

Construction

Entry Level 3: Producing a timber product (F/502/3684)

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Introduction

Our Skilled for Life resources are designed to provide you with ideas for delivering the unit content and engaging tasks and activities that will help learners work towards assessment.

The materials consist of standalone sheets that can be used in a range of ways to suit most situations. Whether you are working in a classroom or a less formal learning environment, with individual learners or with groups, it is hoped that you will find these sheets and the accompanying tutor guidance notes useful.

The sheets are in pdf format; they are downloadable and may be photocopied for use only within your institution. Alternatively, learners can access them on-screen – the write-in sections are interactive so that answers to activities can be recorded electronically.

Each sheet addresses one or more of the assessment criteria in the unit (ACs are clearly marked at the top of each page). Page 1 of each sheet provides a starter stimulus or introductory idea based around the suggested unit content in the specification; it can be used to explain key concepts, or as the basis for a discussion. You could use the stimulus to draw together key learning points and encourage learners to engage with the topic or concept from the outset. There is plenty of scope for you to introduce your own content or ideas as well.

Page 2 of each sheet includes tasks that will consolidate learners' knowledge and understanding and, in some cases, may provide evidence for assessment.

This tutor guidance document provides detailed suggestions for how to use each of the resource sheets in the unit, and includes tips and advice together with suggested extension activities, alternative ideas, useful reference sources and answers to activities where applicable.

Guidance for tutors

Unit overview

This unit requires learners to make a wooden frame using simple halving joints, attaching timber sheet material to the back to produce a tray or a picture frame. Alternative products could be a noticeboard or a board game, depending on the backing material.

Since this unit often acts as a precursor to the Level 1 Unit Producing a Product, learners should be encouraged to create and manufacture their own designs, using basic wood-working skills with hand tools and timber.

Emphasis for this unit is placed on the learner making the correct selection and using safely the appropriate tools, materials, components and fixings. Tutors should encourage a reliable, positive and enthusiastic response to learning as an employer will value this in any prospective employees.

NOTE: These resource sheets suggest activities to enable learners to prepare for the practical tasks they will need to undertake in this unit. However, the tutor will need to ensure that the assignment chosen will generate suitable evidence to meet the assessment criteria fully. This evidence may be in the form of photographs (of the process and the finished product), observation records, or witness statements.

Learning and teaching activities in this unit

Resource sheet 1 - *The right tool for the job*

This task encourages learners to correctly identify the name and usage of common tools. The tools in this starter stimulus are an initial suggestion of the tools the learners will need to be familiar with.

You could begin with a collection of suitable tools, either on-screen or physically. Ask the learners to identify any tools they have seen or used before. Unknown tools could then be introduced and any similarities or differences discussed.

Once the learners have correctly identified the tool, write its name on the board to confirm the correct spelling. You may want to direct questions at specific learners to ensure the entire group is engaged.

This activity provides an ideal opportunity to reinforce the learners' knowledge of safe working practices and their understanding of the correct use of tools. It is also an opportunity to embed language skills, especially if the learners are encouraged to use short descriptions instead of simple words. For instance, explaining why a tenon is a backsaw,

instead of just saying: 'it cuts wood'. In this case, it may be necessary to provide a glossary of terms, or a small selection of appropriate words, to help the learners compose their descriptions

Activity 1 - What are these tools for?

This activity will allow learners to record their impressions of the purpose of a range of tools, and also reinforce their familiarity with tools, their names and their purposes.

Although this is a formative assessment of their learning, the underpinning knowledge could be presented in a variety of ways, e.g. flash cards or matching pairs. Another alternative is to show a selection of tools, then remove one and ask the learners to identify the missing tools and state what it would be used for.

For learners with low levels of numeracy, this is an ideal opportunity to investigate using a tape measure and practise recording metric measurements.



Stretch activity

Learners with prior knowledge of joinery could be given a range of similar items, like saws, and asked to explain what they are used for and why they are different.

Resource sheet 2 - Fixing things together

This sheet could be used to stimulate a group discussion on all the different ways that timber can be fixed together. It may be beneficial to have illustrations of other methods, such as simple halving-joints, and encourage the learners to think about the pros and cons of each method, particularly with reference to the strength and quality of the final product.

Activity 2 - Materials and fixings

This crossword encourages the correct spelling for different materials and fixings. For learners who are unfamiliar with wood-working terms, it could be introduced by displaying a collection of tools and materials, either on screen or physically, together with a list of appropriate words. The learners are then asked to select and identify each item. This activity could easily be adapted into a team competition. It could also be combined with a learners personal glossary of terms.

