



Key skills test

Information and communication technology

Level 3

Test specification

Introduction

- 1 The information and communication technology (ICT) key skill qualification will be awarded to candidates who are able to demonstrate that their attainment meets national standards in ICT in both their portfolio of evidence and an external assessment (hereafter referred to as a test).
- 2 The test provides the external assessment component of each key skill at each level. The test is externally set and marked. The purpose of the test is to assess the candidate's competence to carry out practical ICT tasks by following instructions to produce specified outcomes.
- 3 Performance in the test is used to complement and support performance in the internal assessment component, the portfolio of evidence. The portfolio must contain evidence of the candidate's purposeful and effective use of ICT, which meets the full requirements of part B of the key skill standards. The portfolio evidence is internally set, internally assessed and externally moderated. A candidate must satisfy the requirements of both components to be awarded the key skill.
- 4 The purpose of this test specification is to inform the development of tests for the ICT key skill at level 3 by clarifying those aspects of the standards which may be tested.
- 5 This test specification is intended to provide writers, editors and reviewers, and also teachers and candidates, with detailed information about the acceptable content, coverage and demand for tasks, together with the range of scenarios suitable for providing contexts for tasks at level 3.
- 6 This test specification should be read in conjunction with:
 - *Level 3 information and communication technology key skills standards* (QCA, CCEA, ACCAC, 2004)
 - *Guidance on the key skills* (QCA, CCEA, ACCAC, 2004).
- 7 This test specification has been designed to support the development and production of tests in English, Welsh and Gaeilge.

Design of tests

Principles

- 8 In creating tests, writers must take the following into account:
- the test will last for 1 hour and 30 minutes
 - the test will consist of a sequence of practical tasks, worth a total of 50 marks
 - each candidate will have the use of a computer, suitable software and access to a printer during the test
 - any data files specified for use in the test will be placed on the QCA website in advance of the test, for centres to download and make available to candidates as read-only files on a network or on a write-protected floppy disk or other secure medium (for example CD-ROM); centres will be responsible for making such data files available to candidates both during and, for practise purposes, before the test
 - candidates will be supervised while taking the test
 - candidates will have access to the standard help facilities for the software they are using, but not to printed manuals, help sheets or notes.
- 9 This test specification is complemented by awarding body instructions to centres on the conduct of tests, and guidance on arrangements for candidates with special requirements.

Scope and demand of tests

- 10 The test must match the identified requirements of the ICT standards at level 3. This means that the test will focus on specific aspects of part A of the key skill standards, 'You need to know how to', as well as drawing on part B, 'You must'. Progression beyond the level 2 test requirements lies both in the practical nature of the test and in those items indicated with underlined text. For the purpose of this guidance, the requirements are organised into the skill areas:
- Preparing and using ICT to find and develop information
 - Presenting information
 - Standard ways of working with ICT.
- 11 The knowledge and skills defined in each skill area are organised into those associated with general software techniques and with application-specific software techniques. To ease identification of the complete set of techniques associated with particular types of application software, the same material is reorganised and presented in Appendix 1 under the headings:
- General software procedures
 - Word (document) processing software
 - Database software
 - Spreadsheet software
- 12 The ICT key skill standards have been aligned with the national curriculum order for ICT in England, which corresponds closely with the equivalent requirements in Wales and Northern Ireland. At level 3 this means that information on expectations may be drawn from the national curriculum level descriptors for level 7 and associated programmes of study.

Pass mark

- 13 The test will be designed to have a pass mark in the range of 25–35 marks out of 50. Responsibility for setting the final pass mark resides with the awarding bodies acting jointly.

Form of questions

- 14 The level 3 test is intended to enable candidates to demonstrate their ICT skills, knowledge and understanding through practical tasks. Each test should sample the requirements of the test specification by presenting a context, usually supported by a set of data, within which a sequence of tasks is set.
- 15 The evidence for assessment will be in the form of printouts required at defined points in the sequence of tasks. Evidence may be required of tasks, which normally appear only as a screen display (for example directory/folder structure and content), therefore candidates should be able to use screen print facilities. Some of the skills defined in the standards do not readily yield assessment evidence in the form of a printout but are included because they may be needed as intermediate stages in tasks. Appendix 2 describes how tasks and instructions will be presented.
- 16 The context of a time-limited sequence of specified tasks necessarily restricts the test to those aspects of the key skill standards that are suitable for testing in this way. Skills, such as making judgements about the quality of information and decisions about when and how to apply ICT to good effect, are assessed more effectively by means of the portfolio, which must provide evidence covering part B of the standards.
- 17 The sequence of tasks in the test, together with the related mark scheme, should be designed to minimise the problem of 'follow-through' error between tasks. Being able to complete a task correctly should not generally depend on having completed the previous task correctly.
- 18 All tasks must avoid making demands on candidates beyond the scope of the ICT skills being assessed. In particular, all language used in the tasks and source material should be clear and direct. Only information relevant to the tasks should be included. Expectations of knowledge or familiarity with specialist contexts, concepts and terms beyond those associated with the ICT skills being assessed must be avoided.

