



**INFORMATION AND COMMUNICATION
TECHNOLOGY**
SCQF Level 6
40 Hour Unit

CORE SKILLS ASSESSMENT SUPPORT PACK

Part 1: Information for tutors

What is involved?

This Unit is about using ICT to access, process and present information in personal, workplace, social and educational situations. The focus of the Unit is on transferable ICT skills:

- using computer systems
- using applications software
- finding information from digital data sources

At this level, learners are expected to be able to work with a computer system to carry out complex processing tasks. They will be working in contexts not wholly familiar to them. They should be able to use the computer independently and in contexts which require some design and selection.

Learner motivation can be maximised by making the ICT activities as relevant as possible to the learner's likely uses for ICT. The activities should be drawn from the learner's personal, workplace, social or educational situation.

Additionally, integration of the ICT activities with those of other SQA qualifications being undertaken should be explored. For example, when a learner is undertaking other National Qualifications, motivation for ICT can be increased if the activities are related to these National Qualifications and the learner can see the direct relevance of the ICT. If you do decide to adopt this approach, separate records of assessment decisions must be kept for this Unit and evidence for this Unit should be clearly accessible.

Assessment and evidence

Assessment is likely to use a combination of observation and learner-produced supporting evidence (product evidence) such as printouts, screenshots and files.

You should try to identify naturally-occurring opportunities for assessment where possible. For learners who are also working towards vocational Units or subject specific Units, opportunities for assessment of ICT skills could arise while completing tasks which provide evidence for both the vocational/subject specific Unit and this Unit. Some of the exemplars in this pack could be used or contextualised for this purpose.

When you are assessing by observation, it is essential to keep a detailed checklist. When you are assessing by oral questioning, you must keep a copy of the questions asked and the answers given.

All items of evidence should be signed and dated by you.

Part 3 of this pack supplies exemplar forms which you can use to record successful completion of each of the Unit tasks. You can sign and date these as the learner achieves each task to keep a record of the learner's progress.

Planning

You should work out where opportunities for meeting the standard are likely to arise. Where possible this should be built into the assessment process. You should discuss this assessment process with the learners so that they are quite clear about what is expected from them.

Guidance on the Unit

What learners need to know or be able to do

The Unit states that on completion the learners will know how to:

- select and start up application software (eg word processing; spreadsheet; database; media packages) to perform a range of activities
- resolve simple hardware and software issues typical in modern technology environments and develop the skills to resolve basic hardware or software problems. For example, utilising built-in digital assistance features, accessing comprehensive online support resources, and consulting interactive tutorials or virtual walkthroughs
- enter and edit data using appropriate application software
- locate and extract information in various formats from a diverse array of contemporary data sources. For example, utilising the internet to access a wide range of online databases, resources, and digital libraries, cloud-based storage services for remote data retrieval, navigating through internal networks or intranets for specific organisational information, and using personal computing devices equipped with search functionalities
- apply a complex search strategy to find information (eg choice of sources; order of searching; choice of keywords; use of search logic; application of search parameters; menu and open choice searching)
- evaluate information found against chosen criteria (eg currency; level of difficulty; reliability; authority; bias; relevance; appropriateness of format)
- evaluate the search strategy (eg Did it produce information which matched the chosen criteria? Was it effective in terms of time and cost? Did it successfully filter out irrelevant information?)
- present information in an appropriate mode (eg display on screen; print out; play audio file)
- keep data secure (for example, keeping your own login and password secure, multi-factor authentication, virus protection, backing up data and maintaining personal file area)

At SCQF level 6, learners are expected to work independently using their own initiative. You will be available for consultation on the assessment requirements of the Unit, but should not be required to provide support with the learners' tasks. You should however, make sure that the learners are familiar with the four areas of ICT detailed in this Unit.

ICT operations

This covers everyday interaction with the operating system, application software and computer hardware. The learners must be able to carry out the following activities:

- seeking out and making effective use of the appropriate software for given tasks
- solving simple hardware and software issues typical in modern technology environments and develop the skills to resolve basic hardware or software problems. For example, utilising built-in digital assistance features, accessing comprehensive online support resources, and consulting interactive tutorials or virtual walkthroughs
- presenting information in appropriate output modes (eg screen display, print form, playing of multimedia files).

Processing information using ICT

The list of bullet points given in the Unit may give the impression that the bulk of the time should be spent on the accessing information activity. This is not the case. The Unit requires the learners to use at least one type of applications software to process complex problems. In solving these problems, the learners are expected to encounter software features with which they may be unfamiliar. They should use their own initiative and consult help systems and manuals as necessary.

