may be involved with a project at the construction, maintenance or refurbishment and conservation stages.
  - Discuss ways of listing the job roles (numbered list, bullet points, straightforward list). A numbered list is usually used for listing items such as instructions in order. Bullet points or a straightforward list are more appropriate here as some job roles will appear in more than one list.
  - Discuss listing the job roles in alphabetical order. Ascertain understanding of alphabetical order. If necessary demonstrate using a list on the board/flipchart.
- Take another stage and, using it as a heading, get learners to list the job roles in alphabetical order using the chosen list type.
- On a separate piece of paper, get learners to repeat the exercise with the remaining stages. Learners who are having difficulty with alphabetical order could use the cut-out job



titles from the Source material to get the order right before committing it to paper.

- With some learners it may be helpful to check pronunciation of the job titles.
- Play the audio clip and ask learners to guess the job being described.
- In pairs, ask learners to list three things about their jobs, using a title and bullet points.
- Direct learners to [www.citb.org.uk](http://www.citb.org.uk), [www.connexions.gov.uk](http://www.connexions.gov.uk), [www.learnirect.co.uk](http://www.learnirect.co.uk) for lists of job titles and links to job profiles.

Curric. refs	NOS/NVQ	Key Skills
Rt/E3.6	N/A	N/A
Rt/E3.8		
Rw/E3.4		
SLlr/E3.2		

### Task 1 6

Listen to a description of a job and use headings to locate information about it on a job profile  
SLlr/E3.2

Rt/E3.6  
Rt/E3.8

- Remind learners that when faced with a lot of information to read, it is often possible to use headings to locate just the part they need to read in detail. Headings are often different from the rest of the text – bigger, in a different colour, italic, bold, etc. Offer advice for scanning the titles to find the one required, and point out the tip. Offer advice about reading in detail – it may be necessary to read more than once, look up unknown words, rephrase, etc.
- Play the audio clip through once for gist.
- Play the audio clip again for learners to complete the task.

#### *If the learner has difficulty*

- Read the audio script a section at a time and help learners to find the correct heading on the job profile.
- Give learners a copy of the audio script and ask them to match up the parts of the script to the correct parts of the job description. For example, draw arrows to match up the phrase 'I like working up high' to 'head for heights' under the heading 'Skills and interests' on the job profile. Match up the phrase 'I lift and

carry scaffolding all day so I suppose I'm quite strong' to 'agility and strength' on the job description.

- ESOL learners may need extra help with the terminology. Help learners to match up words in the audio clip (e.g. 'strong') to words in the job profile ('strength'). Help learners with any phrasal verbs (e.g. 'put up') and idiomatic phrases (e.g. 'down to me').

#### *Extension*

- Ask learners to compose a short talk about their own job, using headings on the job profile, to present to other learners.
- Construct a 'What's my line' quiz using cards with different job descriptions. Learners ask questions that can be answered yes or no to find out what the job is.

### Task 2

Answer questions from job profiles

Rt/E3.6

Rt/E3.8

- Ensure learners each have a copy of Job descriptions from the Source material.
- Remind learners about use of headings and reading techniques.
- Point out the tips.

#### *If the learner has difficulty*

Compose alternative questions about different aspects of just one job description and get learners to complete them one at a time.

#### *Extension*

Ask learners to compose further questions for each other to complete.

