



National Unit specification

General information

Unit title: Web Apps: Spreadsheets (SCQF level 5)

Unit code: HA6L 45

Superclass: CD

Publication date: May 2016

Source: Scottish Qualifications Authority

Version: 02

Unit purpose

The purpose of this Unit is to enhance learners' knowledge, understanding and practical problem-solving skills in using spreadsheet applications, through a range of practical and knowledge based tasks.

Learners will gain knowledge and skills in creating **routine** spreadsheets and implementing practical solutions using a range of routine features and functions of spreadsheet applications.

The Unit has a particular emphasis on using web applications, although this is not exclusive and desktop apps can be used as long as learners can collaborate on spreadsheets within a cloud based service.

This Unit is suitable for learners who have no previous experience of using spreadsheet applications or who wish to enhance their knowledge and further develop their skills in the use of spreadsheet applications.

This Unit is a mandatory Unit within the National Progression Award in PC Passport at SCQF 5 and is also available as a free-standing Unit. On successful completion of this Unit, learners could progress to the Unit *Web Apps: Spreadsheets* (SCQF level 6).

National Unit specification: General Information (cont)

Unit title: Web Apps: Spreadsheets (SCQF level 5)

Outcomes

On successful completion of the Unit the learner will be able to:

- 1 Describe the routine functions and features of a spreadsheet application.
- 2 Create a routine spreadsheet to a given brief.
- 3 Collaborate in the production of a routine spreadsheet.

Credit points and level

1 National Unit credit at SCQF level 5: (6 SCQF credit points at SCQF level 5)

Recommended entry to the Unit

Entry to this Unit is at the discretion of the centre. However, learners would normally be expected to have attained the skills, knowledge and understanding required by the following or equivalent qualification.

Web Apps: Spreadsheets (SCQF level 4)

In terms of prior learning and experience, relevant experiences and Outcomes may also provide an appropriate basis for doing this Unit.

Core Skills

Achievement of this Unit gives automatic certification of the following Core Skills component:

Complete Core Skill Problem Solving at SCQF level 5

Core Skill component Providing/Creating Information at SCQF level 5

There are also opportunities to develop aspects of Core Skills which are highlighted in the Support Notes of this Unit specification.

Context for delivery

If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

The Assessment Support Pack (ASP) for this Unit provides assessment and marking guidelines that exemplify the national standard for achievement. It is a valid, reliable and practicable assessment. Centres wishing to develop their own assessments should refer to the ASP to ensure a comparable standard. A list of existing ASPs is available to download from SQA's website (<http://www.sqa.org.uk/sqa/46233.2769.html>).

Equality and inclusion

This Unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account

when planning learning experiences, selecting assessment methods or considering alternative evidence.
Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.

National Unit specification: Statement of standards

Unit title: Web Apps: Spreadsheets (SCQF level 5)

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

Describe the routine functions and features of a spreadsheet application.

Performance Criteria

- (a) Describe the routine formatting features of a spreadsheet application.
- (b) Describe the routine functions of a spreadsheet application.
- (c) Identify difference between absolute and relative cell reference.
- (d) Describe the different information formats produced by spreadsheets.
- (e) Describe how different information formats address the needs of a range of audiences.
- (f) Identify differences in functionality between web based and locally installed versions of spreadsheet applications.

Outcome 2

Create a routine spreadsheet to a given brief.

Performance Criteria

- (a) Design the structure and logic of a spreadsheet for the brief.
- (b) Use a range of tools and techniques to analyse data.
- (c) Use the routine functions of a spreadsheet application.
- (d) Use the routine features of a spreadsheet application.
- (e) Use cell protection within a spreadsheet application.
- (f) Rectify identified simple errors.
- (g) Present information in a graphic format using non-adjacent cell ranges.

Outcome 3

Collaborate in the production of a routine spreadsheet.