Structure of tests

- 19 The ICT key skill is concerned with finding information, deciding what is relevant, exploring, bringing together and developing information, and presenting information, to meet a given purpose. Examples of contexts which provide opportunities to develop suitable tasks include:
- travel, for example journeys by car or public transport, holidays away from home
 - leisure activities, for example hobbies, sports, clubs, TV, cinema, music, theatre
 - employment, for example job roles, organisations, pay rates, income
 - domestic activities, for example cooking, shopping, DIY
 - personal items, for example health, social security, social activities, address books
 - goods, for example food, clothing, toys, furniture, audio-video equipment, cars
 - climate and weather, for example rainfall, hours of sun, temperatures, forecasts
 - public records, for example library catalogues, electoral registers, census data, DVLA records
 - standard documents, for example invoices, order forms, bank statements
 - production, for example products, materials, suppliers, overheads, drawings, labour
 - services, for example house agents, banks, mail order, education, health.

Context

- 20 The whole test should be based on a context using source material usually including a set of data. Contexts should be chosen to maximise the likelihood of candidate familiarity with, or understanding of, the context. It is important to note that some candidates may have only limited employment-related experience. Sufficient descriptions and/or images will be necessary to ensure that the context and source material is understood by all concerned. In all scenarios it is essential to be brief, to use simple language and to avoid jargon.
- 21 The source material and any data sets should provide opportunities for analysing, organising and presenting information using:
- word (document) processing, including presentation of text, tables and images
 - database processing, including design, data management, queries, forms and reports
 - spreadsheet processing, including design, data management, modelling, graphs and charts.
- 22 Every effort must be made to ensure that source material is free of any form of bias (for example gender, ethnic, age) that might favour or disadvantage any candidate or group of candidates.

Skill areas and mark allocations

Underlined items are those which are additional to the level 2 requirements.

Skill area 1 – Preparing and using ICT to find and develop information

Up to 45 marks

1.1 – Prepare ICT – design and develop structures and procedures and enter information

Tasks may, for example, require candidates to use...

general software procedures to:

- a enter, insert and combine different forms of information including text, tables, records, values, formulas and objects, such as lines, images, text boxes, spreadsheet charts or sheets, database queries or reports
- b import and/or open information from text files (both plain text and comma-separated values) from image files and files from other applications
- c import and/or open comma delimited text files and save and/or convert them into merge source files

word (document) processing software to:

- d perform mail merge including creation and printing of the unmerged main document, creation or selection of the data source using suitable software and printing of the merged document

database software to:

- e develop database structures by creating tables and defining field names, data types and sizes including text, number, currency, date, time, logical
- f set field properties including type, size, format, data validation (value/range checks and error messages), primary key
- g document database structures including printing field names, field data types, field sizes, field format and field validation information

spreadsheet software to:

- h design suitable structures including row/column headings, cell formats, formulas and functions
- i import and/or open comma delimited text files and position the set of data in any specified worksheet location
- j construct and use look-up tables to aid information management.

1.2 – Use ICT to search for and find information

Tasks may, for example, require candidates to use...

general software procedures to:

- a locate files in a directory (folder) structure including use of subdirectories (subfolders)
- b find text including use of the wildcards * and ?

word (document) processing software to:

- c find components of documents including specified text, whole word searches and with/without case sensitivity

database software to:

- d find text and values in a database field (including use of the wildcards * and ?)
- e produce database queries using
 - criteria based on one or more fields
 - field data types including text, number, currency, date, time, logical
 - the relational operators <, >, =, <=, >=, < >
 - the logical operators AND, OR, NOT

- f produce database reports based on tables or queries

spreadsheet software to:

- g find text, values and formulas in spreadsheet cells using
- the relational operators <, >, =, <=, >=, <>
 - the logical operators AND, OR, NOT
- h filter information using search criteria on one or more columns.

