



National Unit Specification: general information

UNIT Installing Basic Plumbing: An Introduction (SCQF level 5)

CODE F8RL 11

SUMMARY

This Unit provides candidates with an introduction to the key principles and techniques of installing basic plumbing. It will develop the candidate's knowledge, understanding and practical skills in installing basic plumbing. This will include developing an understanding of the procedures involved in interpreting information, marking out and fitting different types of appliance. On completion of this Unit, candidates will be able to correctly identify the types of materials, equipment and tools used to meet the work specification, and install basic plumbing. This will be done whilst at all times adhering to all Health and Safety regulations and legislative requirements. This Unit is suitable for candidates working towards a Modern Apprenticeship in the Construction Operative and Specialist suite.

OUTCOMES

- 1 Establish the correct requirements for installing basic plumbing, in accordance with the specification.
- 2 Prepare to install basic plumbing.
- 3 Install basic plumbing.

RECOMMENDED ENTRY

Entry is at the discretion of the centre.

CREDIT VALUE

1.5 credits at SCQF level 5 (9 SCQF credit points at SCQF level 5*).

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

Administrative Information

Superclass: TH

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CORE SKILLS

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes of this Unit Specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit.

National Unit Specification: statement of standards

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Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit Specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

OUTCOME 1

Establish the correct requirements for installing basic plumbing in accordance with the specification.

Performance Criteria

- (a) Interpret accurately the drawings and/or work specification for the task.
- (b) Measure the designated work area correctly.
- (c) Mark out the work area in accordance with the specification.
- (d) Identify the quantity and type of materials to be used for the specified task.
- (e) Identify the correct tools and equipment for use during the specified task.
- (f) Select appropriate personal protective equipment (PPE) for the specified task, in accordance with organisational requirements.

OUTCOME 2

Prepare to install basic plumbing.

Performance Criteria

- (a) Correctly prepare the work area to reduce the potential for damage of the surrounding area.
- (b) Remove existing appliances.
- (c) Remove any obstructions from the work area.
- (d) Identify appropriate handling techniques to safely carry out the work.

OUTCOME 3

Install basic plumbing.

Performance Criteria

- (a) Correctly position appliances in accordance with the specification.
- (b) Accurately bend copper pipes in accordance with the specification.
- (c) Correctly attach fittings to appliances.
- (d) Connect hot and cold water supplies.
- (e) Secure appliances in position in accordance with the specification.
- (f) Comply with all current workplace safety and legislative requirements.
- (g) Dispose of waste in accordance with legislative requirements.

National Unit Specification: statement of standards (cont)

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EVIDENCE REQUIREMENTS FOR THIS UNIT

Candidates are required to produce evidence to confirm that they have achieved all Outcomes and Performance Criteria outlined in this Unit.

Performance evidence is required to demonstrate the candidate has achieved the standard specified in the Outcomes and Performance Criteria for Outcomes. Performance evidence must be supplemented with an assessor observation/operational checklist and produced at an appropriate interval in training, under supervised conditions, once the candidate has developed the necessary skills and knowledge required to carry out the work.

Performance evidence should be demonstrated by the candidate installing basic plumbing for at least two of the following:

- ◆ sinks, basins, baths, WCs, bidets
- ◆ taps, waste services, waste disposal units
- ◆ shower trays and shower valves
- ◆ laundry appliances, dishwashers

AND at least one of the following:

- ◆ compression and capillary copper fittings
- ◆ use compression, push fit and plastic weld fittings

As part of the assessment for this Unit, the candidate will also submit written product evidence such as a works checklist and completed risk assessment form. Oral evidence of knowledge and understanding may be demonstrated by the candidate during practical assignments set for all Outcomes and noted at the time by the observer.

National Unit Specification: support notes

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This part of the Unit Specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 60 hours.

GUIDANCE ON THE CONTENT AND CONTEXT FOR THIS UNIT

The Outcomes and Performance Criteria for this Unit can be demonstrated by the candidate installing basic plumbing for at least two of the following:

- ◆ sinks, basins, baths, WCs, bidets
- ◆ taps, waste services, waste disposal units
- ◆ shower trays and shower valves
- ◆ laundry appliances, dishwashers

The content and context of *Installing Basic Plumbing: An Introduction* has been set at an introductory level so that the candidate can develop a basic knowledge and ability in carrying out basic plumbing tasks within a construction environment.

