

Key skills

Levels

1–4

2004

The key skills qualifications standards and guidance

communication, application of number
and information and communication technology



Qualifications and
Curriculum Authority



AWDURDOD
CYMWYSTERAU,
CWRICWLWM AC ASESU
CYMRU

QUALIFICATIONS
CURRICULUM &
ASSESSMENT AUTHORITY
FOR WALES



First published in 2004

© Qualifications and Curriculum Authority 2004

ISBN 1 85838 548 2

Reproduction, storage, adaptation or translation, in any form or by any means, of this publication is prohibited without prior written permission of the publisher, unless within the terms of licences issued by the Copyright Licensing Agency. Excerpts may be reproduced for the purpose of research, private study, criticism or review, or by educational institutions solely for educational purposes, without permission, provided full acknowledgement is given.

Printed in Great Britain

The Qualifications and Curriculum Authority is an exempt charity under Schedule 2 of the Charities Act 1993.

Qualifications and Curriculum Authority
83 Piccadilly
London
W1J 8QA
www.qca.org.uk/

Contents

INTRODUCTION TO KEY SKILLS	2
UNDERSTANDING THE KEY SKILLS STANDARDS	5
INTRODUCTION TO THE GUIDANCE SECTIONS	25
COMMUNICATION, LEVELS 1–4	
Introduction to communication	28
Level 1: ■ Part A, <i>you need to know how to:</i>	30
Part B, <i>you must:</i>	32
Level 2: ■ Part A, <i>you need to know how to:</i>	34
Part B, <i>you must:</i>	36
Level 3: ■ Part A, <i>you need to know how to:</i>	39
Part B, <i>you must:</i>	42
Level 4: ■ Part A, <i>you need to know how to:</i>	45
Part B, <i>you must:</i>	48
APPLICATION OF NUMBER, LEVELS 1–4	
Introduction to application of number	51
Level 1: ■ Part A, <i>you need to know how to:</i>	54
Part B, <i>you must:</i>	57
Level 2: ■ Part A, <i>you need to know how to:</i>	59
Part B, <i>you must:</i>	62
Level 3: ■ Part A, <i>you need to know how to:</i>	64
Part B, <i>you must:</i>	67
Level 4: ■ Part A, <i>you need to know how to:</i>	69
Part B, <i>you must:</i>	72
INFORMATION TECHNOLOGY, LEVELS 1–4	
Introduction to information and communication technology	74
Level 1: ■ Part A, <i>you need to know how to:</i>	76
Part B, <i>you must:</i>	78
Level 2: ■ Part A, <i>you need to know how to:</i>	80
Part B, <i>you must:</i>	83
Level 3: ■ Part A, <i>you need to know how to:</i>	85
Part B, <i>you must:</i>	87
Level 4: ■ Part A, <i>you need to know how to:</i>	89
Part B, <i>you must:</i>	92
RELEVANT SOURCES OF INFORMATION	94

'Key skills get people jobs. Qualifications only get you to the interview.'

An employer

'Two years ago I did communication at level 3 alongside my course. I gained so much from doing this that when I was asked if I wanted to work on the higher skills levels I immediately said yes.'

Student in HE

'I knew I was able to achieve a high level of skills but I also knew I needed to apply my skills to really make a difference.'

A project management consultant

'The thing that really struck me was the fact that what I knew I was good at earlier in my career was no longer being used. I knew I had to update my skills. It was interesting to get an understanding of what skills I needed now and in the future. It made me aware of how I instinctively deal with situations and how I could do things differently to avoid friction.'

A research scientist

Introduction to key skills

Background

This publication, *The key skills qualifications standards and guidance*, replaces the previous version published in 2002. It reflects the changes to the key skills specifications (2000) that have been made following extensive national consultation with practitioners in schools and colleges, national organisations, teacher associations, employer organisations and awarding bodies, carried out by the regulatory authorities (QCA, ACCAC and CCEA) as part of the formal Key Skills Review during 2002/3.

The review has identified some misunderstanding of the use of the term key skills specifications. Those involved in general education view the term 'specifications' differently from those who work in vocational education and training. The regulatory authorities have therefore agreed to revert to the term 'key skills standards' as used pre-2000.

Full details of the findings of the review can be found at the key skills pages of:

- the QCA Website at www.qca.org.uk/keyskills
- the ACCAC Website at www.accac.org.uk/qualifications/key_skills/key_skills.htm
- the CCEA Website at www.ccea.org.uk/keyskills_site.

The new key skills standards are for use with candidates starting key skills qualifications from September 2004. Candidates registered with the September 2000 key skills specifications will have until August 2006 to complete the qualifications and claim certification.

For ease of reference, the new key skills standards (levels 1–4) for communication, application of number and information and communication technology are included with this document.

The guidance is written primarily for tutors and assessors within all types of centre. For tutors, it contains guidance on how candidates should prepare evidence for their portfolios. For assessors, it covers interpretation of the requirements for portfolio evidence in the key skills standards and the way in which the assessment must be carried out and recorded. It is the role of the awarding body moderator/verifier to ensure consistency of assessment judgements in relation to the standards. They do this by seeking to confirm assessment judgements made within centres, or where necessary, by adjusting those judgements. It is not the task of moderators/verifiers to carry out independent assessments of candidates' portfolios. It is therefore essential that they are provided with clear evidence of the assessments made within centres.

This publication, and in particular the key skills standards, is therefore essential reading for all those responsible for the teaching and assessment of key skills. Copies of the guidance should be readily accessible to all staff.

The purpose of this publication

There are six key skills standards, at levels 1–4:

- communication, application of number, information and communication technology (ICT)
 - working with others, improving own learning and performance, problem solving.
- The latter are often referred to as the ‘wider key skills’.

At level 5 there is a single specification for personal skills development comprising communication and the three wider key skills.

This publication is intended to assist tutors and assessors in the interpretation of the key skill standards for communication, application of number and information and communication technology (ICT), at levels 1–4. Separate guidance is available for the wider key skills.

Although this publication is aimed primarily at tutors and assessors, level 4 candidates may also benefit from reading it as they are expected to take full responsibility for developing and applying key skills.

The sections that follow offer an introduction to key skills, and amplification of key aspects of the standards, in order to help achieve consistency in interpretation. There is also some information about the external assessment (the key skills tests)¹. More detailed information about external assessment or about the certification of key skills can be obtained from the awarding bodies that are approved to offer key skills (you should visit the QCA website: www.qca.org.uk/keyskills for a full list of awarding bodies). Key skills test specifications and examples of key skills tests are also contained on the website.

Throughout the booklet, the term ‘candidate’ has been used to refer to anyone using the standards. Please read this as ‘student’, ‘trainee’, ‘employee’ or ‘individual’, if more appropriate to the contexts in which this guidance is being used.

The importance of key skills

Key skills are intended for everyone, from pupils in schools to Chief Executives in large companies. Key skills are the skills most commonly needed for success in a range of activities at work, in education and training and life in general. They focus candidates’ attention on where and how they are using skills for the purpose of improving the quality of their learning, work and performance.

The development of key skills has been encouraged in schools and colleges for some time, particularly through work-experience programmes and curriculum-enrichment activities. Key skills are highlighted in the national curriculum to show how they relate to subjects across the curriculum.

All qualifications accredited by QCA and the other regulatory authorities in Wales and Northern Ireland have signposted opportunities for generating evidence and, where appropriate, for assessing key skills.

¹ The key skills test is a requirement in England and Northern Ireland.

Employers have taken a lead in promoting the importance of key skills for employability. Institutions of higher education are also making explicit the use of key skills within their undergraduate and postgraduate programmes, and in initiatives such as the Graduate Apprenticeship, Modern Apprenticeship and Foundation Degrees.

Candidates can achieve the individual key skills at different levels, but must pass both an internally assessed portfolio and an externally set and marked test for each key skill in order to ensure the required standards have been met. The achievement of key skills is recognised in the Universities and Colleges Admissions Service (UCAS) tariff for admissions to higher education.

Relationship between adult literacy, numeracy and the related key skills

Adult literacy and adult numeracy skills can be defined as *the ability to read, write and speak in English/Welsh and to use mathematics at a level necessary to function at work and in society in general*. Having the key skills takes the student further: the student will have the basic skills, but can independently select and apply those skills and then progress to improve on them.

The key skills tests¹ at levels 1 and 2 in communication and application of number also act as the tests for adult literacy and adult numeracy. This means that candidates can achieve a literacy or numeracy qualification by passing an external test.

Candidates who gain the adult literacy and numeracy certificates based on passing these tests can then progress to achieving the full key skills qualifications if they wish. In order to meet the requirements of the internal assessment component of the key skills qualifications, candidates have to develop a suitable portfolio of evidence.

In helping candidates develop their communication and application of number skills, tutors and assessors may find it useful to refer to the level 1 and level 2 National Standards for Adult Literacy and Numeracy respectively.

¹ The key skills tests are a requirement in England and Northern Ireland.

Understanding the key skills standards

The key skills standards clearly set out what candidates need to know how to do and what they must do to meet prescribed standards of performance. They can be used in a number of ways, for example:

- to help candidates focus attention on what they are learning, how they are learning and what they can do to improve
- to measure performance against the standards
- for assessment purposes alongside, or as part of qualifications.

The structure of the standards

There is a separate set of standards for each of the key skills at each of the levels 1–4. At level 5 there is a single set of standards. Each set of standards has four parts:

- a short overview of what key skills are about and what the particular key skill entails at that level
- a description of what candidates need to know how to do (Part A)
- an outline of what candidates must show they can do (Part B)
- brief guidance and examples of the techniques and knowledge defined in Part A, together with some helpful advice about producing evidence.