1.3 – Use ICT to develop information, and derive new information

Tasks may, for example, require candidates to use...

general software procedures to:

- a insert, delete, amend, move and copy text, records/rows and fields/columns using appropriate tools, for example cut, copy, paste, drag and drop, find and replace
- b apply single and multiple sort criteria to sort and group data into ascending or descending order

database software to:

- c combine/append database tables/data files
- d design tables (including the addition of fields) queries and reports including sorting and grouping data

spreadsheet software to:

- e devise formulas to derive required results, including the use of:
- parentheses and arithmetic operators +, -, *, /
 - functions including SUM, AVERAGE, MIN, MAX, IF, LOOKUP (or MATCH)
 - relational operators <, >, =, <=, >=, <>
 - logical operators AND, OR, NOT
 - relative cell references in spreadsheet formulas, for example =G11*D4
 - absolute cell references in spreadsheet formulas, for example =C6-\$B\$2, =\$J\$1*E2
 - references to cell ranges, for example C3:C8, D4:F9, \$B\$2:\$E\$2
 - replication of a formula into other cells
- f change values and formulas to explore effects and predict results
- g create charts to show results or trends including selecting data series, type of chart (for example pie chart, single or multiple line graph, single or stacked horizontal or vertical bar chart) and suitable titles, legends, labels, axes.

Skill area 2 – Presenting information

Up to 15 marks

2.1 – Develop and use structures for integrating and presenting information

Tasks may, for example, require candidates to use...

general software procedures to:

- a set and apply fonts, font styles and font sizes
- b format numeric information including number of decimal places, currency, percentage, date, time
- c align text horizontally including left, right, centred, fully justified and vertically including top, centred and bottom
- d insert and modify the appearance of lines (borders)
- e select, insert and process images including size, crop, text wrap, use of behind/in front
- f position, group and anchor text, images and other objects
- g set page layout for left, right, top and bottom margins, orientation, headers and footers

- h insert fields including page number, date
 - i print selectively, for example current page, last page, specified page range
- word (document) processing software to:
- j implement bullets and numbering of paragraphs and lists
 - k present lists of data using tabulation including left, right, centre and decimal
 - l create and modify table structures including add, remove and size rows and columns, set borders and split and merge cells
 - m present documents in column layout including column width, spacing and separator lines
- database software to:
- n develop and format reports including titles, spacing, lines, headers, footers and grouping
- spreadsheet software to:
- o insert, delete and size rows and columns
 - p set, copy, move and clear cell (and cell range) contents and formats
 - q control printed copy including pagination, row and column headings, grid lines, hiding data, adjusting column widths, showing formulas
 - r format charts including titles, labels, shading, patterns, line styles and borders.

Skill area 3 – Standard ways of working with ICT

Up to 3 marks

3.1 – Plan use of ICT, ensure work is accurate and save work

Tasks may, for example, require candidates to:

- a check documents for accuracy including spelling and meaning
- b check document layout including pagination, paragraphs, tables, columns, graphics
- c use print preview to proofread documents
- d check formulas and functions for accuracy
- e create suitable directory (folder) structures including subdirectories (subfolders)
- f rename, move and copy files
- g save working files as backup copy using different filenames
- h use word processing, database and spreadsheet software to create, open, close and save files using appropriate filenames and file types (for example filename extension, link to application).

Appendix 1

This appendix gathers the items listed under 1.1, 1.2, 1.3 and 2.1 and presents them under general software procedures and under each of the main software applications. Centres should ensure that the software resources provided and the techniques being taught provide adequate coverage.

Underlined items are those which are additional to the level 2 requirements

General software procedures (possible in most systems and application software)

1.1 – Prepare ICT – design and develop structures and procedures and enter information

- enter, insert and combine different forms of information including text, tables, records, values, formulas and objects, such as lines, images, text boxes, spreadsheet charts or sheets, database queries or reports
- import and/or open text files (both plain text and comma-separated values), from image files and files from other applications.

1.2 – Use ICT to search for and find information

- locate files in a directory (folder) structure including use of subdirectories (subfolders)
- find text including use of the wildcard * and ?

1.3 – Use ICT to explore and develop information and derive new information

- insert, delete, amend, move and copy text, records/rows and fields/columns using appropriate tools, for example cut, copy, paste, drag and drop, find and replace
- apply single and multiple sort criteria to sort and group data into ascending or descending order.

2.1 – Develop and use structures for integrating and presenting information

- set and apply suitable fonts, font styles and font sizes
- format numeric information including number of decimal places, currency, percentage, date, time
- align text horizontally including left, right, centred, fully justified and vertically including top, centred and bottom
- insert and modify the appearance of lines (borders)
- select, insert and process images including size, crop, text wrap, use of behind/in front
- position, group and anchor text, images and other objects
- set page layout for left, right, top and bottom margins, orientation, headers and footers
- insert fields including page number, date
- print selectively, for example current page, last page, specified page range.