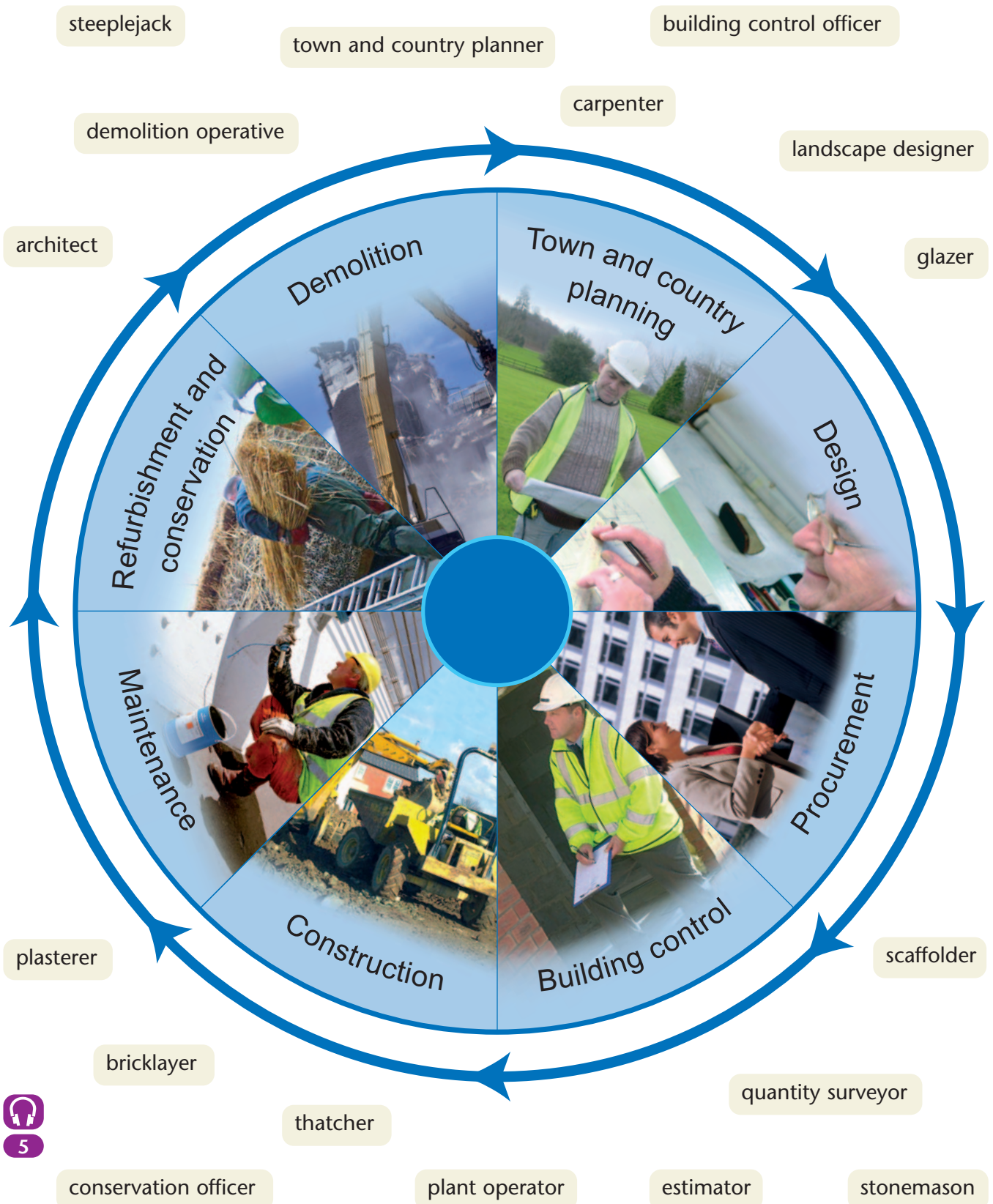
### Theme assessment

Ask learners to find a job profile from the Internet and compose questions about it for other learners to complete.



# Construction processes and job roles

Focus





# Construction processes and job roles

## Task

### Task 1



Listen to Debbie talking about her job as a scaffolder. Look at the job description below. Tick off the things she mentions.

#### Scaffolder

##### The work

- Put up scaffolding or working platforms for use by construction workers when building, maintaining or repairing structures and keep the construction work going.

##### Hours and environment

- Basic 37.5 hour week Monday to Friday, but times may vary to take account of daylight/to avoid disrupting businesses.

##### Skills and interests

- awareness of safety issues
- practical ability
- head for heights
- agility and strength
- ability to use a range of tools
- like working outside.

##### Entry

- No formal qualifications but GCSEs useful.

##### Training

- Apprenticeship leading to NVQ Level 2.
- College courses to gain NVQ.

#### Tips

- 1 Use the **headings** to find your way around each job profile.
- 2 Remind yourself of the word you're looking for and let your eyes skim over the text until you see it.
- 3 When you find what you need, read it in more detail to find the exact information.

### Task 2

Use the job descriptions from the Source material to answer these questions.

- 1 The training for a Demolition Operative is provided on the job. True / False
- 2 The work of a Road Construction Operative involves setting up warning signs and cones and managing pedestrians and traffic close to the site. True / False
- 3 Unsocial hours are common for a Construction Plant Operator. True / False
- 4 There are no entry requirements for an Architectural Technician. True / False
- 5 The work of a Demolition Operative involves two different ways of demolishing and dismantling a building. True / False
- 6 A Construction Plant Operator should be interested in working with computers. True / False



## PAGES 1:7–1:8

## Elements and components

## Occupational setting

The construction industry, like all industries, has a technical language of its own. Much of the technical language will be specific to a trade or occupational setting but some language is common to the whole industry. This includes an understanding of language about structures, components and elements. Understanding the specialist and technical language is important and learners will need to establish strategies for interpreting language. This theme gives learners strategies for finding the meanings of words. It does not relate to any particular unit within the Occupational Standards but underpins knowledge for many aspects of construction work.

## Materials

Dictionaries

Glossaries

Section through a house from the Source material (0:10)

## Learning outcomes

- 1 To use reference material to find the meaning of unfamiliar words (focus page, Task 1)
- 2 To develop strategies to work out the meaning of words (focus page, Tasks 1 and 2)

## Suggested teaching activities

## Introduction

- Stress the importance of knowing the meanings of words – in both spoken and written instructions – so that mistakes do not occur. Ask for suggestions as to how the meanings of words can be ascertained. Expect dictionary, glossary, asking, using sense of rest of sentence/instruction. Include a specialist dictionary in this list.
- Write the word 'structure' on the board/flipchart. What other words do learners know that are based on this word? (There is a list on the task page.) List all the words, adding extras if necessary.
- Draw attention to the prefixes 'super' and 'sub'. Ask learners for other examples.

## Focus page

- Read the sentence at the top of the page. What does it mean? Some of the words are specialist words that would be in a glossary or specialist dictionary. Which are they? Expect 'structure', 'element' and 'component'. Look up each one in a glossary or specialist dictionary and write the definitions on the board/flipchart.
- Other words will be in an ordinary dictionary but care must be taken to choose the right definition. Look up 'function'.
- Reword the sentence using knowledge gained from looking up words. The diagram on the page exemplifies the meaning of the sentence and should be used in the explanation.
- Go through examples of components with learners and ask them to suggest others. (You will need to use your own specialist knowledge of construction here to ensure that all additions to the list are components.)
- Go through the list of example elements. (Again use your own specialist knowledge of construction to ensure that all additions to the list are elements.)
- Depending on the learners' progress on their course and the time available, you may want to take this opportunity to distinguish between primary, secondary and finishing elements and make lists of each with learners. Otherwise, it may be sufficient to point out to learners that elements are divided into the three categories given on the focus page.
  - Primary elements are those essential to a structure, such as walls and foundations.
  - Secondary elements are non-structural elements such as windows and doors.
  - Finishing elements are things such as paint, plaster and rendering.
- Ask learners to try the activity on the focus page, using the full-sized Section through a house from the Source material. This practises construction knowledge so it does not matter how much additional explanation is needed. The point of the exercise is for learners to see



how primary elements are used in a structure and the importance of using the correct terminology.

- Encourage learners to keep a personal notebook with words and definitions.

Curric. refs	NOS/NVQ	Key Skills
Rw/L1.1	N/A	C1.2
Rw/L1.2		
Rw/L1.3		

### Task 1

Use technical words to label a drawing

Rw/L1.1

- Familiarise learners with the drawing and the method to complete the task. Model this for learners if they are unclear.
- Remind learners they can look quickly down the list until they find the letter they are looking for, before reading the definitions more carefully.