Parts A and B of the standards for the three key skills are contained in the guidance sections later in this booklet.

Progression through the key skills levels

Key skills standards are available at five levels of attainment, ranging from levels 1–5. These levels correspond to the levels used for other qualifications within the national qualifications framework. For example, key skills level 2 can be broadly related, in terms of level of demand, to GCSE grades A*–C. The higher levels, levels 4 and 5, describe those skills relevant to technical and professional situations and higher level study.

However, it should not be assumed that candidates will automatically achieve key skills at the same level as their main programme. Key skills are certificated separately from other qualifications, so it is possible for candidates to achieve the individual key skills at different levels (ie at lower or higher levels) or at the same level as their main programme, depending on their abilities and circumstances.

The key skills standards are designed to enable candidates to progress in selected skills at their own pace, taking into account their developmental needs and the opportunities available to them. Each level of the key skills incorporates and builds on the previous ones so the higher levels are challenging and demanding both to those who have previously worked on levels 1–3 and to those who are new to key skills.

Progression to a higher level is characterised by:

- greater autonomy from the individual in deciding how they will apply their skills to suit different tasks and problems
- greater demands made by the situation in which the skills are applied
- use of a wider range and more complex techniques.

The key skills standards not only recognise candidates' current capabilities, they also require them to look forward and identify how they can further improve their skills to meet new demands at the higher levels. The main differences between the levels are highlighted in the chart on pages 8–9.

Structure of the standards

Introduction to the standards

The front cover of each set of standards provides a brief summary of what the particular key skill is all about together with some general key skills information.

Part A

Part A of each set of standards describes what candidates need to know how to do, at the relevant level, in order to have the confidence to apply their skills appropriately. It can be used to assess candidates' prior learning, as well as their current capabilities, and to identify learning needs.

Part B

This part of each set of standards tells candidates what they must do. It describes the type of activity candidates need to undertake to produce evidence of their ability to apply the relevant skills. For example, for the written communication **component** (C2.3 – see page 36), candidates must write two different types of documents, each of which should give different information. One of the documents must be at least 500 words long.

The **sub-components** in the boxes to the right of the page provide the criteria for assessing the quality of candidates' performance, ie their ability to 'bring together' and apply their skills in a way that is appropriate to a particular activity. For example, candidates must show, in their portfolio, that *each* document presented as evidence of their writing skills meets all the **assessment criteria** in the box for component (C2.3). The criteria must be used together, as a set, for each component of the standard.

KEY SKILLS

Communication

Level 2

The key skills are the skills which are most commonly needed to succeed in a range of activities – at work, in education and training and in everyday life. In developing the key skill of communication, you will learn to use and adapt your communication skills confidently and effectively in a range of settings, and contexts.

Progression
The key skills qualifications are designed to enable you to progress at your own pace. They build on adult literacy standards, which provide further detail of the skills needed to achieve the communication key skill at levels 1 and 2. Each level of the key skills qualifications not only recognise your current capabilities, they also require you to identify how you can further improve your skills to meet new demands at higher levels.

Part A

YOU NEED TO KNOW HOW TO

This section tells you about the techniques and knowledge associated with each key skill. It tells you what you need to learn and practise to feel confident about applying communication skills in your studies, work or other aspects of your life.

Part B

YOU MUST

This section builds on Part A and describes the application of skills. It describes the skills you must show. All your work for this section will be assessed. You must have evidence that you can do all the things listed in the bullet points.

To achieve Communication at level 2, you must be able to apply your communication skills to suit different purposes. You will show that you can:

- take part in a group discussion
- read and summarise at least two documents
- give a short talk
- write two types of document, each giving different information.

Communication: level 2

Part A

YOU NEED TO KNOW HOW TO:

Discuss

- use varied vocabulary and expressions to suit your purpose
- adapt what you say to suit different situations
- listen carefully to what others say
- identify the speaker's intentions
- move the discussion forward.

Give a short talk

- prepare for the talk
- adapt your language to suit your subject, purpose and situation
- structure what you say to help listeners follow a line of thought or series of events
- use a variety of ways to support the main points of your talk including using images.

Read and summarise information

- select and use different types of documents to obtain relevant information
- skim documents to gain a general idea of content
- scan documents to identify use information you need
- recognise the writer's intentions
- identify the main points, ideas and lines of reasoning from text and images
- summarise information for a purpose.

Write documents

- use different formats for presenting information, including essays, reports and articles
- structure your writing to help readers follow and understand your main points
- use different styles of writing to suit different purposes
- proof-read and where necessary re-draft your documents to that:
 - spelling is accurate including familiar technical words
 - sentences are formed correctly with accurate use of conjunctions
 - punctuation is accurate including use of commas, apostrophes and inverted commas.

Communication: level 2

Part B

YOU MUST:

Evidence must show you can:

C2.1a
Take part in a group discussion.

214.1 make clear and relevant contributions in a way that suits your purpose and situation

214.2 respond appropriately to others

214.3 help to move the discussion forward.

C2.1b
Give a talk of at least four minutes.

215.1 speak clearly in a way that suits your subject, purpose and situation

215.2 keep to the subject and structure your talk to help listeners follow what you are saying

215.3 use appropriate ways to support your main points.

C2.2
Read and summarise information from at least two documents about the same subject. Each document must be a minimum of 500 words long.

221 select and read relevant documents

222 identify accurately the main points, ideas and lines of reasoning

223 summarise the information to suit your purpose.

C2.3
Write two different types of documents each one giving different information. One document must be at least 500 words long.

224 present relevant information in a format that suits your purpose

225 use a structure and style of writing to suit your purpose

226 spell, punctuate and use grammar accurately

227 make your meaning clear.

Use at least one image either to obtain information or to convey information in your document, your talk or one of the documents you write in order to help the audience/reader understand the points you are making.

Communication: level 2

EXAMPLES AND GUIDANCE

The following gives further guidance and examples of the techniques and knowledge in Part A.

DISCUSS:

- to present an argument, express ideas or opinions and exchange information judging effectively the amount to say and using a manner and tone of voice to suit the situation
- to summarise, develop points and to focus on purpose.

GIVE A SHORT TALK:

- providing or explaining technical terms and using a variety of techniques to engage the audience (eg keeping attention by varying tone of voice, giving examples, signalling new points, using images or other support material to illustrate what you are saying).

READ AND SUMMARISE INFORMATION:

- to obtain and compare facts, opinions and ideas, obtain instructions or directions from reports, text books and articles
- to understand the writer's intention by tone, vocabulary and the structure of the text.

WRITE:

- to produce documents such as letters, memos and extended essays or reports
- using paragraphs, headings and sub-headings to structure material.

For further examples and guidance on the key skills standards please refer to The key skills qualifications standards and guidance (order ref: OCA/D41272). The adult literacy standards also provide help and guidance for preparing candidates for the communication key skill at levels 1 and 2.

Help with producing evidence

If producing certain types of evidence is difficult for you because of a disability or for another reason, please discuss this with your tutor or supervisor. It may be possible for you to produce evidence using alternative methods. Depending on the skill and level, these may include use of Braille, voice activated software and candidates with Particular Requirements published in the Document Basic and Key Skills Guidance for your key skills awarding body.

Please ask your tutor or supervisor for further guidance.

This standard is for use in programmes starting from September 2004.

Copyright © 2004 Qualifications and Curriculum Authority. All rights reserved. This document is published under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike license. For more information on this license, please visit <http://creativecommons.org/licenses/by-nc-sa/4.0/>.

Communication: level 2

Examples and Guidance

The back cover of the standard contains some further information and examples of the techniques and knowledge that is prescribed in Part A. It also includes advice for candidates about alternative approaches that they may use for compiling evidence for the key skills portfolio.

Levels 1–4

Level 1 helps candidates to develop the basic skills that are important for key skills competence, and recognises their ability to apply these skills in meeting given purposes within routine situations.

Level 2 builds on level 1 by requiring candidates to extend their basic skills. It recognises their ability to take responsibility for some decisions about how they select and apply these skills to meet the demands of largely straightforward tasks.

Level 3 marks a shift from straightforward tasks to being capable of responding to the demands of more complex activities. Candidates need to demonstrate more explicit reasoning ability and personal responsibility in making decisions about how tasks are organised.

This checklist of evidence requirements illustrates the main differences between the levels in each key skill

(Please refer to the key skills standards for assessment purposes.)

Communication

LEVEL 1

Candidates must be able to:

- take part in either a **one-to-one** discussion or a **group** discussion
- read and obtain information from at least **one** document
- write **two** different types of document.

Candidates must use at least one image, *either* to obtain information, *or* to convey information in their discussion or one of the documents they write to help the audience/reader understand the points they are making.

LEVEL 2

Candidates must be able to:

- take part in a group discussion
- read and summarise information from at least **two** documents about the same subject. Each document must be a minimum of 500 words long
- give a talk of at least four minutes
- write **two** different types of documents each one giving different information. One document must be at least 500 words long.

Candidates must use at least one image, *either* to obtain information, *or* to convey information in their discussion or talk, *or* one of the documents they write to help the audience/reader understand the points they are making.

Application of number

LEVEL 1

Candidates must be able to:

- interpret information from **two** different sources. At least **one** source must include a table, chart, graph or diagram
- carry out and check calculations to do with:
 - a. amounts or sizes
 - b. scales or proportion
 - c. handling statistics
- interpret the results of their calculations and present their findings in two different ways using charts or diagrams.

LEVEL 2

At level 2, candidates must carry out at least one activity that includes tasks for all three of the assessment components N2.1, N2.2 (a or b or c or d) and N2.3.