Health and Safety are vital to working practices within the construction industry and therefore, emphasis must be placed at all times during the delivery of this Unit on the correct application of Health and Safety principles and processes, in accordance with current codes of practice and legislation.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

These notes are for guidance purposes only, but are not to be considered as complete guidance to learning and teaching approaches.

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Opportunities for integrated delivery of this Unit may be possible with all mandatory Units.

The introductory training for this Unit should take place in a separate training area independent of the productive work environment and using dedicated equipment and resources. This should cover theoretical and practical principles before any practical application of knowledge is carried out by candidates.

Delivery of this Unit will be focused on enabling candidates to develop the knowledge and skills required for installing basic plumbing safely before they are given the opportunity to do so within the workplace environment. Candidates should learn and be encouraged to communicate the theories and principles behind good installation techniques. Delivery of this Unit should also introduce candidates to the different components, correct terminology, tools, equipment and materials for specified systems, prior to any practical work taking place. Emphasis will also be placed on the importance of candidates understanding and interpreting information provided within work specifications and drawings.

National Unit Specification: support notes (cont)

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Whilst undertaking the practical components of this Unit, candidates must demonstrate at all times a good understanding of Health and Safety requirements when operating tools and machinery, selection of appropriate PPE and working in a safe manner.

E-learning approaches may be appropriate to help tailor delivery to suit the individual needs or learning styles of candidates. This might include, for example, encouraging learners to use electronic resources to conduct research into a specific knowledge area.

OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

Candidates will be need to apply the Core Skill of *Numeracy* (SCQF level 3) when interpreting the measurements and other information provided in the work drawings and specification (Outcomes 1 and 2). The interpretation of work specifications and drawings will also require candidates to think critically, plan and organise the task accordingly — key aspects of the Core Skill of *Problem Solving* (SCQF level 3).

The opportunity to obtain the Core Skill *Working with Others* (SCQF level 3) will be provided as candidates ensure the safety of others as they comply with codes of practice and working regulations (all Outcomes). Throughout this Unit, candidates will be expected to develop the Core Skill of *Communication* (SCQF level 3) within the work environment, for example to inform others of any safety considerations, using the correct terminology and a tone appropriate to the workplace environment. In addition, assessment processes may provide candidates with the opportunity to develop their Written Communication skills.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

Centres may use the Instruments of Assessment they consider to be most appropriate, and the following notes are given as guidance only.

Opportunities for integrated assessment of this Unit may be possible with all other mandatory Units.

Underpinning knowledge of installing basic plumbing should be assessed before any practical assignments are carried out by candidates. This will include assessment of a candidate's ability to select the correct equipment and techniques for a specified task. Assessment of practical performance should take place under supervised conditions and confirm a candidate's ability to assist in the installation of basic plumbing using the correct techniques and accessories, whilst adhering to Health and Safety regulations and legislation.

For Outcomes 1 and 2, candidates may be assessed by the setting of a series of technical or theoretical questions by centres, designed to ensure candidates have developed the required standard of knowledge for this Unit. Any oral responses given by candidates will be recorded by an observer at the time of assessment — this may be an appropriate method when the candidate carries out any practical assignments.

Outcomes 1 to 3 may be assessed by a series of appropriate practical assignments, set for candidates by centres, which are carried out under supervised conditions and recorded in an assessor's observation/operational checklist. Practical assignments undertaken by a candidate will be assessed according to their ability to carry out the task in a safe and workmanlike manner, using appropriate

machinery according to manufacturer's guidelines.

National Unit Specification: support notes (cont)

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Adherence to appropriate working regulations and Health and Safety procedures will be observed during the practical exercise carried out by the candidates for all Outcomes.

Opportunities for the use of e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

DISABLED CANDIDATES AND/OR THOSE WITH ADDITIONAL SUPPORT NEEDS

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website www.sqa.org.uk/assessmentarrangements