Crosswords are good energisers to use at the beginning of a session, particularly with groups of learners who are not good time-keepers. Late

comers can see that the class has started and that they may even have missed something they enjoy. Equally, they are useful to bring learners back on-task, perhaps towards the end of a session, to re-cap their learning.

As well as making students familiar with the words and how to spell them, crossword puzzles can be used to teach patience and problem solving skills.

Resource sheet 3 – *The right clothes for the job*

This sheet should introduce the concept of PPE and the importance of wearing the correct safety equipment when carrying out a carpentry or joinery task.

Use the starter photograph to generate a group discussion with the learners. Ask the learners:

- What does PPE stand for?
- Why do we have to wear it? Ask more confident learners to identify specific reasons why PPE is worn (e.g. safety goggles to protect the eyes from grit etc.).
- Why is there different PPE for other industries (e.g. care or hospitals)?
- What is the difference between accidents, injuries and diseases? Encourage more confident learners to identify examples of each, within the construction industry (e.g. falling from heights, slipped disc, eczema etc.)

For further information, download *A Short Guide to PPE at Work* from the HSE website at <http://www.hse.gov.uk/pubns/indg174.pdf>.

Activity 3 – *Getting the clothes you need*

This sheet provides an assessment of learning. Encourage learners to not only identify the item of PPE required but also its purpose. Promote correct spelling of terms.

The underpinning knowledge for this sheet can be presented in a variety of ways. For instance, have examples of different items available and get the learners to explain their function. For more confident learners provide a selection of similar items (e.g. hi-viz jackets, overalls, lab coat etc.) and get them to explain why there might be a difference between these – and what factors of the task might influence their choice.

It is a good idea to provide examples of what might happen if PPE is not worn or used correctly, in order to promote compliance. Some useful weblinks for this are included later in this resource. This is also a good opportunity to introduce aspects of other relevant legislation such as Manual Handling Operations Regulations 1992, COSHH and Work at Height Regulations 2005.



Stretch activity

More confident learners can also be asked to suggest PPE for more industrial situations, such as a wood machinist.

Resource sheet 4 - *Staying safe*

Use this starter stimulus to generate a discussion about safe working practices, safe use of tools and equipment, being aware of hazards, following safety signs and instructions etc.

This starter stimulus can build on the previous sheet, which dealt with concepts of health and safety and working safely, by placing these within the context of the actual work that the learners will be carrying out themselves. Be prepared to give learners practical demonstrations of the tasks, explaining to them the reasons for carrying out tasks, and the safety aspects they will need to consider.

Encourage learners to engage in a tutor-led discussion about these issues, and to feel free to ask questions. Alternatively, promote learner engagement by asking them to explain to the group why a part of the task is done in a particular way.

Activity 4 - *Using tools safety*

This sheet is to help learners identify the common faults they will encounter with hand tools and begin to state the remedies they will need to make to correct these. Examples that learners will need to be able to identify include:

- cutting tools – wood chisels and planes will need regular sharpening
- cold chisels must have mushroomed heads ground off regularly
- screwdrivers should not be used as levers nor struck with a hammer
- wooden handles – free of cracks or splinters and tight fit in the hammer head.

Get learners to suggest five reasons to ‘tidy up as you go along’. Examples would include:

- health and safety
- able to easily reach tools
- reduce clutter
- ability to think straight
- increased efficiency.

It is good practice to link the ideas about using tools safely with the importance of keeping the workplace tidy. Ask learners to compare this

with the reasons given for working in a messy environment. Generate a 'Pros and Cons' chart, where learners try to justify not keeping their work-area tidy.



Stretch activity

For more advanced learners, bring these ideas of the implications of unsafe use of tools out more fully by using case studies. Develop case studies similar to the one below and ask learners what went wrong and what they would do differently.

Case study

A mechanic liked to use his own tools. To free a bearing from an axle, he was using his own hammer and chisel. The chisel is slightly mushroomed, but the mechanic likes using it rather than the tools in the company workshop. It was difficult to separate and the mechanic was getting more and more annoyed, hitting the chisel hard and swearing as he worked. His supervisor came over to see what happened. Suddenly a chip flew from the head of chisel and hit the supervisor just above the eye.

Examples of things that went wrong include the following.