Overall, through one or more activities candidates must:

- use two different sources which include material containing a chart or graph (N2.1)
- do calculations for a, b, c, and d (N2.2)
- present findings in two different ways using charts, graphs or diagrams (N2.3)

Candidates must be able to:

- interpret information from a suitable source
- use the information to carry out calculations to do with:
 - a. amounts or sizes
 - b. scales or proportion
 - c. handling statistics
 - d. using formulae
- interpret the results of their calculations and present their findings.

Information and communication technology

LEVEL 1

Candidates must be able to:

- find and select relevant information
- enter and develop at least two different types of information to suit the task
- develop the presentation so that the final output is accurate and fit for the purpose.

LEVEL 2

At level 2, candidates are required to demonstrate their skills in the context of two activities, which include tasks for all three of IT2.1, IT2.2 and IT2.3.

Overall, through the activity or activities, they must:

- include at least one IT-based information source
- include at least one non-IT based information source
- use at least one example of text, one example of image and one example of number
- present evidence of purposeful use of email.

Candidates must be able to:

- search for and select information to meet their needs. Use different information sources for each activity and multiple search criteria in at least one case
- enter and develop the information and derive new information
- present combined information such as text with image, text with number, image with number.

Level 4 requires candidates to have substantial autonomy and responsibility for managing activities and for identifying how the key skills relate to their situation. It recognises ability to develop a strategy for using key skills over an extended period of time, monitor and critically reflect on progress and adapt strategy, as necessary, to achieve the quality of outcomes required.

At level 5, there is a single standard (personal skills development). This standard requires candidates to apply their key skills in communication, working with others and problem solving, in an integrated way, in order to improve their own learning and performance in managing professionally challenging work.

LEVEL 3

Candidates must be able to:

- take part in a group discussion
- read and synthesise information from at least **two** documents about the same subject. Each document must be a minimum of 1000 words long
- make a formal presentation of at least eight minutes, using an image or other support materials
- write **two** different types of documents each one giving different information about complex subjects. One document must be at least 1000 words long.

Candidates must use at least one image *either* to obtain information *or* to convey information in one of the documents they write.

LEVEL 4

Candidates must be able to:

- develop a strategy for using communication skills over an extended period of time
- monitor progress and adapt their strategy, as necessary, to achieve the quality of outcomes required in work involving at least
 - **one** group discussion about a complex subject
 - **one** document of 1000 words or more about a complex subject
- evaluate their overall strategy and present the outcomes from their work, using at least **one** formal oral presentation, including a variety of verbal, visual and other techniques to illustrate their points.

LEVEL 3

At level 3, candidates must carry out one or more activities that each includes tasks covering all three components of the assessment components N3.1, N3.2 (a or b or c or d) and N3.3.

Overall, through one or more activities, candidates must:

- use two different types of sources, including a large data set (ie over 50 items of data – N3.1)
- carry out calculations to do with a, b, c and d (N3.2)
- present findings in two different ways using charts, graphs or diagrams (N3.3)

Candidates must be able to:

- plan an activity and get relevant information from relevant sources
- use this information to carry out multi-stage calculations to do with:
 - a. amounts or sizes
 - b. scales or proportion
 - c. handling statistics
 - d. using formulae
- interpret the results of their calculations, present their findings and justify their methods.

LEVEL 4

Candidates must be able to:

- develop a strategy for using application of number skills over an extended period of time
- monitor progress and adapt their strategy, as necessary, to achieve the quality of outcomes required in work involving:
 - deductive and inferential reasoning
 - algebraic modelling
- evaluate their overall strategy and present the outcomes from their work, including use of charts, graphs and diagrams to illustrate complex data.

LEVEL 3

At level 3, candidates must show that they can plan and carry through a number of different tasks, one of which must be a major task covering components IT3.1, IT3.2 and IT3.3. Each component must be covered at least twice, and IT3.3 must be covered for at least two different audiences. Smaller tasks may be used to ensure each component is covered.

Overall, candidates must meet the following requirements, through at least two activities:

- include at least one IT based information source
- include at least one non-IT based source
- use at least one example of text, one of image and one of number
- use one example of combined information such as text and number, or image and number, or text and image
- present evidence of sending and receiving email, with one email having an attachment related to the task.

Candidates must be able to:

- search for information, using different sources, and using multiple search criteria in at least one case
- enter and develop the information and derive new information
- present the information.

LEVEL 4

Candidates must be able to:

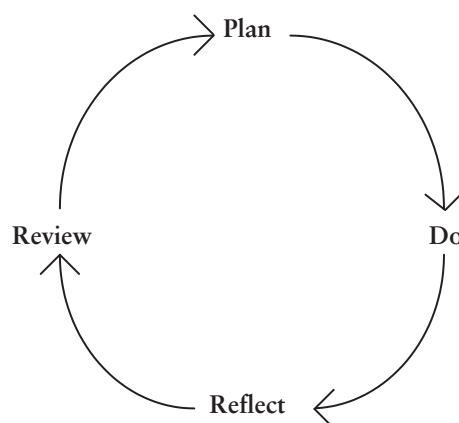
- develop a strategy for developing IT skills over an extended period of time
- monitor progress and adapt their strategy, as necessary, to achieve the quality of outcomes required in work involving the use of IT for **two** different complex purposes
- evaluate their overall strategy and present the outcomes using at least **one** presentation, showing integration of text, images and number.

General principles that underpin effective practice using the key skills

One of the most important points about key skills is that they are not applicable to any one particular programme, age, ability range or context. They are required for success in all aspects of education, training, work and life in general. They are therefore appropriate for students, teachers and lecturers working in schools, colleges and higher education, and for everyone from junior staff and middle managers to chief executives in the workplace. They serve to support the effectiveness of learning and performance both in education and at work, by encouraging the individual:

- to think about their intentions and purposes
- to plan a course of action
- to implement the plan
- to reflect on their progress towards the plan
- to review the plan to suit changing circumstances or to overcome problems
- to devise a new plan when the original one has been fulfilled.

The important process that underpins key skills is therefore based upon the cycle of:



There are a number of other general principles for effective practice that have been drawn from a variety of education, training, employment and community contexts, together with information from the Key Skills Reviews that were carried out in 2001 and 2003.

1. There should be a clear organisational policy for all six key skills that applies to all candidates.
2. Senior managers should demonstrate their commitment to putting policy into practice, by allocating responsibilities, providing sufficient resources and opportunities for staff training, programme planning and evaluation, and disseminating key messages for improving provision.
3. All staff should understand the concept of key skills and be capable of helping candidates to develop them, in ways that show the relevance of these skills to particular settings, as well as the wider context. As many staff as possible should be competent to assess key skills.
4. Prior achievements in key skills should be recognised, (whether they are derived from work, study or other activities) and opportunities provided for building on these achievements, so that candidates can work towards a level of key skills that is as high as possible.
5. There should be a variety of planned opportunities for learning and practising the skills of application, (as well as the techniques and underpinning knowledge), with constructive feedback provided on ways to improve performance.

6. Key skills should be made explicit, and learnt, practised and assessed within contexts that are relevant to candidates, so that they can see how key skills can improve the quality of their learning, performance and opportunities for progression, eg in further/higher education and employment.
7. Candidates should have their own copies of the standards and should be encouraged to manage their own learning, including recording specific evidence of their achievements and building their portfolio as a continuous process.
8. Information guidance and support should be available on a regular basis, so that candidates are able to plan development and assessment opportunities, and review and keep track of their progress in applying their skills in different contexts.
9. Achievements should be recorded against each component of the relevant key skill, with portfolio references indicating where specific evidence can be located. A variety of forms of evidence should be recognised, provided that the examples selected show clearly that the assessment criteria have been met.
10. There should be clear procedures for quality assurance, including an internal standards moderation process, and, where applicable, for cooperating with an awarding body on arrangements for external assessment and moderation.
11. It is advisable that candidates are not entered for a key skills test¹ until they have a sound grasp of what the skill involves.
12. Compilation of the portfolio should commence at an early stage in the candidate's programme, as this will help the candidate to understand the key skills and what is involved.

It is important that people using the key skills standards understand how these principles can be delivered in settings that are relevant to them, for example, through opportunities for networking, training and using guidance and support materials that provide examples of effective practice (see page 94 for contact addresses for the Key Skills Support Programme).

Key skills development

Candidates should be given their own copy of the key skills standards, and should be supported with guidance from an appropriate person to ensure that they understand what is required. In order to meet the standards, candidates will need to be confident and competent in Part A and Part B of the standards.

Part A the techniques and knowledge associated with each key skill (the 'know how')	PLUS	Part B the application of skills (the 'thinking skills' that are integral to the standards)
---	-------------	---

Candidates will need planned opportunities to:

- acquire the 'know how' (eg how to write grammatically correct text, carry out particular types of calculations and use editing facilities in a word processing package); and
- develop and practise the 'thinking skills' (eg skills in analysing tasks and problems, formulating questions, generating and adapting ideas, making decisions about methods, and the relevance and quality of information, checking, monitoring, evaluating and drawing conclusions).

¹ The key skills tests are a requirement in England and Northern Ireland.

Candidates should be encouraged to use their key skills portfolio to support target setting, planning, reviewing and recording processes, and so help to develop personal autonomy in learning and prompt candidates to make connections, for themselves, between the key skill demands of different contexts. This is the central process that underpins *Improving Own Learning and Performance*, and it would be beneficial to candidates if they were to combine this wider key skill with the other skills, as it helps them to understand the plan, do, reflect, review cycle.

At the higher levels, candidates are expected to manage their own learning and make their own decisions about how they adapt their skills to meet different demands. However, for candidates working at the lower levels, teachers and trainers will need to think carefully about how they can provide structured learning opportunities that explicitly address the application of skills. Listed below are some ways that have been found helpful in doing this.