Complex tasks may require the use of information from more than one source, integrating the results into a final product. This can include situations where different features of an application are applied serially to information or those where several streams of data are each processed by the appropriate application and finally integrated. The learners will have to spend some time in refining the task's problem to analyse the information requirements and design their solution.

The learners must have experience of using at least one software application. They should already have in-depth knowledge of this package as well as the experience of approaching unfamiliar features.

Although not mentioned specifically in the Unit, the learners must produce their tasks within a reasonable timescale, accurately and with results meeting the desired purpose.

Accessing information using ICT

At SCQF level 6, the learners have to show that they can carry out complex information searches including the following:

- carefully defining the search topic and evaluation criteria
- establishing a search strategy
- evaluating the information found
- reviewing their search strategy

Before starting the searching, the learners should spend some time producing a precise specification of the search and deciding on criteria with which to evaluate the results.

It is likely that the search will be complex due to be the precise nature of the information to be found. This means that the learners should specify the search with no possibility of ambiguity.

In order to evaluate the information found, the learners will create a set of search criteria. These might include: relevance to search, correct level of detail, currency of data and appropriateness of format. Particularly for information searched via the Internet, the learners should look at the likely reliability of the data being aware of bias and of the possibility of a deliberate hoax.

The learners should create a strategy, where the most likely sources are selected, a logical order of searching the sources decided, the best search terms (keywords) chosen and search logic is used to combine search terms.

As each item of information is found, it should be evaluated to see how well it matches the search criteria.

Once the results have been produced, learners are required to look at how well their search strategy worked. For example, they might look at: the ease with which it produced required results; the possibility that it left out some useful results; the effectiveness in terms of cost and time.

It is expected that the information be both located and integrated. The results of the search will be a presentation or a report on the search topic.

It is likely that learners who carry out searches routinely perform the above steps automatically. However, for the purposes of the Unit, all the above steps must be documented. Only one search is required.

Searching need not be limited to the Internet. It can be related to information held on the learner's own machine or on local databases. The information sought need not be text-based and could be graphical or multimedia-based. As an indication of complexity, the Unit states:

'The searches must involve multiple data sources and require several straightforward choices, or have a less obvious structure, or more complex inter-relationships. The searches must involve different data sets and different forms of search or different types of data.'

Although the search has to be documented, possibly as a written report, the resulting information should be presented by the learners in the appropriate manner, eg displayed on screen or played as an audio file.

Keeping information safe

The learners must demonstrate safe practice with the information which they handle, using:

- password security
- anti-virus protection
- backing up of data
- maintenance of personal file area.

The learners are expected to carry out the above routinely. In some situations there will be policies which lay down exact procedure and some aspects such as backups will be run automatically. The learners will be expected to follow these policies. With regard to the automatic processes, the learners must understand exactly what these do and appreciate their importance.

Gathering evidence

It may be appropriate for you to gather written evidence produced by the learner while carrying out the practical activities. However, written evidence is not essential for this Unit and is inappropriate if it disadvantages the learner.

You may wish instead to use oral questioning. This requires you to create and complete record sheets comprising a checklist, questions asked and learner responses. From the learner's point of view, it is useful to have the means of keeping all the work of this Unit together. You can help here by creating and providing a workbook which includes all the evidence-gathering items. An alternative, would be to provide worksheets which can be made into a paper-based or e-portfolio.

If you have chosen to integrate the ICT work with that of other Units being undertaken by the learner, it may be possible to assess the ICT as part of a larger single activity. In this case you must keep separate records for this Unit.

The Unit requires learners to carry out ICT tasks which involve accessing and processing information. This may be achieved in many ways. Some typical activities might be:

- searching multiple internal databases, which are unfamiliar, in order to gather names and addresses to create a mailing list of potential donors to a charity
- using a software package to analyse results of a community survey
- calculating increase in running costs of a department in the light of salary increases
- using a software package to model alternative layouts for a garden

It may be possible to create a single activity which would provide evidence for the whole Unit. Certainly because of the requirement for complexity, such as integrating information in the processing section, the information accessing activity could lead naturally on to the processing one.

The most clear cut approach would be to use four tasks. Each would cover one of the sections discussed above. These are:

- ICT operations
- Processing information using ICT
- Accessing information using ICT
- Keeping information safe

Part 2: Assessment Guidance

You can use the exemplar assessments given in this section in several ways:

- to help identify the type and amount of evidence which the learner needs to produce
- to help identify the level of complexity in evidence required for the Core Skill at this level
- to help you to create an assessment task related to the learner's own situation

You can use the following information to create task sheets to be used with the learners in assessment sessions. The task sheet will contain the assessment items and you can leave appropriate space for the learners to insert their responses.