#### *If the learner has difficulty*

- Check that learners are able to interpret the drawing.
- Assist in reading and rewording the definitions. The language here may be daunting for learners. Labelling a real staircase will be useful if this is possible.
- Arrange sticky notes or cards on the drawing. Explain the use of initial letters as a way to check that they have the correct label.

#### *Extension*

Give learners a list of specialist terms relevant to their work setting and ask them to find definitions in a glossary or specialist dictionary.

### Task 2

Use words from the root word 'structure' to complete sentences

Rw/L1.3

- Remind learners of work done on the focus page.
- Go through the list of words. Point out that although they are all derived from one word, they have different meanings. Discuss prefixes such as 'sub' and ask learners to think of how these affect the meaning of other words.

- Make sure learners can access the glossary to help them match the definitions to the sentences.

#### *If the learner has difficulty*

- Read the sentences aloud to learners, trying different words in the spaces. Which sounds right?
- Look up the meanings in a dictionary. Some learners may need additional support with this. Encourage them to keep a personal notebook for words that they need.
- Use cards and definitions as a matching game – this can be built on throughout the programme and used in a range of activities and games.

#### *Extension*

- Take another word such as 'operate' (from Latin 'work') and ask learners to list associated words and phrases that may be used in the construction industry (e.g. operative, operating, operation, cooperate).
- Encourage learners to play with words to give them confidence. Word games and quizzes can also be used here.

## Theme assessment

Ask learners to identify and list specific elements and components within their own work setting.



# Elements and components

Focus

Look carefully at the words to see if you can make more sense of the sentence.

A **structure** is an **organised** combination of connected **elements** and **components** which together perform a required **function**.

What does this mean?

## Components include:

- panels
- bricks
- tiles
- pipes
- lengths of timber
- steel members
- frames
- cabinets.

**Components** go together to make the **elements** in a building:

- roofs
- floors
- walls
- foundations
- stairs
- doors
- windows.

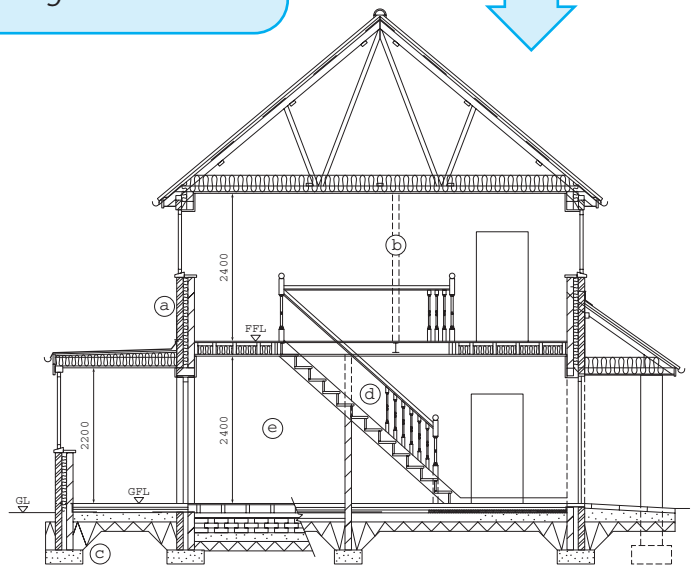
There are: *primary elements*  
*secondary elements*  
*finishing elements.*

**Elements** are **organised** into a **structure** that has a particular **use**.

Match these **elements** to the labels in this diagram:

- external wall
- internal wall
- upper floor
- ground floor
- foundations.

A full-size version of the diagram is provided in the Source material.



**You'll find the meaning of some words in a glossary.**

A **glossary** is a list of specialist and technical words arranged in alphabetical order.

**Non-specialist words can be found in a dictionary.**

A dictionary is also arranged in alphabetical order.

**You can work out the meanings of some words by thinking about what you know already and what the rest of the sentence says.**

It sometimes helps to explain things to a friend in your own words.

Always ask if there is something that puzzles you.



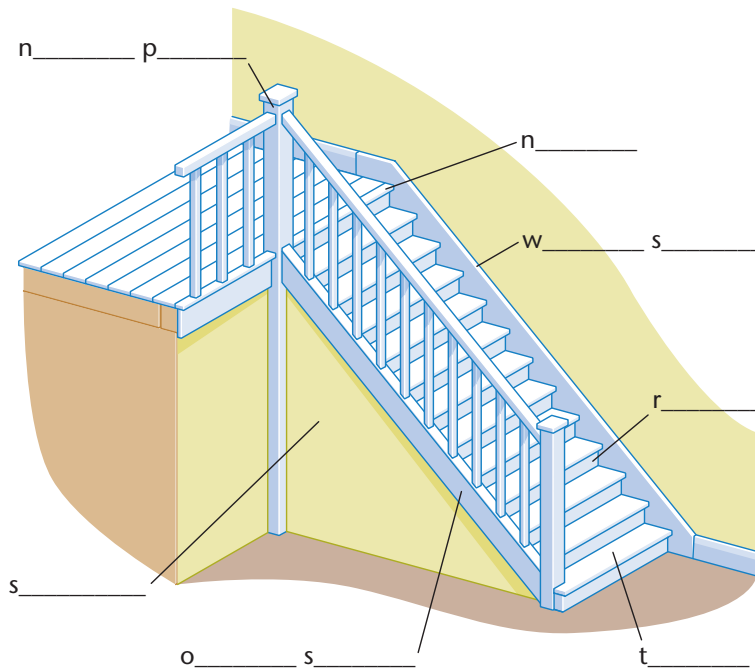
# Elements and components

## Task

### Task 1

Use this page from a glossary to complete the labels on the diagram.

What does this mean?