WAYS TO PROMOTE THE EFFECTIVE LEARNING OF KEY SKILLS

- careful sequencing of theory and practice components, to help candidates learn the techniques and knowledge underpinning key skills and see the relevance of what they are learning through practical experience
- explicit tuition and practice in using learning strategies within a wide range of contexts
- careful structuring of tasks that promote the ability to think by creating problems of sufficient challenge to stretch, but not deter, the candidates
- systematic variation of tasks in order that learners can see how, and to what extent, existing skills can be applied to good effect in less familiar tasks and identify when new learning is required
- opportunities to work with others (eg through collaborative use of ICT, coaching, reciprocal teaching, pair problem solving) so that candidates are encouraged to express their reasons for adopting particular approaches and therefore learn from each other what works and what doesn't work
- providing candidates with precise feedback, not only on how they are doing, but also on what to do to improve
- encouraging self-assessment, review and reflection by candidates (to think about their own learning), using the portfolio as an aid to reflective learning.

Key skills assessment and building a portfolio

The key skills awarding bodies and the regulatory authorities have produced a suite of example portfolios that will help to give candidates and practitioners a clear understanding of the requirements for the key skills portfolio. These are available on the QCA key skills website (www.qca.org.uk/keyskills).

There are example portfolios at levels 1 to 3 for the following key skills:

- application of number
- communication
- information and communication technology (ICT).

The portfolios cover a range of learning and vocational contexts to show the application of skills across the nine portfolios. While a specific context may not be directly relevant to all sectors, the principles of approach, recording and assessment apply to all sectors, and should therefore provide useful guidance.

Also included in the portfolios are:

- record sheets that make the feedback and assessment decisions clear
- commentaries (written by chief moderators) that outline some of the issues and describe the contexts in which the candidate gathered the evidence.

The key skills portfolio can be used for formative purposes (for self-assessment, and for giving constructive feedback to help candidates further develop their skills), as well as for confirming achievements for certification purposes.

Note: Example portfolios for the wider key skills will also be on the QCA website later in 2004.

Formative assessment

Some candidates may need to choose key skills at a lower level than their main programme, in order to develop confidence and/or fill gaps in their learning. Others may be able to build on prior learning and achievements by starting at the same level as their main programme or at a higher level. Candidates will need guidance on this, as well as regular review and tracking of progress, and a variety of assessment opportunities, in order to receive feedback on performance. Some will need additional support in diagnosing and overcoming problems.

Part A of each key skill can be useful, during initial assessment, for helping candidates to decide on the most appropriate level of key skills for them, by providing criteria for:

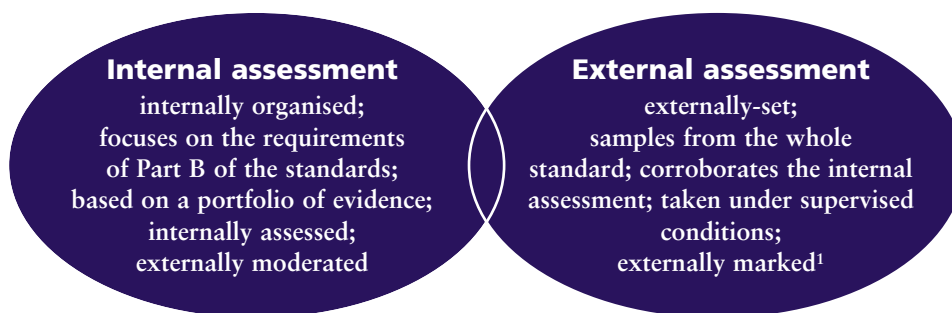
- identifying their prior learning
- establishing their current capabilities
- informing decisions about teaching and learning, and support needs.

Activities can also be designed around the components in Part B for use in induction programmes: for example, to help candidates become familiar with the key skills standards and assess their confidence in applying these skills.

Assessment for certification purposes

Full details of the requirements for certification, can be obtained from the awarding bodies that are approved to offer key skills. But, in brief, to gain a qualification at levels 1–4, in the key skills of communication, application of number and information and communication technology, candidates must pass both the internally assessed portfolio and the external test¹.

¹ The key skills tests are a requirement in England and Northern Ireland.



Building a portfolio

A portfolio is usually a file for presenting evidence of how candidates have met the requirements of the standards. It may be hard copy or an electronically-based storage and retrieval system. Portfolio building is an important skill in managing the learning and assessment processes. Candidates will need training to plan and organise their work from the outset, and guidance on the forms that evidence might take. Once again, the key skill of *improving own learning and performance* can provide a useful ‘plan, do, reflect and review’ cycle for candidates to help them develop the skills for managing the portfolio, particularly when used with Progress File materials.

Internal assessment of the portfolio

In compiling a key skills portfolio, it must be clear that the evidence has been assessed against the relevant key skills assessment criteria. Where a candidate’s work has been initially assessed for instance against specific NVQ, VCE, GCSE, AS or A level specifications, it should also be assessed separately for key skills and appropriate feedback provided to the candidate. There must be clear signs of this assessment and feedback. Evidence that is used to meet both the requirement of the main qualification (eg NVQ, VCE, GCSE, AS or A level) and the key skill, need not necessarily exist in two copies. It must however be clearly cross-referenced in the key skills portfolio so that a moderator or verifier can readily find the evidence.

The following examples of an Assessment Checklist and an Assessment Record show how this can be done. They can be used by candidates to monitor their own management of the evidence, and thus assist the assessor and moderator to match the evidence to the relevant key skills assessment criteria. They are provided here to help assessors. You are advised to check if your awarding body has its own versions of these forms that should be used.

¹ The key skills tests are a requirement in England and Northern Ireland.

KEY SKILL LEVEL X ASSESSMENT CHECKLIST

CANDIDATE NAME:

You must: X1.1	X1.2	X1.3
Your evidence must show you can: 1.1.1	1.2.1	1.3.1
1.1.2	1.2.2	1.3.2
		1.3.3

LOCATION OF EVIDENCE

Page	List items of evidence and where they are located in the portfolio	X1.1		X1.2		X1.3		
		1	2	1	2	1	2	3

Indicate the location of evidence of the following

X1.1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
X1.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
X1.3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

KEY SKILL LEVEL X
LOCATION OF ADDITIONAL EVIDENCE

Page	List items of evidence and where they are located in the portfolio	X1.1		X1.2		X1.3		
		1	2	1	2	1	2	3

Assessor declaration: *I confirm that the details above are correct, that the evidence submitted is the candidate's own work and that the candidate meets all the requirements for certification of the key skill.*

Assessor's name:

Assessor's signature:

Date:

ASSESSMENT RECORD
KEY SKILL LEVEL 1
X1.1

Subject and Purpose: <div style="height: 100px;"></div>	Supplementary Evidence: <div style="height: 100px;"></div>
---	--

Did the candidate ... <div style="height: 150px;"></div>	<div style="text-align: center;"> <input type="checkbox"/> Yes </div> <div style="text-align: center; margin-top: 20px;"> <input type="checkbox"/> No </div>	Comments and examples <div style="height: 150px;"></div>
Did the candidate ... <div style="height: 150px;"></div>	<div style="text-align: center;"> <input type="checkbox"/> Yes </div> <div style="text-align: center; margin-top: 20px;"> <input type="checkbox"/> No </div>	Comments and examples <div style="height: 150px;"></div>

Assessor's name: Assessor's signature: Candidate's name: Candidate's signature:	Date: Date:
--	--

Assessment of work against the key skills criteria should be carried out by someone with appropriate specialist expertise to understand the full implication of the standards. For example, while appropriate subject expertise would be needed to judge the relevance and accuracy of the information presented in a written document or oral presentation, the person observing the presentation (or short talk or discussion) might not be responsible for assessing it against the criteria for communication. In the same way, the technical terms used in information and communication technology and the ways in which the benefits of software facilities might be maximised may only be fully appreciated by a specialist.

The chart below lists some important principles for effective portfolio building and management.

PORTFOLIO MANAGEMENT

- Candidates need to understand the role and importance of portfolio management.
- Support and guidance to candidates must be carefully balanced. Set exercises can help candidates learn the skills involved in presenting evidence, but including a large amount of work of this type in a portfolio is unacceptable.
- Tutors and trainers must ensure they do not over-manage the process.
- Portfolio building should be started as soon as possible, as it is very difficult to catch up later. This is very important, as it will help the candidate to understand the relevance of the key skills to their other studies and to the wider world.
- Candidates should be encouraged to identify evidence from a range of contexts (eg from across their programme of study, experience of work, community activities) that are relevant to their interests. It is not always possible, or desirable, to draw evidence from a single subject or work activity.
- Volume is not a measure of quality. Evidence should be carefully selected to show that the criteria have been met for each component of a key skill. The guiding principle for portfolio evidence should be *'quality before quantity'*.
- It is essential that assessors should annotate evidence to show that it has been assessed and for feeding back their judgements to candidates.
- An index should be included to show where evidence can be found that meets each component of the key skills standards. If evidence cannot be stored in the portfolio, its location should be recorded.

Forms of evidence

Evidence of how candidates have applied their skills is essential if candidates wish to gain certification of their achievements, as well as being useful to support statements made in a progress file or record of appraisal.

Evidence can take a variety of hand-produced and electronically-produced forms, including:

- written material, including number work
- visual forms, such as artwork, photographs, charts, diagrams, graphs, screen displays
- physical products, such as working models and artefacts

- records from observations of the candidate's performance (viewed against the assessment criteria), such as assessor notes to authenticate video clips or screen displays, and witness statements.