Learners must complete all four tasks.

Task 1 is designed to cover ICT operations.

Task 2 is designed to cover processing information using ICT.

Task 3 is designed to cover accessing information using ICT.

Task 4 is designed to cover keeping information safe.

For each of the Tasks, successful completion should be noted on a checklist.

Task 1: ICT operations

This task covers the Unit requirements to:

- select and start up application software (eg word processing; spreadsheet; database; media packages) to perform a range of activities
- resolve simple hardware and software issues typical in modern technology environments and develop the skills to resolve basic hardware or software problems. For example, utilising built-in digital assistance features, accessing comprehensive online support resources, and consulting interactive tutorials or virtual walkthroughs
- present information in an appropriate mode (eg display on screen; print out; play audio file)

You should be able to assess the learners for this task by observation. The activities for the other tasks will normally require the learners to carry out these points. There will be explicit opportunities to observe presenting of information during Tasks 2 and 3. You can create a learner task sheet to remind the learners what is to be assessed. As an example you could tell the students the following scenario:

Over the next weeks, your tutor will observe your performance in ICT operations. You may be asked questions about what you are doing as you are working.

Your tutor will want to make sure that you:

- seek out and make effective use of the software for the tasks you carry out
- solve simple hardware and software issues typical in modern technology environments and develop the skills to resolve basic hardware or software problems. For example, utilising built-in digital assistance features, accessing comprehensive online support resources, and consulting interactive tutorials or virtual walkthroughs
- present information in appropriate output modes (eg screen display, print, playing of multimedia files)

Your tutor will make it clear to you the time period over which this assessment is to take place.

You should certainly give warning that you are going to be assessing the four points. If any of the points are not observed by you as the learners are carrying out their activities, you can make a point of asking them to demonstrate the point to you. For instance if a learner does not need to use online screen help during Task 2 or 3, you can ask the learner to demonstrate it to you.

Task 2: Processing information using ICT

This task covers the Unit requirements to:

- enter and edit data using appropriate application software

A single complex processing operation is required. At this level, the learners should be encountering suitable ICT processing problems in their personal, workplace, social or educational situations. Ideally, you are required to give guidance only. Particularly you may need to advise that a learner's chosen problem is complex enough for the assessment of this task.

The task can be completed successfully using only one software application. An appropriately complex task will require the learners to explore a facet of the software package which they have not previously encountered.

In some contexts, the learners may use more than one software application. In this case, either one of the software applications, or a feature of one of the applications should be new to the learners and require them to use help facilities to familiarise themselves.

You can create a learner task sheet showing what is required. As an example you could use the following as a basis:

You are required to carry out a complex processing task. This is likely to involve several steps using a software package and the integration of a number of sources of information. You are likely to have to explore and use software features that you are unfamiliar with.

To complete this task successfully, you must work within a reasonable timescale, accurately and with results meeting the desired purpose.

You will need to decide on a problem you have which may be suitable for this task. Your tutor will discuss this with you and guide you in its specification to include all the requirements for the Unit.

Your tutor will observe your performance at various stages in the task and will want to inspect your output product.

You will need to carry out the following steps:

- 1 Discuss with your tutor the details of the processing task.
- 2 Create a specification for the task detailing the information sources, processing and output information.

- 3 Choose appropriate software features, familiarising yourself with them as necessary.
- 4 Carry out the processing.
- 5 Create the output data in the desired format.
- 6 Produce any additional documentation required.

Regarding the final point 6, if the output format is a formal report, no other documentation may be required. However, for other output products you may ask the learner for additional documentation to explain the processing steps or parameters.

Here are some examples:

Personal/Social Context

The learner wishes to create a comprehensive database of a non-copyright controlled music collection. This would involve illustrative materials and audio files using a database package. The database developed would hold all the materials and the learner would create standard search routines to enable the collection to be searched, and the item presented or played.

Educational Context

The learner wishes to set up a data base logging and processing system for a project being undertaken. Four different variables are being explored. This involves automatic real-time data logging. Each variable will be logged with its own file of results. The task is to use a spreadsheet application to process the raw data in the files and produce the average, and standard deviations for the four variables. The output is to be presented as charts which could be incorporated into a report.