Performance Criteria

- (a) Upload a spreadsheet to a cloud service.
- (b) Populate the spreadsheet within a cloud service.
- (c) Collaborate on the production of the spreadsheet via a cloud service.
- (d) Edit the spreadsheet in response to the feedback through collaboration.
- (e) Retrieve the spreadsheet from a cloud service.
- (f) Adhere to data security requirements and procedures.

National Unit specification: Statement of standards (cont)

Unit title: Web Apps: Spreadsheets (SCQF level 5)

Evidence Requirements for this Unit

Assessors should use their professional judgement, subject knowledge and experience, and understanding of their candidates to determine the most appropriate ways to generate evidence and the conditions and contexts in which they are used.

Evidence is required to demonstrate that candidates have achieved all Outcomes and Performance Criteria. However, sampling may be used in certain circumstances (see below).

The evidence for this Unit may be written or oral or a combination of these. Evidence may be captured, stored and presented in a range of media, including audio or video, and formats (analogue and digital) which clearly demonstrate that the candidate has achieved all the Outcomes and Performance Criteria. Particular consideration should be given to digital formats and the use of multimedia.

Evidence is required for **two** types of competence: evidence of cognitive competence (knowledge and understanding) and evidence of practical competence (practical abilities).

The evidence of cognitive competence for this Unit will relate to Outcome 1 (all Performance Criteria). Evidence of cognitive competence may be sampled across the knowledge domain defined by this Unit specification, so long as the sample is unknown, and unpredictable to the candidate. The assessment will be closed-book and if a traditional test is used to assess the candidate's knowledge and understanding, this test should be timed and should be completed in a single assessment occasion ('sitting') and an appropriate pass mark being set. Where reassessment is required, it should contain a different sample from that previous used.

The evidence of practical competence for this Unit will relate to Outcome 2 (all Performance Criteria) and Outcome 3 (all Performance Criteria). Evidence should be generated by the creation of at least **two routine** spreadsheets using web based spreadsheet application packages within a suitable cloud service. Where access to an appropriate web app is restricted or web functionality is limited, a locally installed spreadsheet package can be used. However the spreadsheets must be uploaded onto a cloud service.

For the purposes of Outcome 2, at least **one** routine spreadsheet must be created for a supplied brief.

At least one of the spreadsheets must be shared for editing with at least **one** additional user via a cloud service. The candidate must collaborate with another user on the spreadsheet via that cloud service and edit the spreadsheet based on the feedback as part of that collaboration.

Evidence of practical competence may be produced over an extended period of time; but where it is generated without supervision some means of authentication must be carried out. The Guide of Assessment provides advice on methods of authentication.

The Guidelines on Approaches to Assessment (see the Support Notes section of this specification) provide specific examples of instruments of assessment.



National Unit Support Notes

Unit title: Web Apps: Spreadsheets (SCQF level 5)

Unit Support Notes are offered as guidance and are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this Unit

This Unit may be delivered as a stand-alone Unit or in combination with other Units as part of a group of Units making up an award, eg the NPA PC Passport: SCQF level 5.

The contents of this Unit provide a routine understanding to the functions of spreadsheets and collaboration on using a spreadsheet within a cloud service.

Learners should be encouraged to actively explore the spreadsheet package they are using in order to familiarise themselves with help menus and shortcuts as appropriate.

The Unit has a particular emphasis on using web applications, although this is not exclusive and desktop apps can be used as long as they can communicate and collaborate within a cloud based service.

Although the focus for the Unit is on practical competencies, it also seeks to provide learners with knowledge and understanding of safe working practices, so that they can transfer their knowledge and skills. For example, learners should be familiar with the concept of a user interface (UI) and appreciate that UI is a key (and variable) feature of every computing device.

An important aspect of this Unit is online safety. Safe practices should be emphasised and learners should be introduced to the basic legal constraints on their use of computing devices including introduction to Intellectual Property Rights (IPR) specifically where data is being shared between computing devices.

This Unit deals mainly with the practical use of spreadsheet application package. The learner should be aware of the correct procedure to start and shut down a computer. The learner should also be aware of how to log on to a system and the importance of logging off when they are finished using the system. The learner should know the correct procedure for starting and terminating an application package.