Candidates should also be encouraged to include evidence drawn from sources apart from their mainstream programme of study. For example, many candidates will have plenty of opportunity to develop communication and ICT skills in their part-time work and, as long as the evidence can be authenticated, there is no reason why it should not be included in the portfolio.

Not all of Part A of the standard has to be covered in the portfolio. But more than one example of meeting in full the criteria for each key skill component in Part B is usually needed. For example, at level 2, communication requires two different written documents and information and communication technology must be used in two different activities. This is to ensure that there is scope for candidates to show their ability to adapt their use of skills to meet different demands. It is vitally important that work must be annotated to show when it was done, how it was produced and how it meets the specific assessment criteria. Draft material, or other ways of showing the development process, is often essential.

Coherence of key skills evidence

Part B of each key skills standard lists a number of evidence components. Each of these has associated sub-components which specify the assessment criteria set out as a numbered list. The assessment criteria show a logical and continuous process through which the candidate must go when producing evidence. So for each component there must be evidence that all of the assessment criteria have been met within the same activity. They should not be 'ticked off' individually.

When identifying a suitable activity for generating key skills evidence, its relevance to the candidate is important. If the activity has no real purpose or genuine relevance to candidates then they will not recognise the importance of the key skills.

Assignments and tasks

Assignment briefs or tasks should be included with each piece of portfolio evidence. These should provide information about the task set, its purpose and expected outcome and, where required, its intended audience. Where support has been given (eg in the form of reading lists supplied) this should also be indicated. Space might be included for candidates to add information of their own, such as details about documents they have located for themselves and records of searches carried out.

Legibility and consistency of presentation

With the general increase in the use of ICT to produce written documents, the use of different conventions (eg for layout and punctuation) is becoming widespread. The use of features such as open punctuation, blocked paragraphs, abbreviations without full stops (in both word-processed and hand-written documents) is acceptable, as long as these conventions are applied correctly and consistently throughout the candidate's work. However, candidates should be aware that they might be unnecessarily

disadvantaging themselves by including an excessively long document in their final portfolio.

Although legibility is one of the criteria that has to be met in producing written documents, this does not mean that these have to be hand-written. Legibility may refer equally to word-processed documents where appropriate typeface, font size and spacing are as important as correctly formed and clearly presented handwriting. The degree of accuracy of the final document, either word-processed or hand-written, will equally reflect the ability of the candidate to proof-read and redraft, whether dictionaries or electronic checking facilities are used.

Where work is produced electronically, authentication by a supervisor or assessor is required. Authentication should include the assessor or supervisor's signature and the date on each document produced.

Candidates with particular assessment requirements

The key skills standards state that 'if producing certain types of evidence is difficult for you because of a disability or for another reason, please discuss this with your tutor or supervisor'.

The communication standards assess the ability to communicate effectively with others, to present information in written form and to understand information presented both orally and in writing. In order to demonstrate these skills, candidates who have hearing, sight or speech impairments or who have specific learning difficulties might need special arrangements (eg the use of braille, extra time, the use of electronic aids or special equipment) to produce their portfolio evidence.

Although each case should be referred to the centre's awarding body for guidance, the provision made should reflect:

- the candidate's normal way of working
- the support to which the candidate is entitled and which is routinely available.

Decisions will clearly be based on statements of candidates' specific needs and the recommendations of appropriate specialists. If, with this provision, the candidate is able to produce evidence that satisfies the assessment criteria and meets the standard required, there should be no barriers to achievement.

The awarding body Joint Council for Qualifications has published the procedures for candidates with particular requirements on its website (www.jcq.org.uk). All key skills awarding bodies use these procedures and should make them available to centres.

Supplementary information for candidates working with the level 4 key skills

Across all the key skills at level 4, the emphasis shifts from the level of technical skills required to the greater degree of responsibility the candidate has for managing substantial and complex activities, from the planning through to the evaluation stage, a process lasting about three months. The context for this could be a project or an area, within a candidate's normal work, that would require the integrated development of a number of key skills, probably at different levels.

Essential requirements at this level are the ability to work independently and to assess progress regularly in terms of the overall strategy for carrying out the project. At level 4, candidates should be able to employ a wider range of methods in, for example, information seeking and presentation, to display a greater level of perception and to be able to express their findings with greater precision.

Level 4 requires candidates to have substantial autonomy and responsibility for managing activities and for identifying, for themselves, how the key skills relate to their situation. Candidates will need guidance on the appropriateness of level 4 and may be better prepared if they have experience of the relevant key skill(s) at level 3.

All six sets of standards at level 4 share a common structure and approach. This makes it easier for an extended activity or phase of work to be the focus of developing more than one key skill at this level. However, such activity could include key skills at different levels – some aspects will be at level 4, but others may be at lower levels.

Each set of standards at level 4 has three stages:

- developing a strategy
- monitoring progress
- evaluating strategy and presenting the outcomes.

The processes outlined in Part A for each of the above stages, correspond to the three components in Part B for which candidates need to provide evidence.

Level 4 builds on level 3 by requiring the application of some additional techniques and knowledge. But, most importantly, candidates need to be able to develop and adapt a strategy over an extended period of time (eg about three months) to achieve the quality of outcomes required.

The time reference is not intended as a means of 'making candidates wait' for assessment. It is to ensure there are sufficient opportunities for the work to develop, as well as for the candidate to monitor and critically reflect on progress, so that changes to their strategy can be made in response to feedback from others and new demands. The ability of candidates to be consciously aware of what they are doing and how well they are doing it, and be responsive to feedback, is a main feature of level 4 performance.

Developing a strategy

A strategy is a plan that extends over a period of time which builds on what the candidate knows from past experiences and includes the development of logical steps towards achieving a specific purpose. It should also provide scope for the candidate to

Examples of key skills for particular job roles (identified by DTI Key Skills Employers' Group):

Communication:
discussing requirements with clients.

Application of number:
estimating and tracking financial consequences of agreements with clients.

Information and communication technology:
using software to maintain financial and other records; researching products.

Working with others:
creating effective teams.

Improving own learning and performance:
developing more effective styles of working; up-dating own skills, eg team leadership.

Problem solving:
specifying and defining work.
A client manager

Communication:
negotiating with sub-contractors; submitting progress reports.

Application of number:
financial tracking and managing resources.

Information and communication technology:
using software to maintain financial and other records; researching products.

Working with others:
liaising with sub-contractors, developing and maintaining teams.

Improving own learning and performance:
learning better ways of dealing with difficult people.

Problem solving:
working out and modifying critical paths; risk management.
A site agent

adapt their approach in response to feedback from others and demands resulting from changes in the wider context of their work.

Developing a strategy requires candidates to identify where and how they can use key skills as part of their work and/or study activities over a number of months. A flexible approach is the key here. They are likely to have to move backwards and forwards between the stages to modify their targets, plans and approaches as the work progresses. To work effectively on level 4 key skills, candidates need to:

- identify what they need to learn and practise
- monitor progress towards achieving their targets
- modify their strategy for achieving targets, if their situation changes
- think about how they can further develop their skills.

In developing a strategy candidates will need to break down the activity into manageable tasks to help them establish targets and define hypotheses. They should identify the audience or whom the product of the strategy is for, and relate the activity to their previous work and experience. Developing a strategic approach is all about planning, deciding on targets and timetables, looking at the components of the activity and sorting out the different skills and resources that are needed.

Monitoring progress

Candidates need to keep track of how they are managing the work. As they are doing the work they should be drawing the different strands together and following their plan, using a variety of methods and approaches to meet their targets. They will also be taking the initiative to make changes where necessary and making use of the resources available.

But keeping on track is only one aspect of this stage. The other important aspect involves moving things forward, applying skills in different situations, learning new skills and being critically reflective.

Critical reflection is taken to mean *a deliberate process when the candidate takes time, within the course of their work, to focus on their performance and think carefully about the thinking that led to particular actions, what happened and what they are learning from the experience, in order to inform what they might do in the future.*

Critical reflection involves asking questions about problems or opportunities that arise during the course of the work. As a result, this may prompt candidates to restructure their strategy, actions or ways of framing a problem. Using reflection critically to help candidates develop and improve skills also means they can use their knowledge and experience to challenge, modify and form new ideas.

Keeping an ongoing progress file including, for example, a work-log or diary, can help candidates to be reflective by focusing their attention on what they are doing, and how and why they are doing it. It can also help candidates to begin to assess their achievements against the intended outcomes for the work.

Evaluating strategy and presenting outcomes

During this stage, candidates are required to present their work, and assess what they have achieved and how well they have achieved it.

Candidates will need to consider whether aspects could be done differently and the success of any methods/techniques used. Evaluation requires candidates to give adequate reasons to support their assessment. They need to be imaginative and try to ‘stand outside’ the situation to see it in a new light, as if they were an independent reviewer. Evaluating a strategy is not the same as describing it, nor is it the same as agreeing or disagreeing with it. Evaluation is a positive process (not an opportunity for recriminations) and should be used in a constructive way to improve future performance.

Within this stage there is also an expectation that candidates identify skills they want to develop further. To help them do this they may need to review how effective they were in carrying out tasks by making use of feedback from different sources (eg their lecturer, tutor, trainer, mentor, colleagues).

Developing skills is not a one-off process. Candidates need to develop an awareness of what they are doing and how they are doing it – in other words, time to think about and reflect on their learning and the processes in which they are engaging.

Evidence

Evidence relating to the level 4 standards can be used for self-assessment and for giving constructive feedback to candidates on their skill development, as well as for confirming achievements for certification purposes.

As with level 3 key skills, to gain a certificate in a key skill at level 4 (communication, application of number or information and communication technology), candidates need to pass an externally-set and marked test taken under supervised conditions¹. The test samples knowledge, skills and understanding across the standards and is task-orientated.