Workplace Context

The learner works in finance and is carrying out a project relating to predicting the swings in valuations for stock and shares. This will make use of historical data for the past twenty years and a stock market modelling package. Four representative stocks are to be used for a comparison of the predictions of the package and the real-world behaviour. The results from the package should be in the form of graphs which can be used in a report.

Task 3: Accessing information using ICT

This task covers the Unit requirements to:

- locate and extract information in various formats from a diverse array of contemporary data sources. For example, utilising the internet to access a wide range of online databases, resources, and digital libraries, cloud-based storage services for remote data retrieval, navigating through internal networks or intranets for specific organisational information, and using personal computing devices equipped with search functionalities
- apply a complex search strategy to find information (eg choice of sources; order of searching; choice of keywords; use of search logic; application of search parameters; menu and open choice searching)
- evaluate information found against chosen criteria (eg currency; level of difficulty; reliability; authority; bias; relevance; appropriateness of format)
- evaluate the search strategy (eg Did it produce information which matched the chosen criteria? Was it effective in terms of time and cost? Did it successfully filter out irrelevant information?)

The learners must carry out a detailed information search using a complex search strategy, criteria and evaluation. At this level, the learners ought to be encountering suitable information accessing problems in their personal, workplace, social or educational situations. Your main contribution will be in helping the learners to decide upon a suitably complex search which covers all the required activities.

You can create a learner task sheet based on the following:

You are required to carry out a complex information task where you will search for information. You are asked to document all stages of it. The complexity of the task relates to the need to use several sources of information and locate very precise data.

You will need to carry out the following steps:

- 1 Discuss the topic of your search with your tutor.
- 2 Define precisely the search topic.
- 3 Draw up evaluation criteria for the results of the search.
- 4 Draw up a search strategy including points such as: likely sources, order of use of sources and suitable search terms (keywords).
- 5 Carry out the searching process.
- 6 Evaluate the items of information you find using your evaluation criteria.

7 Evaluate your search strategy in the light of the information you have found.

8 Document your search.

Search topics are likely to be for very specific and hard-to-find information. Here are some suggestions.

Personal/Social Context

The learner is researching information on all the surviving 1910s Morgan motor cars that are still in existence. They may explore online platforms, vintage car forums, and specialised websites to gather details about these classic vehicles.

Educational Context

The learner is searching for details of traditional Scottish customs still performed in the East of the USA.

Workplace Context

The learner is searching for possible breaches of a patent method.

In each case, the results can be integrated into a report on the topic.

Task 4: Keeping information safe

This task covers the Unit requirements to:

- keep data secure and well managed (for example, by using passwords, using virus protection software, backing up data, multi-factor authentication and maintaining personal file area)

This is split into the four items:

- importance of password security
- appropriate use of anti-virus software
- operation of a data backup policy
- maintenance of personal file area

You may be able to assess the learners for this task by observation. You can create a learner task sheet to remind the learners what is to be assessed. As an example you could use the following as a basis:

Over the next weeks, your tutor will observe your performance in keeping information safe. You may be asked questions about what you are doing and your tutor may ask to see your computer folders. Your tutor may wish to see you carrying certain operations with your computer.

Your tutor will want to make sure that you:

- are aware of the importance of password security
- use anti-virus software appropriately
- operate a data backup policy
- maintain your personal file area

Your tutor will make it clear to you the time period over which this assessment is to take place.

You should certainly give warning that you are going to be assessing the four points.

An alternative is to explore the points during discussion with the learners. This should cover the need for the precautions as well as how the learners implement them. You can ask to see the learners checking a file with the anti-virus software. You can also ask to inspect their personal file area and backups of data.

Part 3: Exemplar recording documentation

This section provides sample forms which can be used by the learners and tutor to gather evidence and record assessment decisions.

If you have created task sheets, as described in Part 2, they can be used as an assessment record sheet to be completed by the learner directly or used by you to note the result of the discussions with the learner.

There is an assessment checklist for each of the tasks to be completed, signed and dated by you.

The final form is a summary checklist recording Unit progress to be completed, signed and dated by you.