- Not using company tools.
- Mechanic swearing at work.
- Supervisor interfering with work.
- Insufficient training for work.
- Lack of maintenance with hand tools.
- (Best answer – no PPE).

Resource sheet 5 - *Measuring up*

This resource sheet is best used after learners have attempted their first frame. Often cumulative errors only tend to appear when learners try to fix all four corners together. Use this starter stimulus to generate a group discussion where learners identify what might have gone wrong with the frame in the picture. Examples include measurement being inaccurate, sawing off-line, too much sanding etc.

If possible, create an enlarged model to show the learners the faults in situ, then ask them to try and fit the joints together. This kinesthetic method encourages learners to solve the problem themselves and is a good example of active learning instead of passively listening to someone else's instructions.

Activity 5 - Marking up

This resource is to help the learners identify exactly where the errors may occur in marking corners, by showing the best practice. Learners will need to indicate how the process is completed and record what they should do next. This will allow them to place the marking up in context with the rest of the job – and avoid other potential errors occurring.

Encourage the learners to think about the consequences of each stage and how each affects the next. To develop their language skills, encourage learners to prepare short descriptions of each step instead of using single words. It may be necessary to provide a glossary of terms, or a smaller selection of appropriate words to help the learners compose their text.

Resource sheet 6 - Working together

This starter stimulus is designed to encourage learners to start thinking about the type of behaviour they need to follow in the workshop and when working with other people. It is important that learners understand how to work in teams and to share both knowledge and resources with each other. Use the starter stimulus to begin a group discussion on what learners believe they need to do to work effectively as part of a team.

Encourage the learners to undertake a practical task in the workshop in teams and then reflect on what they would have done differently – this also helps reinforce the significance of listening to instructions. After the practical tasks have been completed, discuss these issues with the learners afterwards, getting their thoughts and feedback.



Stretch activity

Ask more confident learners questions about their work. This could be prompted by asking learners to explain what they are doing and why they are doing it. Learners should be aware that their attitude, and the nature of their responses to any advice provided, will comprise part of the evidence required to achieve the unit.

Activity 6 - What should you do?

This activity sheet gives a selection of small case studies for the learners to discuss and choose their correct answer. The answers are intended to lead to debate and discussion – it is probable that different learners will select different answers. Ask learners to share their answers and debate their differences with each other.



Stretch activity

Ask learners to provide example of situations where they were faced with problems or dilemmas in the workplace. Ask them what they should have done to avoid these problems. Ask the learners to explore their answers – for example ‘Good communication skills’ is a standard response from learners, but they may not be able to explain what it actually means. For instance, are good listening skills demonstrated by being silent?

Useful resources

Books

Brett, P – *Construction NVQ1 Series Level 1: Wood Occupations 2nd Edition* (Nelson Thornes, 2007) ISBN 9780748781836

Brett, P. – *Building Crafts Foundation Levels 1 & 2 4th Edition* (Nelson Thornes, 2011) ISBN 9781408508886

Fearn, C. – *Entry Level 3/Level 1 Basic Skills in Construction* (Nelson Thornes, 2011) ISBN 9781408508770

Jarvis, K.- *Level 1/2 NVQ/SVQ Diploma Carpentry and Joinery Interactive Skills CD-Rom* (Pearson, 2010) ISBN 9780435027063

Jarvis, K. – *Level 1 NVQ/SVQ Diploma Carpentry and Joinery* (Pearson, 2010) ISBN 9780435027063

Porter, B. – *Carpentry and Joinery Volume 1 3rd Edition* (Butterworth-Heinemann, 2001) ISBN 9780750651356

Topliss, S. Murray-Smith, J – *BTEC Entry 3/Level 1 Construction* (Pearson, 2010) ISBN 9781846909207

Websites

<http://www.routledge.com/>
Companion website, which includes colour posters and on-line animations for Hazards Identification

www.geoffswoodwork.co.uk
Website providing instruction for creating woodwork items.

www.getwoodworking.com
Website for popular carpentry and woodwork magazines.

<http://www.hse.gov.uk/>
Website for the Health and Safety Executive.

<http://www.dennismac.co.uk/hands/ppe/index.html>

Website giving information about PPE available for use in construction.

<http://www.youtube.com/watch?v=4KmwvloraWo>

Video showing the importance of eye safety in construction.

Answers to activities

Activity 2 - Materials and fixings

Down

1. Countersunk screw
3. PVA
4. Panel pin

Across

2. Softwood timber
5. Raised head screw
6. Plywood