Work presented in a portfolio for internal assessment (and external moderation) must meet all the assessment criteria for each component of Part B of the standard. Evidence does not have to cover all of the items in Part A, only those that are pertinent to the work.

At level 4, the evidence for key skills standards should be drawn from an ‘*extended example*’, characterised by the following features:

- the work involves a variety of complex tasks, and sometimes unfamiliar tasks
- the work is carried out in stages over an extended period of time (eg three months)
- other people are likely to be involved, especially as a source of feedback
- the focus is on the candidate’s development of particular key skills
- at least part of the work involves the candidate in working autonomously.

To be successful, candidates will need to plan carefully what they want to achieve, as well as what they need to do. For each of the key skills standards, the evidence they need to provide must include both evidence relating to the performance of the particular key skill standard and evidence that clearly shows the processes in which they have engaged to achieve the quality of outcomes required from the work.

Examples of key skills for particular job roles (identified by DTI Key Skills Employers’ Group):

Communication:
discussing with staff how to deal with difficult callers.

Application of number:
financial planning and forecasting.

Information and communication technology:
researching the competition.

Working with others:
making procedures clear to operators; maintaining good working relationships.

Improving own learning and performance:
developing skills in staff management.

Problem solving:
developing procedures for health and safety regulations.

Manager of a customer call centre

Communication:
Understanding instructions; asking questions.

Application of number:
selecting and working with mathematical techniques.

Information and communication technology:
using IT in research; use of electronic databases.

Working with others:
developing effective working relationships with new colleagues.

Improving own learning and performance:
learning on-the-job; managing own time.

Problem solving:
identifying problems and deciding what to do about them.

Graduate on work experience
Examples of key skills for particular job roles

¹ The key skills tests are a requirement in England and Northern Ireland.

Levels 1–4

Communication:

holding meetings; writing reports.

Application of number:

handling and comparing data.

Information and

communication technology:

using e-conferencing facilities; managing records.

Working with others:

developing training sessions for one-to-one and small groups.

Improving own learning and performance:

improving negotiating skills.

Problem solving:

applying safe and methodical procedures to monitor and test results.

A clinical scientist

Examples of appropriate evidence might include:

A project proposal: this may provide evidence of developing a strategy for any of the key skills.

Personal development plan: this can be useful to candidates for recording their own development/training needs, taking into account the company or other organisation plans as well as personal goals. Such a plan should be discussed regularly with a senior manager or tutor/mentor.

Course notes/assignments: these may provide evidence for any of the key skills.

Work-log/diary: this may help candidates to monitor and keep track of their work/progress and support their review/reflections on performance.

Records of meetings/presentations: these may provide candidates with evidence for any of the key skills, but particularly communication and working with others.

Records of appraisal/reviews: these may provide candidates with evidence for any of the key skills, but particularly communication.

Introduction to the guidance sections

The aim of the guidance that follows is to assist tutors, assessors and candidates in becoming familiar with the key skills standards, in order to help develop consistency in interpretation of the national standards. Part A and Part B for communication, application of number and information and communication technology at levels 1–4 are reproduced for ease of reference, but tutors and assessors **must** also refer to the full standards included with this booklet, and supplement this guidance with:

- exemplar materials that clearly show work that meets the standards
- information on external assessment
- staff development opportunities and standardisation exercises that are specifically designed for developing consistency in the interpretation of the standards.

A range of training activities, and materials, is available for this purpose through awarding bodies and the Key Skills Support Programme (see page 94).

It is essential too that candidates should have their own copies of the key skills standards, as they are expected to take responsibility for their own learning and performance. The standards, together with this guidance, should be used as the basis for discussion between tutors, assessors and candidates in order to develop greater understanding of the standard of performance and the quality of the evidence expected. Similarly, example materials on external assessment and the relevant test specifications can be used to illustrate the level of demand for performance¹.

Part A guidance

The guidance notes do not amplify all items in Part A, but highlight some aspects that are particularly significant at each level. The standards focus on the skills required at each particular level, and assume that the candidate is confident in the skills made explicit at the lower level(s). Candidates wishing to gain certification for one or more of the key skills need to know how to do everything in Part A, as the test samples aspects of the whole standard¹. For internal assessment purposes, the portfolio evidence does not need to cover all the items in Part A, but only those aspects of Part A that are relevant to the particular activities undertaken for Part B.

Part B guidance

Guidance on Part B, and examples, relate to internal assessment of the portfolio. To count as evidence, each piece of work must fully meet all the assessment criteria for the relevant component of Part B. All components must be covered.

Candidates will need to organise and present evidence of how they have met the requirements of the standards, usually in a portfolio. The portfolio must have an index to show where the evidence can be found, and the evidence itself must be clearly annotated to show that it has been assessed and to provide feedback to the candidate on his/her performance. The portfolio may take the form of a file or may be

¹ The key skills tests are a requirement in England and Northern Ireland.

an electronically-based storage and retrieval system. Examples of record sheets that will assist the ordering of the portfolio can be found on pages 15–17.

Portfolio building is an important aspect of managing learning and the assessment process, and so is central to the wider key skill of *improving own learning and performance*. This key skill can provide a useful ‘plan, do, reflect and review’ cycle to help candidates develop the skills for compiling and managing the portfolio, particularly when used in conjunction with the Progress File and personal development planning materials (eg to develop skills in identifying and evaluating evidence of achievement).

As mentioned earlier, candidates and practitioners may find the example portfolios (available on the QCA website – www.qca.org.uk/keyskills) helpful in enabling them to understand the portfolio process.

Guidance on the key skills test

(In Wales, please disregard all references to the test.)¹

Guidance on the key skills test is provided by awarding bodies, and tutors and assessors are advised to make contact with their awarding body at the earliest opportunity if candidates wish to gain certification. Some candidates may be exempt from the key skills test if they have already achieved an approved qualification deemed to cover aspects of the relevant key skill at the specified level. Information about approved qualifications that provide exemption from the test (and in some cases from the whole key skill) is available on the QCA website (www.qca.org.uk/keyskills) and from the key skills awarding bodies.

For candidates with particular requirements, the implications of key skills assessment should be considered by centres in advance of any work towards the qualification and, where necessary, discussed with the awarding body.

At levels 1 and 2, the tests take the form of a multiple-choice test. Each test contains 40 items. The tests are available in both paper-based and on-screen format. A number of awarding bodies offer the tests on an ‘on-demand’ basis. Centres should contact their awarding body for full details of the availability of the level 1 and 2 tests.

At levels 3 and 4, the tests consist of a combination of short- and extended-answer questions, and last between 1½ hours and 2½ hours. There are set opportunities to take the tests, with the level 3 tests held six times a year, and the level 4 tests twice a year.

Each test must comply with a test specification written by the regulatory authorities. The test specifications give details of how marks for each test are allocated by skill area. Each test assesses these skills across a range of contexts.

The test specifications and test examples are available on the QCA website, at www.qca.org.uk/keyskills.

¹ The key skills test is a requirement in England and Northern Ireland.

Definitions of some important terms used in the standards

Tutors, assessors and candidates will need to understand several important terms in order to appreciate fully the requirements of some parts of the key skills standards. To this end, the following definitions should help them to achieve the necessary understanding.

Straightforward and complex

These terms have for the most part been removed for the September 2004 standards. The concepts of both are important, but felt to be integrated into the actual activities undertaken at each level of the key skill. Some references still appear particularly at level 4.

Activities and tasks

An activity includes a number of related tasks, where the results of one task will affect the carrying out of the others. For example, in application of number an activity will involve obtaining and interpreting information, using this information when carrying out calculations and explaining how the results of calculations meet the purpose of the activity.

Types of document

In making a judgement of whether a document is suitable, consideration should be given to fitness for purpose. The scope of the content, the amount of factual information or number of different thoughts and ideas included (and the way in which these are expressed and developed) would influence this decision. The tutor or supervisor responsible for the original task would be best placed to make such a judgement.

They may deal with straightforward or complex subjects and include images such as diagrams, pictures and charts. Candidates are asked to read and write extended documents at level 2 and above to show, for example, that they can identify lines of reasoning in fairly lengthy material and structure their writing to help others follow their sequence of ideas.

Images

ICT and communication require the use of images in presenting information. Whatever form the image takes, its effectiveness will be determined by whether it is fit for purpose and has been used to aid understanding of the written or spoken text.

Communication requires candidates to use images as appropriate in their talks or presentations, and written documents, and to interpret images used in texts they read. Examples of the forms these images might take are provided in Part A of the communication standards and in the guidance: models, plans, sketches, diagrams, pictures, graphs and charts. A table of text or numbers would not count as an image for ICT or for communication. These suggestions are not exhaustive.

Communication, levels 1–4

Note: In developing communication skills, you may find it useful to refer to the level 1 and level 2 National Standards for Adult Literacy. These provide additional help and guidance for the communication key skill at levels 1 and 2.

Introduction

The aim of the communication standards is to encourage candidates to develop and demonstrate their speaking, listening, reading and writing skills for different purposes. The standards are essentially concerned with developing and recognising the ability of candidates to *select* and *apply* skills in ways that are appropriate to their particular context. However, they can also be used to help individuals make connections with less familiar contexts and develop their ability to progress to higher levels of competence. Techniques (for example, in reading and writing) are essential, but so too are the skills of application, such as making decisions about the relevance and quality of information.

Progression from levels 1–4

The key skills standards are designed to recognise candidates' progression in terms of both techniques and skills of application.

At level 1 candidates are required to use speaking, listening, reading and writing skills in the context of straightforward tasks, including taking part in discussions on everyday subjects, identifying the main points and ideas in reading material, and producing short documents written in uncomplicated language.