Learners must be aware that they must proofread their own work for accuracy. The Unit is designed to be a practical based Unit and it is anticipated that most of the time will be spent on practical work.

National Unit Support Notes (cont)

Unit title: Web Apps: Spreadsheets (SCQF level 5)

This Unit requires the use of cloud services, such as OneDrive, DropBox or Google Drive, to allow for sharing, feedback and collaboration. If access to cloud services is restricted in your centre then it is acceptable to use the basic functionality of the web interfaces of your chosen cloud services to upload and download files via shared links. Learners can then view or edit presentations using an appropriate desktop app and, if required, upload edited versions back to the cloud. The Unit also requires communication to take place, preferably via a real time (instant messaging) service such as Skype; if this is restricted in your centre it is acceptable to use an alternate method of communication such as e-mail.

Learners must store and share spreadsheets using a cloud service and should examine the different cloud based services available, before deciding on the one they are going to use. These include, but are not limited to, Microsoft's OneDrive, Dropbox and Google Drive. Microsoft and Google both include their own integrated free web based spreadsheet application packages within their cloud services. Dropbox offers integration to 3rd party applications, such as Microsoft's Office365 which includes Excel.

Outcome 1

Learners are expected to be able to describe the functions outlined in the Standard of Statements section of this document which will assess the learners' understanding of the content of the Unit.

The description of routine formatting of a spreadsheet may include, but is not restricted to, the use of colour and shading of cells and the use of header and footer as a way of displaying information in a professional manner.

Learners should be able to describe the routine functions to use to analyse and manipulate data (eg conditional, logical, financial and general) to meet a specified brief. This brief may include, but is not restricted to; monthly expenditure and sale figures or calculation of commission rates.

The description of a cell reference must show a clear understanding between absolute and relative referencing, with a clear indication of their difference.

Learners should be able to identify errors in formulas and formatting of charts. Their identification should also include a solution or a justification of why the error may have occurred these errors may include, but are not restricted to; circular referencing, incorrect cell range being used or incorrect formula.

Learners should be able to understand how data can be combined and linked across spreadsheets with the use of routine functions and cell referencing.

The learner should be able to demonstrate the different ways data can be formatted within a spreadsheet. In addition to creating bar and column charts, the learner should be able to describe the use of; other charts such as scatter and line, non-adjacent cell range charting, filtering of data and ordering/sorting of data.

National Unit Support Notes (cont)

Unit title: Web Apps: Spreadsheets (SCQF level 5)

As well as being able to demonstrate knowledge of the different information formats available the learner should be able to suggest why these formats would meet the needs to a range of audiences. The knowledge and understanding questions used in the assessment could be in the context of the following or similar to make it more relevant to the learner:

- ◆ Management information — budget/forecasts, graphs showing performance
- ◆ Stock control — sales figures, reordering, price list

Outcome 2

Learners will be introduced to routine features of a spreadsheet application package, they are required to carry out appropriate tasks to demonstrate that they can effectively use the features to complete tasks and manage files and folders using appropriate names for ease of retrieval.

The tasks must allow the learner to demonstrate a competence in each of the following areas:

- ◆ Open and close spreadsheet application.
- ◆ Create, store and retrieve spreadsheet files effectively, in line with specified tasks.
- ◆ Enter and edit numerical and other data accurately which may include; find and replace, inserting/deleting rows/columns.
- ◆ Select and use appropriate tools to format data attributes, which may include, but is not exclusive to; text orientation, cell merge, number of decimal places and percentage.
- ◆ Select and use appropriate tools and techniques to format spreadsheet cells, rows and columns and worksheets which may include, but is not exclusive to, date formatting, text wrap, hide/freeze row/column.
- ◆ Select and use functions and formulas to meet calculation requirements such as; SUM, average, minimum, maximum, conditional and financial, to include the absolute and relative cell referencing.
- ◆ Select and use appropriate page layout to present and print spreadsheet information which may include, but is not exclusive to; display information in header/footer, inserting page breaks, row/column headings.
- ◆ Select and use appropriate tools and techniques to generate, develop and format chart and graph types such as scatter and line from adjacent and non-adjacent cells ranges.
- ◆ Use a range of chart tools to alter labels, chart type and position/size in spreadsheet.
- ◆ Use a range of tools and techniques to analyse and manipulate data to meet requirements, which may include, but is not exclusive to; filtering rows and columns, ordering/sorting data.
- ◆ Check information meets needs using spreadsheet tools and making corrections as necessary, which may include, but is not exclusive to; circular references and incorrect cell range used.
- ◆ Respond appropriately to any problems with spreadsheets by carrying out actions such as formula reveal.
- ◆ Use protection to prevent accidental editing of spreadsheet, this may include protection of a complete worksheet or individual cells.

National Unit Support Notes (cont)

Unit title: Web Apps: Spreadsheets (SCQF level 5)

Outcome 3

This Outcome will provide the opportunity to apply the skills achieved in Outcomes 1 and 2 to an online spreadsheet for a given brief.

This Outcome focuses on using cloud devices to share, locate, update and retrieve a spreadsheet. Learners should know how to establish an internet connection and make use of browser software. They should also know how to set up and use an email account and be able to share the location of information using email and other facilities such as social networking sites and blogs.

The learner must be able to demonstrate the use of comments online within cloud stored files for a specified task, thus enabling them to communicate with others in the production of the online spreadsheet.

Learners are required to store and share a spreadsheet with at least one other person. The spreadsheet layout and design would be discussed via the online comments thus allowing for the collaboration of design with others.

A given brief must allow for the demonstration of multiply-user data population and editing of an online spreadsheet.

They should be aware of safe use procedures such as choosing secure passwords and restricting the amount of personal information available online and should know about legal requirements (such as the Computer Misuse Act, Copyright, Design and Patents Act and Data Protection Act) and local restrictions like Acceptable Use Policies. They should also be aware of ethical considerations such as intellectual property rights, behaving in an acceptable manner online (netiquette) and respecting the privacy of others.

Throughout this Unit the learner will develop effective use of a spreadsheet application relating to online connections. Learners are required to complete the defined tasks without assistance. In the use of the internet software, the learners should be able to navigate the application and use the basic facilities efficiently. Learners should be able to open and close a browser, save and retrieve a spreadsheet document to and from a cloud service. Similarly, in the use of the e-mail software, the learners should be able to send and receive e-mails effectively.

Learners are expected to develop a basic awareness of the security risks of using cloud services and e-mail and have knowledge of the laws mentioned above.

Successful completion of this Unit and the knowledge and skills gained will allow the learner to progress to the Unit *Web Apps: Spreadsheets* (SCQF level 6) and will form part of the NPA PC Passport SCQF level 6.

National Unit Support Notes (cont)

Unit title: Web Apps: Spreadsheets (SCQF level 5)

Guidance on approaches to delivery of this Unit

The Outcomes may be delivered in the order in which they are written. They have been written with a learning sequence in mind.

The actual distribution of time between Outcomes is at the discretion of the centre, however one possible approach is to distribute the available time as follows:

Outcome 1 and 2 — 30 hours
Outcome 3 — 10 hours

The allocated timings allow for assessment and re-assessment where required.

It is anticipated that the required concepts will be introduced by the teacher and reinforced by appropriate examples.

A practical hands-on approach to learning should be adopted to engage learners and exemplify key concepts. Outcome 1 carries the knowledge and understanding for this Unit and it would be expected that this be taught using a range of appropriate practical activities which would underpin the appropriate knowledge to allow for the use of the features of the package.

Outcomes 2 and 3 are designed to consolidate, through practical application, the knowledge in Outcome 1.