**newel (post)** a large vertical post at either end of a flight of stairs into which the *string* is jointed

**nosing** the overhanging edge of a stair *tread*

**riser** the vertical part of a *step*

**spandrel** the triangular area formed under a flight of *stairs*

**stair** the series of *steps* that form a stairway

**step** a combination of *tread* and *riser*

**wall string/outer string** the inclined board of a *stair* into which the treads and risers are cut or housed. Depending on their position they will be called either *wall string* or *outer string*

**tread** the horizontal part of a *step*

**Structure** – this word comes from the Latin word meaning ‘to build’. The word ‘structure’ is used in different ways. Part of the word also appears in these words.

structures  
structural  
substructure  
superstructure

construction  
constructing  
constructed

destruction  
destructive

### Task 2

Choose the best word from the list above to complete each of the following sentences.

- 1 The \_\_\_\_\_ engineer does calculations and drawings to help an architect design a building.
- 2 \_\_\_\_\_ sites can be dangerous places.
- 3 The \_\_\_\_\_ of a building is below ground level.
- 4 One of the jobs of a demolition gang is the \_\_\_\_\_ of existing structures.
- 5 The \_\_\_\_\_ of a building is above ground level.



## PAGES 1:9–1:11

## Pay and conditions of employment

## Occupational setting

The conditions of work in the construction industry are determined by the terms on which workers are employed – and these are extremely variable. This theme discusses the different methods of employment and looks at the language used in conditions of employment. Hopefully all learners will have had some experience of working for wages and so will be familiar with job adverts and pay slips. The second focus page looks in a bit more detail at these and gives practice in making money calculations to work out wages from job adverts and to check pay slips. It gives an opportunity to discuss deductions, what they are for and how they are calculated.

## Materials

*Working in Building and Construction* booklet from Connexions

Job adverts from local papers/Internet

Examples of blank pay slips

## Learning outcomes

- 1 To understand the language associated with employment generally and the construction industry in particular (focus page 1)
- 2 To understand the components of a typical payslip (focus page 2)
- 3 To calculate wages using information from job adverts (focus page 2, Tasks 1 and 2)

## Suggested teaching activities

## Introduction – focus page 1

- Ask learners about their experiences of doing paid work and any problems or misunderstandings they have had.
- Discuss issues of importance to learners, such as the national minimum wage, minimum wage set by the Building and Allied Trades Joint Industrial Council (BATJIC), local rates of pay,

weekend and weekday overtime rates, holiday entitlement and working time regulations. You will need to explain these terms in full, particularly to ESOL learners.

- Are learners self-employed or employees? If employed, are they employed by a contractor or a subcontractor? These terms will need explanation. Make sure learners know how to access the glossary. Note learners' experiences on the board.
- Ask learners to consider other questions about their conditions of employment, for example how they are paid (hourly, daily, weekly, monthly, annually, by the contract, by gang). Do they know how much their gross and net pay is and how much is taken off in deductions? Discuss different ways 'pay' is expressed (e.g. salary, wage, pay, fees). Acknowledge the difficult vocabulary. List any new/confusing terms on the board/flipchart.

## Focus page 1

- Take each person in the photographs in turn and discuss the issues arising from what they have to say (e.g. the length of the working week, minimum wages). What does 'per' mean?
- Draw learners' attention to the glossary and check they know how to access it. Model looking up a word and re-wording it to check for sense (e.g. *It says here that 'per' means 'each', so £7.50 per hour means £7.50 for each hour worked. You'll get paid £7.50 for every hour you work.*).
- Either as a group or in pairs, ask learners to give their own interpretation of the meanings of the words in bold and to look up any words they are not familiar with in the glossary and list them. They should also list other words that require interpretation.
- Encourage learners to establish a personal glossary or notebook. This will be particularly helpful for dyslexic learners and ESOL learners.
- Check answers.



## Introduction – focus page 2

- Discuss with learners where they look for jobs. What are the options? What is the best place locally? Is there somewhere that is particularly good for specific jobs (e.g. the local building site notice board is the best place to look for labouring jobs in construction). Confirm that there are many places to look for job vacancies. Include reference to personal contacts within the industry as well as more traditional routes.
- What information do you usually expect to find in a job advert? List ideas on the board. If necessary, discuss abbreviations found in adverts. You could also talk about how you apply for jobs: in person, by phone, by completing an application form, by interview.
- Look at the adverts in local newspapers. Find the highest paid job. Find the lowest paid job. Find three jobs with different hourly rates. Find as many examples of different ways to apply for jobs. Find an example of a part-time job, a job involving shift work, a full-time job, etc. Find examples of jobs that specify particular qualifications or that state you need no qualifications. You can extend this activity to suit the particular needs of the learners.

## Focus page 2

- Look at the two job adverts, which show examples of salaries quoted on an annual and an hourly basis, with calculations of how much this means per week and per month.
- Work through the calculations. How is the sum arrived at? Work through this verbally if necessary (e.g. *£13 650 is the pay for the whole year. To find how much you get each week you have to divide this amount by the number of weeks in a year. That's 52 ...*)
- Work through the examples together, ideally using a calculator. Ensure that learners know how to use the calculator correctly.
- Look at the pay slip. Ideally display it on an OHT so you can indicate clearly which sections you are talking about. Look at each of the headings and ask learners what they think each heading means. Explain any vocabulary learners are still unsure of. Check understanding of abbreviations (e.g. dept, plc, co., hrs, SMP).

- In particular, look at the deductions column. Explain what happens to the money from each of these. This might be an opportunity to discuss the pros and cons of 'cash in hand'. Ask learners to check the addition.
- If possible, display other examples of pay slips (without breaching confidentiality) and point out entries for pension, overtime, sick pay, etc. Ask learners to consider overtime. How will this be recorded? Will the rate of pay be the same?
- Work through the calculations involved in the pay slip. Some learners may need support to carry out calculations of this type, with and without the calculator. *Skills for Life* materials at Entry 3, Unit 2 and Level 1, Unit 2 provide some support for this.
- There may be some other language issues here, such as number of weeks in a year, working hours, the difference between salary and hourly pay, bonuses, etc. Make sure learners understand all of these. It might be an idea to make a quiz based on these focus pages to ensure learners understand all the language.