Assessment checklists

Learner:

Task 1: ICT operations

- select and start up application software (eg word processing; spreadsheet; database; media packages) to perform a range of activities
- resolve simple hardware and software problems (eg using on screen help; software and hardware manuals)
- present information in an appropriate mode (eg display on screen; print out; play audio file)

Activity	Achieved (Yes/No)	Tutor initials and date	Comments
1 Selects and starts up software			
2 Resolves simple hardware and software problems using help facilities			
3 Presents information in the appropriate way			

Date of completion:

Tutor signature:

Learner:

Task 2: Processing information using ICT

- enter and edit data using appropriate application software

Activity	Achieved (Yes/No)	Tutor initials and date	Comments
1 Learner obtains enough information about task during discussions with tutor			
2 Creates specification			
3 Chooses appropriate software, familiarising with new aspects			
4 Carries out processing successfully			
5 Data output is in desired format			
6 Any additional documentation is satisfactory			

Date of completion:

Tutor signature:

Learner:

Task 3: Accessing information using ICT

- locate and extract information in various formats from a diverse array of contemporary data sources. For example, utilising the internet to access a wide range of online databases, resources, and digital libraries, cloud-based storage services for remote data retrieval, navigating through internal networks or intranets for specific organisational information, and using personal computing devices equipped with search functionalities
- apply a complex search strategy to find information (eg choice of sources; order of searching; choice of keywords; use of search logic; application of search parameters; menu and open choice searching)
- evaluate information found against chosen criteria (eg currency; level of difficulty; reliability; authority; bias; relevance; appropriateness of format)
- evaluate the search strategy (eg Did it produce information which matched the chosen criteria? Was it effective in terms of time and cost? Did it successfully filter out irrelevant information?)

Activity	Achieved (Yes/No)	Tutor initials and date	Comments
1 Learner has adequate discussions on topic with tutor			
2 Search topic defined precisely			
3 Evaluation criteria drawn up			
4 Search strategy drawn up			
5 Searching carried out			
6 Search results evaluated			
7 Search strategy evaluated			

Activity	Achieved (Yes/No)	Tutor initials and date	Comments
8 Search fully documented			

Date of completion:

Tutor signature:

Learner:

Task 4: Keeping information safe

- keep data secure and well managed (for example, by using passwords, using virus protection software, backing up data, multi-factor authentication and maintaining personal file area)

Activity	Achieved (Yes/No)	Tutor initials and date	Comments
1 Password security			
2 Anti-virus software			
3 Maintenance of personal file area			
4 Backup of data			

Date of completion:

Tutor signature:

Summary checklist

Learner:
Learner number:
Centre:

Task	Date achieved	Tutor signature
1: ICT operations		
2: Processing information using ICT		
3: Accessing information using ICT		
4: Keeping information safe		

Part 4: Information for learners

As you work through this Unit, your tutor will need to gather evidence to prove that you have demonstrated all the ICT skills.

This can be done by:

- your tutor asking you questions
- you producing printouts or screenshots
- you filling in a work book, worksheet or diary
- you producing a report

By the end of the Unit you must show that you can:

- select and start up application software (eg word processing; spreadsheet; database; media packages) to perform a range of activities
- resolve simple hardware and software issues typical in modern technology environments and develop the skills to resolve basic hardware or software problems. For example, utilising built-in digital assistance features, accessing comprehensive online support resources, and consulting interactive tutorials or virtual walkthroughs
- enter and edit data using appropriate application software
- locate and extract information in various formats from a diverse array of contemporary data sources. For example, utilising the internet to access a wide range of online databases, resources, and digital libraries, cloud-based storage services for remote data retrieval, navigating through internal networks or intranets for specific organisational information, and using personal computing devices equipped with search functionalities
- apply a complex search strategy to find information (eg choice of sources; order of searching; choice of keywords; use of search logic; application of search parameters; menu and open choice searching)
- evaluate information found against chosen criteria (eg currency; level of difficulty; reliability; authority; bias; relevance; appropriateness of format)
- evaluate your search strategy (eg Did it produce information which matched your chosen criteria? Was it effective in terms of time and cost? Did it successfully filter out irrelevant information?)
- present information in an appropriate mode (eg display on screen; print out; play audio file)
- keep data secure and well managed (for example, by using passwords, using virus protection software, backing up data, multi-factor authentication and maintaining personal file area)

These are some of the things you might do to provide the evidence:

- searching multiple internal databases, which are unfamiliar to you, in order to gather names and addresses to create a mailing list of potential donors to a charity you support
- using a software package to analyse results of a community survey
- calculating increase in running costs of your department in the light of salary increases

- using a software package to model alternative layouts for your garden

Learners with disabilities and/or additional support needs

The additional support needs of individual learners should be taken into account when planning learning experiences, selecting the most appropriate assessment activity and considering any reasonable steps which might be necessary to allow the learner to meet the assessment standard.

Further advice can be found in SQA's Assessment Arrangements' web pages (www.sqa.org.uk)



ADMINISTRATIVE INFORMATION

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