Word (document) processing software

1.1 – Prepare ICT – design and develop structures and procedures and enter information

- import and/or open comma delimited text files and save and/or convert them into merge source files
- perform mail merge including creation and printing of the unmerged main document, creation or selection of the data source using suitable software and printing of the merged document.

1.2 – Use ICT to search for and find information

- find components of documents including specified text, whole word searches and with/without case sensitivity.

2.1 – Develop and use structures for integrating and presenting information

- implement bullets and numbering of paragraphs and lists
- present lists of data using tabulation including left, right, centre and decimal
- create and modify table structures including add, remove and size rows and columns, set borders, split and merge
- present documents in column layout including column width, spacing and separator lines.

Database software

1.1 – Prepare ICT – design and develop structures and procedures and enter information

- develop database structures by creating tables and defining field names, data types and sizes including text, number, currency, date, time, logical
- set field properties including type, size, format, data validation (value and error messages, range checks), primary key
- document database structures including printing field names, field data types and field size, field format and field validation information.

1.2 – Use ICT to search for and find information

- find text and values in a database field (including the use of wildcards * and ?)
- produce database queries using
 - criteria based on one or more fields
 - field data types including text, number, currency, date, time, logical
 - the relational operators <, >, =, < >, <=, >=
 - the logical operators AND, OR, NOT
- produce database reports based on tables or queries.

1.3 – Use ICT to explore and develop information and derive new information

- combine/append database tables/data files
- design tables (including the addition of fields), queries and reports including sorting and grouping data.

2.1 – Develop and use structures for integrating and presenting information

- develop and format reports including titles, spacing, lines, headers, footers and grouping.

Spreadsheet software

1.1 – Prepare ICT – design and develop structures and procedures and enter information

- design suitable structures including row/column headings, cell formats, formulas and functions
- construct and use look-up tables to aid information management
- import and/or open comma delimited text files and position the set of data in any specified worksheet location.

1.2 – Use ICT to search for and find information

- find text, values and formulas in spreadsheet cells using
 - the relational operators <, >, =, <=, >=, <>
 - the logical operators AND, OR, NOT
- filter information using search criteria on one or more columns.

1.3 – Use ICT to explore and develop information and derive new information

- devise formulas to derive required results, including the use of:
 - parentheses and arithmetic operators +, -, *, /
 - functions including SUM, AVERAGE, MIN, MAX, IF, LOOKUP (or MATCH)
 - relational operators <, >, =, < >, <=, >=
 - logical operators AND, OR, NOT
 - relative cell references in spreadsheet formulas, for example =G11*D4
 - absolute cell references in spreadsheet formulas, for example =C6-\$B\$2, =\$J\$1*E2
 - references to cell ranges, for example C3:C8, D4:F9, \$B\$2:\$E\$2
 - replication of a formula into other cells
- change values and formulas to explore effects and predict results
- create charts to show results or trends including selecting data series, type of chart (for example pie chart, single or multiple line graph, single or stacked horizontal or vertical bar chart) and suitable titles, legends, labels, axes.

2.1 – Develop and use structures for integrating and presenting information

- insert, delete and size rows and columns
- set, copy, move and clear cell (and cell range) contents and formats
- control printed copy including pagination, row and column headings, grid lines, hiding data, adjusting column widths, showing formulas
- format charts including titles, labels, shading, patterns, line styles and borders.

Appendix 2

Tasks and instructions

- 1 The test should be constructed as a series of related tasks, headed Task A, Task B, etc, each specifying the type of software to be used and containing the instructions to be followed by the candidate.
- 2 Each task should form a natural component of the test, for example, the production of a printed report or the completion of a spreadsheet structure and the printing of copy containing the formulas.
- 3 A complete test should normally include between two and five tasks.
- 4 Where the type of software required for a task differs from the preceding task this should be specified.
- 5 Instructions within the tasks should be in a single sequence through the test, numbered 1, 2 ... and using parts a, b ... where necessary.
- 6 Instructions should not be so detailed that they limit opportunities for candidates to demonstrate their technical skills and knowledge.

Award of marks

- 7 Marks for the completion of each instruction must be clearly indicated. Where more than one mark is awarded for an instruction the mark scheme must show clearly how each mark is awarded, relating each mark to one or more features in the evidence provided by the candidate's printed copy.

Evidence

- 8 Where a skill to be tested does not produce direct evidence for assessment in the form of printed copy, candidates may be requested to produce printed evidence of a screen display.

Candidate identification

- 9 Every page of printout required in the test must include the candidate's name, the date and the printout title or number. The instructions in the test must specify these requirements.