Curric. refs	NOS/NVQ	Key Skills
MSS1/L1.1	N/A	N1.1
N2/L1.11		N1.2

## Task 1

Calculate wages from adverts

MSS1/L1.1  
N2/L1.11

- Look through the adverts with learners, to ensure that they understand the information.
- Remind learners that there are 52 weeks in a year, and 12 months in a year. Point out the tip on the page.
- Encourage learners to use a calculator. If preferred, you could ask them to try out the calculations on paper first, then use the calculator for checking.

### If the learner has difficulty

- Check that learners understand the language of the adverts (e.g. 'calendar month', 'per week').
- Check that learners use the calculator correctly: keying in numbers and decimal points and using the appropriate function keys.



- Dyslexic learners may have difficulty reading numbers and sequencing them when using the calculator.
- Learners may have trouble locating the required information. Encourage them to use different colour highlighters to mark different information (pay, job title). This information can then be transferred onto sticky notes if necessary, thereby removing interference from the information not required.

### **Extension**

Set further similar questions based on these and other job adverts.

## **Task 2**

Convert wages information to one format

MSS1/L1.1

N2/L1.11

- Ensure learners have sound strategies for completing the task.
- Encourage learners to use a calculator. Alternatively, ask them to try out the calculations on paper first, then use the calculator for checking.

### **If the learner has difficulty**

- Check the learner has used an appropriate strategy to convert the salary information to one chosen format. You might like to specify that they convert to annual salary.
- Check their use of the calculator is accurate: keying in numbers and the decimal point, and using the appropriate function keys.
- Dyslexic learners may have some difficulties reading numbers and sequencing them when using the calculator.

### **Extension**

- Start a 'job of the week' board, where learners identify local jobs in their sector and make calculations based on the advert of the annual salary, hourly rate or whichever seems appropriate.

## **Theme assessment**

Look at further examples of wages quoted as annual salary, monthly, weekly and hourly from the local newspaper examples you have. Make a chart of these to show the annual, monthly, weekly and hourly equivalents.



# Pay and conditions of employment

Focus

Think about your pay.

Are you self-employed or an employee?

If employed, who do you work for – a contractor or a subcontractor?

What is your rate of pay? Are you paid by the hour, day, week, month, annually, or by contract?

What is your **gross** pay? What is your **net** pay?

How much is taken off your pay in deductions?

I've just left school. I want to get an **apprenticeship** but I'm working for the **minimum wage** at the moment.

I'm studying to be an architectural technician. I earn about £14 000 **pa** at the moment. In ten years I could earn a **salary** of up to £25 000.

I get £7.50 an hour working as an apprentice central-heating fitter. I get time and a half if I have to work any **overtime** to get a job done on time.

What is his **rate** of pay for overtime?

I'm a fully qualified bricklayer. I work on **contract** for the local authority. This means I'm **self-employed**. My **basic** is about £2000 a month.

I'm a trainee joiner. I'm employed by a **subcontractor** as an apprentice. I earn £126.75 a week before **deductions**. The firm I work for operates a **bonus** scheme so my take-home pay can be more.

I'm a **casual** labourer. I get about £50 **per** day when I'm working.

Look up all the words in **bold** in the glossary to check their meaning.



# Pay and conditions of employment

Focus

Which job pays the most?

**BUILDING AND CONSTRUCTION**

**JUNIOR ARCHITECTURAL TECHNICIAN**

Competitive salary of £13 650 with ability to earn further bonuses based on productivity. 37-hour week with additional overtime if required.

**01234 098765**

**BRICKLAYER** required to make up gang. £7.50 per hour. 37-hour week.

**01234 567890**

1 year = 52 weeks

$£13\,650 \div 52 = £262.50$  per week

1 year = 12 months

$£13\,650 \div 12 = £1137.50$  per month

Working week = 37 hours

$£7.50 \times 37 = £277.50$  per week

1 year = 52 weeks

$£277.50 \times 52 = £14\,430$  per year

<b>Connell's Builders plc</b>				
NAME <b>Greg Bromley</b>		W/E <b>27/04/04</b>		
WORKS/DEPT No <b>3229</b>		Tax Code: <b>474L</b>		
		Tax Week: <b>4</b>		
GROSS WAGES TO DATE	TAX DEDUCTED TO DATE			
<b>£1110.00</b>	<b>£145.35</b>			
<u>DEDUCTIONS</u>	£	p		
			<u>PAY</u>	
			<u>STANDARD</u>	
			HRS <b>37</b> @ <b>£7.50</b>	
			<u>OVERTIME</u>	
INCOME TAX	36	58	HRS @	
NATIONAL INSURANCE	20	51	BONUS, SICK	
OTHER			PAY, SMP	
TOTAL DEDUCTIONS	57	09	<b>GROSS PAY</b>	
			DEDUCTIONS	
			<b>NET PAY</b>	
			£	p
			277	50
			277	50
			57	09
			220	41



# Pay and conditions of employment

## Task

### Job 1

**Local** development company requires **scaffolder**.  
Immediate start. Must hold appropriate certificate.  
Basic wage £300 per week.

Call 01234 768594 between 8 am and 6 pm.

### Job 2

#### Site technicians

required for long-term contracts.

£18 000 pa.

Six weeks paid holiday per year. Bonus scheme. Overtime available.

For details telephone 01234 506978.

### Job 3

**Construction operatives** required. 40 hours per week. Continuity of work.

£5.00 per hour in first instance.

Must be 18 or over.

Tel: 01234 918273

## Task 1

Use the job adverts to answer these questions.

- 1 How much would you earn **per year** as a scaffolder?
- 2 How much would you earn **per month** as a site technician?
- 3 How much would you earn **per week** as a construction operative?

### Remember!

There are **52 weeks** in a year.

There are **12 months** in a year.