It is, therefore, expected that the teaching plan for the Unit will commence with Outcomes 1 and 2 where learners are introduced to the application package, its features and the uses of the package. Learners will then continue to Outcome 3 where they are introduced to cloud devices and storage.

Terminology and underpinning knowledge should be introduced in a practical context.

While teaching will necessarily focus on a specific product, learners should be made aware that alternative packages are available and should be encouraged to explore these alternatives and the generic features of the class of software should be emphasised.

This Unit may be delivered stand-alone or in conjunction with other Units. Where it is delivered alongside other Units, there is an opportunity to contextualise this Unit in terms of the contents of the other Unit(s) since this Unit's contents are generic.

National Unit Support Notes (cont)

Unit title: Web Apps: Spreadsheets (SCQF level 5)

Guidance on approaches to assessment of this Unit

Evidence can be generated using different types of assessment. The following are suggestions only. There may be other methods that would be more suitable to learners.

Centres are reminded that prior verification of centre-devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education.

A traditional approach to assessment would involve an end of Unit test of the knowledge and understanding (Outcome 1) and a practical assessment of practical abilities (Outcomes 2 and 3).

Authentication may take various forms including, but not limited to, oral questioning and plagiarism checks. Evidence can be recorded electronically or in written/printed form, however it is encouraged to look at alternate approaches making use of modern technology such as e-portfolios, web blogs, video blogs, pod casts and even social media. Some forms of evidence generation (such as video recordings) have intrinsic authentication and would require no further means of verification. Where evidence is not generated under closely controlled conditions (for example, out of class) then a statement of authenticity should be provided by the learner to verify the work as their own, and also state any necessary sources and permissions

For Outcome 1 a suitable assessment may be an objective test which demonstrates that the candidate has the required knowledge. The evidence for the Outcome should be obtained under controlled, supervised conditions. The assessment will be closed-book. Achievement can be decided by the use of a cut-off score. The possibility may arise where these questions are taken as an online assessment.

It is expected that the questions will be of the multiple-choice variety. Centres may consider the use of alternative questions types, particularly if using Computer Assisted Assessment approaches. However, care should be taken that the questions are valid and at an appropriate level. The use of simple true/false question responses is unlikely to achieve this.

If a centre is presenting Outcome 1 of these assessments online the following assessment methods, where appropriate, may be selected:

- ◆ Multiple-choice
- ◆ Drag and drop
- ◆ Multiple response
- ◆ Mix and match
- ◆ a combination of the above

Where re-assessment of knowledge and understanding is required the questions presented to the candidate must be different on each assessment occasion.

National Unit Support Notes (cont)

Unit title: Web Apps: Spreadsheets (SCQF level 5)

It may be appropriate for some of the evidence for this Unit to be produced using e-assessment provided the national standard is applied and the conditions of assessment are consistent for all candidates. This may take the form of e-testing (for knowledge and understanding) and/or e-portfolios (for practical abilities).

It is recommended that a holistic approach to assessment is taken and that the practical skills required for Outcomes 2 and 3 are assessed by a single assessment instrument. The assessment of practical skills throughout this Unit may be demonstrated in the context of a single extended task as suggested or in the context of a number of smaller tasks where the evidence is produced at appropriate points throughout the Unit rather than on one assessment occasion.

The practical tasks used in the assessment could be in the context of one of the following or similar to make it more relevant to the candidate:

- ◆ Management information — budget/forecasts, graphs showing performance
- ◆ Stock control — sales figures, reordering, price list
- ◆ Golf club – show rounds and scores for a tournament

The candidate will normally demonstrate the skills during the teaching and learning activities of the Unit, rather than as separate assessment activities.

Evidence of practical competence can be stored in a portfolio. On completion of this Unit the portfolio should contain a range of evidence drawn from the Evidence Requirements for each Outcome.

If this Unit is undertaken in the workplace there may be opportunities for candidates to gather evidence in day to day workplace activities.

The practical assessment could consist of observation of the learner over an extended period of time. In this scenario, the assessor would complete an observation checklist over an extended period of time, completing the checklist as s/he observed the learner perform specific tasks, such as creating charts or editing an online spreadsheet.