At level 2 candidates are required to give a short talk, and contribute to a discussion by using more varied vocabulary and helping to move things forward. Candidates should be able to select relevant reading material from different sources and be able to use more advanced reading skills, both in order to follow lines of reasoning in lengthier documents and to summarise information. They must show they can adjust the structure and style of writing in different types of document, and show they are capable of using complex sentences that are correctly spelt and punctuated.

At level 3 there is an increase in the complexity of materials and subject matter. Specialist vocabulary may be used and candidates are likely to be required to balance a number of points simultaneously, while evaluating the relative importance of each. In discussions, candidates need to be sensitive to the contributions of others, develop points and ideas and actively encourage others to participate. In making presentations, candidates should demonstrate a clear sense of purpose and be able to engage their audience's attention.

Reading matter should include different documents about a topic that present a number of ideas (which may sometimes be abstract). Documents will tend to be detailed and require close reading in order to extract lines of reasoning. Candidates should demonstrate an ability to use materials in a systematic way so that they can quickly find relevant information, separate fact from opinion, spot biased writing and then synthesise their findings. Writing should use a style suited to the complexity of its

subject and purpose, and be carefully reasoned and set out in a coherent and well-crafted manner.

At level 4 the expectation is that candidates will develop and consciously apply their skills for different purposes and situations over an extended period of time (eg about three months). This may involve them in addressing a variety of audiences. The extended time frame is to ensure there are sufficient opportunities for the work to develop, as well as for the candidate to monitor and critically reflect on the effectiveness of their communication skills, so that changes can be made to their strategy in response to feedback from others and new demands.

At this level, there is a move from level 3 (with its focus on a single discussion, one presentation and two written documents) to effective facilitation of a communication situation whether oral, written or electronic. That is, candidates need to show that they can:

- plan strategically their use of communication skills
- apply these skills effectively within the context of their work
- monitor and review their work, including their skill development
- critically reflect on their progress.

Candidates may find it useful to keep a record in a diary or logbook of how they tackle each task and ways in which they adapt their communication skills. A progress file, that includes a plan and records of review, is helpful in skill development and for recording their achievements.

Accuracy in written communication Part A of the standards prescribes the range of a candidate's skills required at each level. In terms of written communication, this includes the ability to punctuate, spell and apply the rules of grammar with accuracy, at increasing levels of sophistication. The guidance relating to each document allows for a tolerance level of 'one or two spelling mistakes' as long as these are not repeated in the second document at level 1 and, in addition, 'providing meaning is still clear' at levels 2 and 3. This means that untypical, one off slips might be overlooked. The same error occurring more than once in a single document counts as a single error.

At any level, where a candidate is using punctuation, sentence structures or vocabulary beyond the demands of the standards at that level, errors in their use should not be penalised. Fitness for purpose is an important factor. Several minor errors in a document written for one's own personal use or for limited internal circulation can be considered acceptable whereas a document intended for public consumption, where accuracy might be seen to reflect on the writer or organisation from which it comes, would require greater accuracy. As only two written documents are required, such a degree of accuracy should be achievable by candidates carrying out a careful proofing and redrafting process.

Guidance on communication, level 1, Part A

Part A

YOU NEED TO KNOW HOW TO:

Discuss

- prepare for the discussion so that you can say things that are relevant
- judge when to speak and how much to say
- say things that suit the purpose of the discussion
- speak clearly in ways that suit the situation
- listen carefully and respond appropriately to what others say
- use body language to support what you are saying and to show you are listening.

Read and obtain information

- identify the main points and ideas in different types of documents
- obtain information from images
- find out the meanings of words and phrases you do not understand
- ask others when you are unclear about what you have read.

Write documents

- use different formats for presenting information, including business letters, memos, forms and short reports
- judge the relevance of information and the amount of detail to include for your purpose
- use relevant images to help the reader understand your main points
- proof-read and where necessary, re-draft your documents so that:
 - words you use most often in your work or studies and daily life are spelled correctly
 - sentences are formed correctly with consistent use of tense and accurate subject-verb agreement such as 'she was' and 'we were'
 - sentences are marked by capital letters, full stops and question marks
 - your writing is organised into paragraphs where appropriate
 - your meaning is clear.

Communication: level 1

You need to know how to – *discuss*

- **Relevance** Candidates need to feel confident that they have something to say about the topic under discussion. This may involve finding out about the subject by asking questions, or making notes of relevant information from reading materials, the media or listening to explanations from others.
- **Judge** Candidates should know how to open and close a discussion, respect the turn-taking rights of others, and how to use appropriate phrases to create an opportunity to make a contribution at an appropriate time. They may need practice in providing sufficient detail to make their point, without losing the attention of the listener(s) by talking for too long.

- **Purpose** Candidates should have practice in speaking for a range of purposes, eg to express statements of fact, give short explanations, instructions, accounts of events or incidents in a logical sequence, provide descriptions of people or places, express their own opinions and ideas. They should know how the purpose of a discussion can affect the nature of the discussion, and that their purpose may differ from that of others, eg a candidate may wish to discuss ideas for a project, while others in the group may be seeking information or confirmation of plans.
- **Situation** Candidates should be aware of how use of language is affected by the formality of the situation, ie the status and familiarity of those taking part in the discussion, and by the physical context, such as noise level, size and nature of the place where the discussion is held. Candidates may need practice in taking part in discussions in different situations to learn how to speak with appropriate loudness, clarity, speed and phrasing.
- **Listening carefully** Candidates may develop listening skills by taking messages, and following straightforward explanations and instructions of varying length. They should know how to use body language to show they are listening, and be able to confirm this, eg by asking questions to clarify points.

You need to know how to – *read and obtain information*

- **Identify main points** Candidates should know how to pick out main points and ideas from written materials that are routinely used in the context of their work, eg trace and understand the main events of descriptive or explanatory texts containing several paragraphs. They should be able to relate an image to printed text and use it to obtain meanings which may not be explicit in the text.
- **Word meaning** Candidates should know how to find the meaning of unfamiliar words, eg dictionary, asking for advice, electronic tools.

You need to know how to – *write documents*

- **Different formats for presenting** Candidates should be familiar with the conventions used for a range of documents, eg business letters, memos, forms, or short reports.
- **Images** Candidates should know how to use images to help the reader understand their main points. They should understand the need to label pictures, charts, diagrams, and sketches etc and where necessary, relate images to text.
- **Relevance** Candidates should know how much to write and the level of detail to include, and be aware that the relevance of information is affected by the type and purpose of the document being produced. For example, a short essay might provide an opportunity to explore opinions and ideas, whereas a memo or CV is likely to be restricted to factual information.
- **Proof reading** Candidates should know how to plan, draft and revise their work so that it is correctly spelt, consists of complete sentences with correct use of tense and subject-verb agreement and, where appropriate, properly organised into a sequence of short paragraphs, so as to make meaning clear.

Guidance on internal assessment for communication, level 1, Part B

Examples

C1.1:

a planning session with a tutor or supervisor; a team meeting to discuss a group project; a mock careers interview; a discussion about a product with a client or customer; a review of a recent event or assignment; a classroom or workplace discussion about a current topic or problem.

C1.2:

reading a short illustrated instruction leaflet to help make a product; reading a brief newspaper item to inform a discussion on a local issue; gathering background information from a customer's file to respond by letter; taking notes from the internet to write a short essay.

C1.3:

appropriate written documents at this level include a business letter, short report or essay, memo, a completed form, set of instructions, menu; poster, illustrated leaflet or advertising information. Material can be electronically produced, provided that it is authenticated as the candidate's own work.

Part B

YOU MUST:

C1.1
Take part in either a **one-to-one** discussion or a **group** discussion.

C1.2
Read and obtain information from at least **one** document.

C1.3
Write **two** different types of documents.

Evidence must show you can:

1.1.1 provide information that is relevant to the subject and purpose of the discussion

1.1.2 communicate clearly in a way that suits the situation and respond appropriately to others.

1.2.1 read relevant material

1.2.2 identify accurately the main points and ideas

1.2.3 use the information to suit your purpose.

1.3.1 present relevant information in a format that suits your purpose

1.3.2 spell, punctuate and use grammar accurately

1.3.3 make your meaning clear.

■ Use at least one image, either to obtain information, or to convey information in your discussion or one of the documents you write to help the audience/reader understand the points you are making.

Communication: level 1

At level 1, subject matter and materials should be straightforward. These will include those that are commonly met in the context in which the candidates are working or studying that have content put across in a direct way with the main points being easily identified (usually sentence structures are simple and candidates will be familiar with the vocabulary). Candidates will need to be clear about their purpose for taking part in discussions, reading and obtaining information, and producing written documents. Evidence does not have to cover all the items described in Part A, but must meet all the assessment criteria (in the relevant box) for each component of Part B.

- C1.1** In assessing a candidate's performance in one-to-one or group discussions, evidence from each discussion must show that the candidate is able to meet all the assessment criteria, ie provide information that is relevant to the subject, communicate clearly in a way that suits the situation and respond appropriately to what others are saying.

Evidence could include edited audio/video clips of the discussions that clearly show the assessment criteria being met, and/or records from observing the candidate meet the criteria. Witness statements can be useful as supporting evidence, but should not be the sole form of evidence for both discussions. Where they are used, they should include the date, the name, signature and contact details of the witness, and details of the context in which the observation took place. Assessors are responsible for judging the validity of witness statements; they may need to confirm with the witness that it is genuine and clarify points regarding the assessment criteria.