## Task 2

- 1 Work out how much each job pays per year.
  - a Job 1 \_\_\_\_\_
  - b Job 2 \_\_\_\_\_
  - c Job 3 \_\_\_\_\_
- 2 Which job pays the most? \_\_\_\_\_
- 3 Which job pays the least? \_\_\_\_\_



## PAGES 1:12–1:14

## Sustainability and the built environment

## Occupational setting

Learners completing an NVQ will need to provide evidence; other learners on construction courses, such as BTEC courses, may be asked to complete an assignment or research a project.

This theme shows a variety of techniques that might be useful when researching for a project or finding evidence for an NVQ. It contains a lot of information and it should not be expected that learners will be able to present their findings simply having read about it – a lot of practice is required. It also gives a framework for researching a project about some of the environmental issues relating to the construction industry. This is an example only and should be replaced with a scenario relevant to learners.

## Materials

Access to the Internet, printer, library, photocopier

Highlighter pens

Books, leaflets, newspaper articles and journals relating to environmental issues

Sources of information from the Source material (0:11)

Research record from the Source material (0:12)

A visit to a construction site will help learners see the impact on the environment

## Learning outcomes

- 1 To be aware of a systematic approach to research (focus page)
- 2 To investigate a variety of sources of information and discuss the skills needed to access them (focus page)
- 3 To use a variety of sources to investigate an environmental issue relating to the construction industry (Task 1)

## Suggested teaching activities

## Introduction

Why might learners need to do research in their personal lives? (e.g. buying a car, planning a holiday/wedding/works outing, taking out insurance) How do they go about it? (e.g. asking friends, using the Internet, reading books, magazines, etc.) Researching a project is much the same.

## Focus page

- Work through the points. Give an example of a relevant project title/outline and use the bullet points to analyse it. Model making an action plan/checklist on the board/flipchart.
- Link the graphics with different points in the text, for example: *What skills are used to do an Internet search? Are any different skills needed to find information in a written source?* If learners are unsure of any skills, refer them for practice to elsewhere in these materials, *Skills for Life* materials or for study support or an IT course.
- Discuss the different methods of presenting information shown on the next page. Which appeal to which learners? Where are some more appropriate than others?
- Ask learners about the processes that go towards final presentation, and list their ideas on the board/flipchart. You may end up with something like:
  - Remind yourself about the question.
  - Collect all your evidence and sort it out under the headings.
  - Reject any information that does not suit your purpose.
  - Work on a first draft.
  - Read your first draft through to check for gaps or to re-organise it. Always keep the question in mind.
  - Make as many more drafts as necessary until you are happy with the result.
  - Ask someone to read what you have written and give you feedback.



- Learners may wish to make a copy of the final list.
- Summarise and recap the information.

Curric. refs	NOS/NVQ	Key Skills
Rt/L2.5	N/A	C2.2
Wt/L2.4		C1.3
HD1/L1.1		ICT1.1
This theme uses a range of reading, writing and numeracy skills at Levels 1 & 2		ICT2.1
		ICT1.3
		ICT2.3

### Task 1

Investigate a topic using a variety of sources

Rt/L2.5

Wt/L2.4

HD1/L1.1

- Discuss the picture in relation to environmental issues. List on the board/flipchart possible areas in which building a road might affect the environment and the ways in which environmental impact might be reduced or overcome, for example: destruction of the natural environment, use of heavy plant, types of raw materials used, production of building components, pollution by vehicles, pollution of water courses, replanting of trees, recycling and reuse of materials.
- In pairs or small groups, ask learners to investigate one issue arising from the discussion and suggest possible remedies at different stages of the construction cycle. Remind learners of work done on the focus pages and in previous themes.
- Assist learners in deciding on an action plan/checklist. This should identify a specific area of research, methods of research (headings will help here) and sources of information. Learners will also need to think how they will present their findings.
- Guide learners to the variety of sources and assist in extracting information according to the checklist. Provide learners with a copy of the Research record from the Source material, where they should list the sources used.
- Each group/pair reports their findings back to the rest of the group.

### If the learner has difficulty

- Check learners understand the purpose of the task.
- Check use of skimming, scanning and detailed reading.
- Dyslexic learners may need support to structure their research activities.
- Some learners may need support with data handling and creating charts and graphs using spreadsheets.

### Extension

Learners produce their research as a final document or give a presentation to the rest of the group.

### Theme assessment

Ask learners to investigate a further area in the same way and produce a final document.



# Sustainability and the built environment

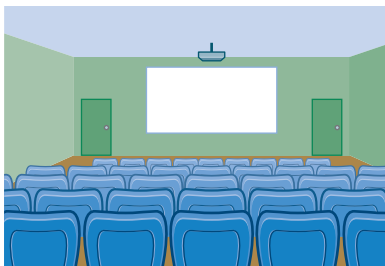
Focus

You have been asked to research a project. Use the tips on this page to help you think it through.

*What do I need to know?*

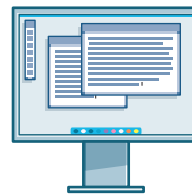
Be sure you understand the question you are answering.

- Read the question carefully several times.
- Underline the key words.
- Look up any words that are new to you.
- Explain the question to a teacher or colleague.
- List headings or key words for the things you need to find out.
- Make an action plan or checklist of questions or things to find out.



Videos and presentations

*How can I find information?*

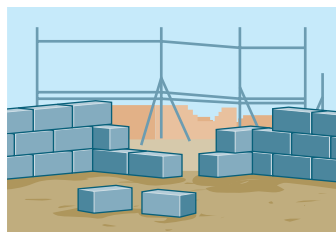


Internet



Written material

As you research, focus on your checklist of things to find out.



Site visits

- Use your headings or key words to start an Internet search or to use the library catalogue to search for information.
- Use the index, contents and headings to find your way around a text.
- Don't read every word. Search for your key words.
- As you read, look for answers to your questions.
- Highlight the useful bits.
- Read things more than once.
- Tell yourself the main points or ideas of what you have just read.

- Make notes or link ideas using a mind map.
- Keep a record of useful texts you come across so that you can go back to them.