Opportunities for 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 social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at www.sqa.org.uk/e-assessment.

National Unit Support Notes (cont)

Unit title: Web Apps: Spreadsheets (SCQF level 5)

Opportunities for developing Core and other essential skills

This Unit provides opportunities to deliver some of the following Core Skills:

Information and Communication Technology (ICT) (SCQF level 5)

Working with Others (SCQF level 5)

This Unit involves learners using a range of features provided by spreadsheet application packages and the internet to access a cloud storage area which provides opportunities to gather evidence towards the *ICT* Core Skill.

Several of the Core Skills components in *Information and Communication Technology (ICT)* can be addressed in this Unit. There are opportunities to select and start application software, use tools, enter and edit data, locate information, select information, and recognise security risks and act accordingly.

One or more of the Core Skills components in *Working with Others* can be addressed in this Unit. There are opportunities to carry out role in a co-operative activity, and seek and offer support.

In addition to Core Skills, this Unit provides opportunities to develop citizenship skills.

This Unit has the Core Skill of Problem Solving and Providing/Creating Information component of Information and Communication Technology embedded in it. This means that when learners achieve the Unit, their Core Skills profile will also be updated to show they have achieved Problem Solving at SCQF level 5 and Providing/Creating Information at SCQF level 5.

History of changes to Unit

Version	Description of change	Date
02	Core Skill Problem Solving at SCQF level 5 and Core Skills Component Providing/Creating Information at SCQF level 5 embedded.	20/05/2016

© Scottish Qualifications Authority 2016

This publication may be reproduced in whole or in part for educational purposes provided that no profit is derived from reproduction and that, if reproduced in part, the source is acknowledged.

Additional copies of this Unit specification can be purchased from the Scottish Qualifications Authority. Please contact the Business Development and Customer Support team, telephone 0303 333 0330.

General information for learners

Unit title: Web Apps: Spreadsheets (SCQF level 5)

This section will help you decide whether this is the Unit for you by explaining what the Unit is about, what you should know or be able to do before you start, what you will need to do during the Unit and opportunities for further learning and employment.

The Unit covers practical skills and key knowledge about spreadsheets. You will learn the routine features and functions of a spreadsheet and gain hands-on experience of using it. You will learn how to collaborate in the production of an online spreadsheet. The Unit has a particular emphasis on using web applications, although this is not exclusive and desktop apps can be used as long as you can share your spreadsheet and collaborate with other online users within a cloud based service.

Although not essential it is suggested completion of the Unit *Web Apps: Spreadsheets at SCQF level 4* would be advantageous. It is designed for an Intermediate user who wants to learn how to use advanced features and functions of a spreadsheet safely and productively.

This Unit is about the knowledge and skills required to help you use online spreadsheets on personal computers and other computing devices such as tablets and smartphones along with a number of topics such as protecting shared data.

The Unit can be used for personal, educational or vocational purposes. You could use your knowledge and skills to help you in personal purposes such as learning, or you could use the Unit to improve your workplace ICT skills.

The assessment of this Unit may take different forms. You might, for example, sit a short test and carry out some practical tasks. Alternatively, you might keep a diary of your work.

This Unit is part of a series of Units on the National Progression Award in PC Passport at SCQF level 5. You may progress to the Unit *Web Apps: Spreadsheets* (SCQF level 6) within the NPA PC Passport at SCQF level 5 on completion of this Unit if you wish to improve your knowledge and skills in this area.

This Unit will provide you with opportunities to develop Core Skills in *Information and Communication Technology (ICT) at SCQF level 5* and *Working with Others* at SCQL level 5.

This Unit has the Core Skill of Problem Solving and Providing/Creating Information component of Information and Communication Technology embedded in it. This means that when you achieve the Unit, your Core Skills profile will also be updated to show you have achieved Problem Solving at SCQF level 5 and Providing/Creating Information at SCQF level 5.