- It may be necessary to change your action plan as you find out more information.
- Don't be afraid to reject information or change your plan.

- Don't believe everything you read on the Internet! You can get a quality information checklist from: [www.quick.org.uk/menu.htm](http://www.quick.org.uk/menu.htm).



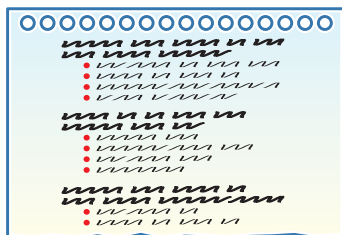
# Sustainability and the built environment

Focus

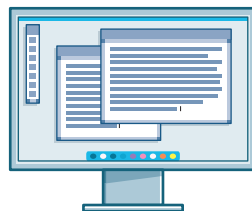


How shall I present my findings?

What makes information interesting for me?



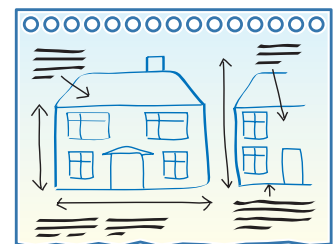
Handwritten assignment



Word process your work



Printouts



Sketches and drawings

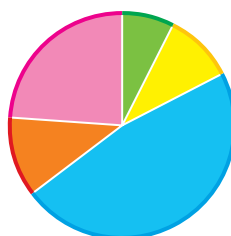
Your final results must be clear and interesting to the reader.

Always keep the question in mind.

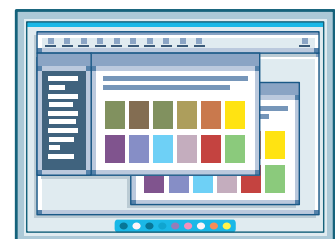
Present your information in different ways to add interest.



Photographs



Graphs, charts, diagrams and plans



PowerPoint presentation and screenshots



# Sustainability and the built environment

## Task



### Think about

- the environment
- use of materials
- impact on the local community

## Task 1

Discuss this picture with the rest of the group.

What do you need to know?

---

---

---

How can you find the information?

---

---

---

How can you present your findings?

---

---

---



# Check it

Please note that copies of the following pages of Source material are needed: 0:04, 0:05, 0:06, 0:08–0:09

- 1 Look at the Spending on construction table from the Source material (page 0:04). How much more money was spent on building private housing in 2003 than in 2002?
- A £3559
  - B £13 183 million
  - C £252 million
  - D £3559 million

HD1/L1.1

- 2 Look at the Pie chart showing the number of people employed in the construction industry in Great Britain in 2002 from the Source material (page 0:05). What percentage of construction firms employ fewer than eight employees?
- A 10%
  - B 88%
  - C 14%
  - D 24%

HD1/L1.1

Use the Bar chart from the Source material showing the value of new orders awarded to contractors in one English county in 2003 (page 0:06) to answer questions 3 and 4.

- 3 How much more money was spent on housing than on commercial construction?
- A £20 million
  - B £20
  - C £100 million
  - D £80 million
- 4 How much more money was spent on industrial construction than on infrastructure?
- A £5 million
  - B £10 million
  - C £10
  - D £25 million

HD1/L1.1

HD1/L1.1

- 5 Look at the Job descriptions from the Source material (pages 0:08–0:09). What is the minimum age of a Construction Plant Operator?
- A 16 years
  - B 17 years
  - C 18 years
  - D 19 years

Rt/E3.8



6 Which of these jobs is the least physically demanding?

- A Demolition Operative
- B Highway Operative
- C Construction Plant Operator
- D CAD Operative

Rt/L1.4

7 Which of these objects is a component in a building?

- A external wall
- B ground floor
- C foundations
- D pipes

Rw/L1.2

8 Which of these objects is an element in a building?

- A panels
- B pipes
- C lengths of timber
- D walls

Rw/L1.2

9 Look at this job advert for a construction operative. How much money would you earn in a week during your trial period?

- A £45.50
- B £220.00
- C £308.00
- D £200.00

## Construction operatives required

40 hours per week.

Continuity of work.

£5.50 per hour in first instance.

Rising to £6.10 per hour after trial period.

*School leavers welcome.*

**Tel: 01234 918273**

MSS1/L1.1

10 How much more money will you earn per week after the trial period?

- A £244.00
- B £0.60
- C £24.00
- D £240.00

MSS1/L1.1



# Audio

## PAGE 1:1

### About the construction industry

1

one hundred and seventy  
two thousand four hundred and five  
six hundred and two  
three thousand and eighty

2

nine thousand and seventy-three  
two thousand two hundred and eight  
five thousand four hundred and twenty  
seven thousand and sixty-one

## PAGE 1:2

### Task 2 3

In 2002, public housing accounted for 1668 million pounds of investment in new construction.

In 2003, spending on infrastructure was 7270 million pounds.

Repair and maintenance of private housing went up to 13 953 million pounds in 2003.

Total spending on construction projects in Great Britain rose from 81 404 million pounds in 2002 to 92 654 million pounds in 2003.

## PAGE 1:4

### Task 5 4

You are looking at some data for 2002. In this year, enormous amounts of money were spent on construction projects all over the country. This bar chart shows that the largest amount was spent on infrastructure and the smallest on commercial buildings.

## PAGE 1:5

### Construction processes and job roles

5

You have to be fairly fit, as there's a lot of lifting and carrying all day. You have to like working outdoors because a lot of the jobs are outside – in all weathers! You don't have to mind getting muddy in the winter and hot in the summer. A head for heights is useful because you have to be able to work on ladders and scaffolding sometimes. It's satisfying to see something you've helped build when it's finished. When I pass them in the street, I feel really proud of the things I've done. It's a good trade to learn.

## PAGE 1:6

### Task 1 6

I put up the scaffolding so that other people working on the building can get on with their jobs. It's essential that it's done properly because their safety is down to me. I like working up high – I enjoy the views. I lift and carry scaffolding all day so I suppose I'm quite strong. I didn't want to be stuck in a shop or office all day and this job gives me the freedom to learn a trade while being outside. I'm working towards my NVQ at the moment.



# Answers

## PAGES 1:1–14

### About the construction industry

#### Focus page

You should have circled:

170    2405    602    3080

You should have written down:

9073    2208    5420    7061

#### Task 1

- 1 True
- 2 True
- 3 False (in 2002, £6217 million was spent on repairing public housing; £1668 million was spent on building new public housing)
- 4 False (amount spent was £3603 million; three thousand and sixty-three million pounds is £3063 million)
- 5 False (total cost of repair and maintenance was £42 877, which is *less* than the £49 777 million total spent on new construction)

#### Task 2

Spending on construction in Great Britain			
	New construction		
	2002 £ million	2003 £ million	
Public housing	1668	2009	
Other public work	6148	8782	
Infrastructure	7997	7270	
Private housing	9624	13 183	
Private industrial	3351	3603	
Private commercial	14 960	14 930	
Total	43 748	49 777	
	Repair and maintenance		
	2002 £ million	2003 £ million	
Public housing	6217	7490	
Other public work	6530	7867	
Private housing	12 698	13 953	
Other private work	12 211	13 567	
Total	37 656	42 877	
Total spending	81 404	92 654	

#### Task 3

- 1 5
- 2 True
- 3 Firms employing 1 person
- 4 2%
- 5 False (24% of firms employ 4–34 people (14% + 10%), compared with 30% of firms with 2 or 3 employees)

#### Task 4

- 1 True
- 2 True
- 3 False (about £30 million)
- 4 True
- 5 False (the difference is about £10 million)

#### Task 5

There were three errors.

- The data is about 2003, not 2002.
- The largest amount was spent on housing, not infrastructure.
- The smallest amount was spent on infrastructure, not commercial buildings.

## PAGES 1:5–1:6

### Construction processes and job roles

#### Task 1

##### Scaffolder

###### The work

- Put up scaffolding or working platforms for use by construction workers when building, maintaining or repairing structures and keep the construction work going. ✓

###### Hours and environment

- Basic 37.5 hour week Monday to Friday, but times may vary to take account of daylight/to avoid disrupting businesses.

###### Skills and interests

- awareness of safety issues ✓
- practical ability ✓
- head for heights ✓
- agility and strength ✓
- ability to use a range of tools ✓
- like working outside. ✓

###### Entry

- No formal qualifications but GCSEs useful.

###### Training

- Apprenticeship leading to NVQ Level 2.
- College courses to gain NVQ. ✓

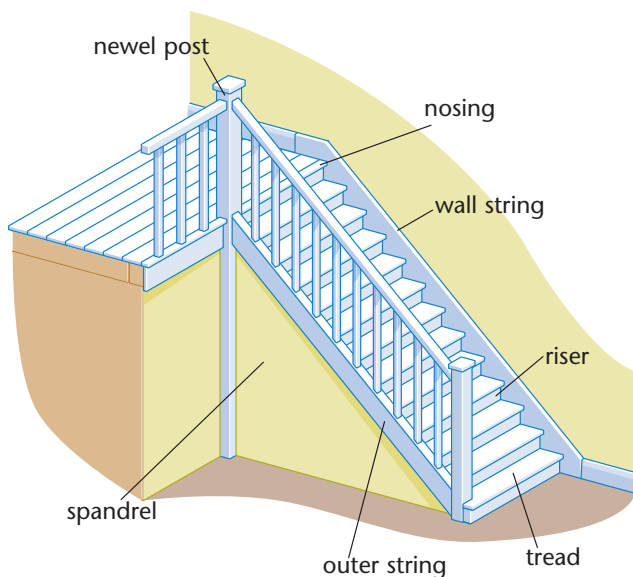


**Task 2**

- 1 True
- 2 True
- 3 True
- 4 False
- 5 False (three ways are given)
- 6 False (computers are not mentioned in the job description)

**PAGES 1:7–1:8****Elements and components****Focus page**

- a external wall
- b upper floor
- c foundations
- d stairs
- e ground floor

**Task 1****Task 2**

- 1 structural
- 2 construction
- 3 substructure
- 4 destruction
- 5 superstructure

**PAGES 1:9–1:11****Pay and conditions of employment****Focus page**

Overtime rate is £11.25 per hour.

**Glossary terms**

apprenticeship = period of training during which a person learns a trade from a skilled employer or professional

minimum wage = the least amount that an employer is allowed to pay an employee

subcontractor = an individual or company hired by a contractor to perform a specific task as part of the overall project

deductions = money taken from your gross salary to cover tax, pension contributions, National Insurance Contributions, etc.

bonus = extra money you may get (e.g. for working hard, doing a particularly good job or getting a job finished on time)

casual = somebody employed as a 'casual' is employed on a temporary or irregular basis (e.g. for a day or a week or a month)

per = for each

contract = written agreement between two people or companies (e.g. to do a particular task)

self-employed = working for oneself rather than an employer

basic = the amount you earn based on the number of hours you are contracted to work and the hourly rate

rate = the amount of money you earn per hour

overtime = extra hours worked

pa = abbreviation for 'per annum' (Latin), meaning 'each year'

salary = wages or earnings per year



**Task 1**

- 1 £15 600 ( $£300 \times 52$ )
- 2 £1500 ( $£18\ 000 \div 12$ )
- 3 £200 (40 hours  $\times$  £5 per hour)

**Task 2**

- 1 a Job 1 (Scaffolder)  $£300 \times 52 = £15\ 600$  pa  
b Job 2 (Site technician) £18 000 pa (given in advert)  
c Job 3 (Construction operative)  
 $£200 \times 52 = £10\ 400$
- 2 Job 2 (Site technician)
- 3 Job 3 (Construction operative)

**Check it**

- 1 D
- 2 B
- 3 A
- 4 B
- 5 C
- 6 D
- 7 D
- 8 A
- 9 B
- 10 C