- C1.2** Candidates are expected to read different types and formats of documents and to find information on straightforward subjects. At level 1, candidates may be given advice about what to read. In reading at least one document, the candidate must show that she or he is able to meet all the assessment criteria, ie read relevant material, identify accurately the main points and ideas, and go on to use the information to suit their purpose. Evidence could include notes of the purpose for reading each document; recorded answers to questions or highlighted key points in the text; an annotated copy of an image; records of how the information was used (eg a discussion assessed for C1.1, a document assessed for C1.3, a product made by the candidate).

- C1.3** When writing documents, candidates at this level may be given guidance on an appropriate form for their writing. In assessing a candidate's ability to write two different types of document about straightforward subjects evidence must show for each document that the candidate is able to meet all the assessment criteria, ie present relevant information in a form that suits their purpose and make sure that spelling, punctuation and grammar are accurate so meaning is clear.

Evidence could include earlier drafts to show that the candidate has checked documents for errors and legibility (where text is electronically-produced, spacing, typeface and type size must be appropriate for the intended reader/s). In final work, sentences must be marked correctly by capital letters and full stops or question marks. Where other types of punctuation are used, the candidate should not be penalised for occasional errors, providing meaning is still clear. If there are one or two spelling mistakes in a document, these should not be repeated in the second document. Where an assessor is uncertain about the candidate's writing ability, further evidence should be requested.

Note: Candidates must use at least one image *either* to obtain information or to convey information in their discussion, or one of the documents they write in order to help the audience/reader understand the points they are making.

Guidance on communication, level 2, Part A

Part A

YOU NEED TO KNOW HOW TO:

Discuss

- use varied vocabulary and expressions to suit your purpose
- adapt what you say to suit different situations
- listen carefully to what others say
- identify the speaker's intentions
- move the discussion forward.

Give a short talk

- prepare for the talk
- adapt your language to suit your subject, purpose and situation
- structure what you say to help listeners follow a line of thought or series of events
- use a variety of ways to support the main points of your talk including using images.

Read and summarise information

- select and use different types of documents to obtain relevant information
- skim documents to gain a general idea of content
- scan documents to identify the information you need
- recognise the writer's intentions
- identify the main points, ideas and lines of reasoning from text and images
- summarise information for a purpose.

Write documents

- use different formats for presenting information, including essays, reports and articles
- structure your writing to help readers follow and understand your main points
- use different styles of writing to suit different purposes
- proof-read and where necessary re-draft your documents so that:
 - spelling is accurate including familiar technical words
 - sentences are formed correctly with accurate use of conjunctions
 - punctuation is accurate including use of commas, apostrophes and inverted commas.

Communication: level 2

You need to know how to – *discuss*

- ***Speaker's intentions*** Candidates should recognise signs that indicate purpose, such as choice of vocabulary, tone of voice and body language, in order to respond appropriately.
- ***Move discussion forward*** Candidates should know how to maintain momentum, eg how to summarise what has been said, respond to and offer constructive criticism, provide evidence to support opinions and arguments, use appropriate phrases to change the direction of the discussion or refocus on its purpose, develop points and open up new ideas.

You need to know how to – *give a short talk*

- **Adapt** Candidates should know how to use a style of language to suit the subject and purpose of their talk, eg when giving explanations, instructions and accounts of events or presenting an argument, be able to adapt the pitch and pace of their talk to suit the situation (eg room size and noise level), taking into account status and familiarity of listeners, and vary tone of voice to keep attention.
- **Structure** Candidates should know how to present information and ideas in a clear sequence, using cues to signal key points or change of tack, so as to take listeners with them.
- **Variety** Candidates should use a variety of ways, including images, to support their main points. They should ensure that an image is suitable for its purpose, whether they produce their own charts or diagrams, or select images from other sources.

You need to know how to – *read and summarise information*

- **Select** Candidates should know how to locate and select texts, such as reference books, textbooks, manuals, magazines, newspapers and dictionaries, so they can use different types of document to obtain information (eg to compare facts, opinions or ideas).
- **Skim/skan** Candidates should know how to use different reading strategies (skimming, scanning, detailed reading) for finding their way around, and extracting information from documentation of at least 500 words.
- **Writer's intentions** Candidates should know how to identify the purpose of a text (eg to inform, persuade) by its use of vocabulary and structure, in order to make judgements about its relevance.
- **Main points** Candidates should know how to read critically in following a sequence of information or ideas in explanatory or persuasive texts (of more than 500 words), and how to identify points of view when reading an argument.
- **Summarise** Candidates should know how to distinguish between what is, or is not relevant to their purpose, and be able to present the essence of what they read in a concise way.

You need to know how to – *write documents*

- **Structure** Candidates should know how to organise work in a logical or persuasive sequence, using paragraphs and features such as headings and subheadings, where suitable.
- **Styles** Candidates should know how to use formal and informal language, including, for example, persuasive techniques, technical vocabulary and evidence to support points made, to suit different purposes for writing.
- **Proof-reading** Candidates should know that they should always check the work they produce in order to ensure that it is correctly spelt and punctuated, and organised into paragraphs where appropriate, and that meaning is clear. They should be able to spell correctly words most often used in their work or studies and be able to check the spelling of irregular words. They should know how to write complex sentences (eg use of 'but', 'then' and 'because'), consistent use of tense, as well as subject-verb agreement (included at level 1), and use accurately punctuation such as commas, apostrophes and inverted commas (as well as capital letters, full stops and question marks included at level 1).

Levels 1–4

Examples

C2.1a:

a group planning session; a 1:1 review following a recent event; a classroom discussion on a current topic; a meeting to discuss an issue at work.

C2.1b:

instructions given to a small group of colleagues, using a working model; an explanation of an investigation, including a chart of the findings; a short video report on a local issue; an update on a team project, using a diagram; an account of an event, using a photograph; examples of other ways in which candidates could support their main points could include use of sound recordings, smell, texture or taste.

C2.2:

summarising information from: a staff handbook and an illustrated report, in discussing an issue at work; two text books, one that includes a chart, for use in an essay; a college prospectus and a careers booklet for writing a letter of application.

C2.3:

suitable documents at this level might include: a letter, memo, an application form, a set of instructions, hand-out or annotated poster. A longer document of 500 words might include an illustrated essay, report including a graph, a newspaper-type article with a picture, a script for a radio/TV programme with a sketch; a brochure with graphics. Electronically produced material can be used, provided that it is authenticated as the candidate's own work.

Guidance on internal assessment for communication, level 2, Part B

Part B

YOU MUST:

<p>C2.1a</p> <p>Take part in a group discussion.</p>	<p><i>Evidence must show you can:</i></p> <div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; margin-top: 5px;"> <p>2.1a.1 make clear and relevant contributions in a way that suits your purpose and situation</p> <p>2.1a.2 respond appropriately to others</p> <p>2.1a.3 help to move the discussion forward.</p> </div>
<p>C2.1b</p> <p>Give a talk of at least four minutes.</p>	<div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; margin-top: 5px;"> <p>2.1b.1 speak clearly in a way that suits your subject, purpose and situation</p> <p>2.1b.2 keep to the subject and structure your talk to help listeners follow what you are saying</p> <p>2.1b.3 use appropriate ways to support your main points.</p> </div>
<p>C2.2</p> <p>Read and summarise information from at least two documents about the same subject. Each document must be a minimum of 500 words long.</p>	<div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; margin-top: 5px;"> <p>2.2.1 select and read relevant documents</p> <p>2.2.2 identify accurately the main points, ideas and lines of reasoning</p> <p>2.2.3 summarise the information to suit your purpose.</p> </div>
<p>C2.3</p> <p>Write two different types of documents each one giving different information. One document must be at least 500 words long.</p>	<div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; margin-top: 5px;"> <p>2.3.1 present relevant information in a format that suits your purpose</p> <p>2.3.2 use a structure and style of writing to suit your purpose</p> <p>2.3.3 spell, punctuate and use grammar accurately</p> <p>2.3.4 make your meaning clear.</p> </div>

■ Use at least one image either to obtain information or to convey information in your discussion, your talk or one of the documents you write in order to help the audience/reader understand the points you are making.

Communication: level 2

At level 2 subject matter and materials should be straightforward, ie those that are commonly met in the context in which the candidates are working or studying, which have content put across in a direct way with lines of reasoning and main points being easily identified. However, candidates will build on the skills at level 1 by being able to take responsibility for moving forward a discussion, giving a short talk and reading, summarising and producing lengthier documents (including one of at least 500 words). Evidence does not have to cover all the items described in Part A, but must meet all the assessment criteria (in the relevant box) for each component of Part B.

C2.1a For communication at level 2, the candidate is required to take part in a group discussion. The group discussion should provide opportunities for responding to a range of views and sensibilities, and for candidates to be able to take the lead in moving discussions on. It is these higher level skills which are required at level 2. Assessment of a candidate's contributions to discussion must include evidence that they can make clear and relevant contributions in a way that suits their purpose and situation. The candidate must show evidence of responding appropriately to what others say and demonstrate an ability to keep the discussion going, eg by summarising what has been said, developing points made or focusing on purpose by asking questions.

C2.1b The candidate must give a brief talk, lasting at least 4 minutes, normally to two or three familiar people. The subject matter will usually be closely connected with her or his work, an area of interest or programme of study. Brief notes may be used as a prompt, but the candidate should not read these out. Assessors should look for clarity of expression and evidence that the talk is well structured, keeps to the point, gives a clear illustration of the main points and uses a variety of ways to support the main points. There should be confirmation that the talk has been followed by listeners with little difficulty.

Evidence for C2.1a and C2.1b could include edited audio/video clips of the discussion and talk, and/or assessor records from observing the candidate, that clearly show the assessment criteria being met. Witness statements can be useful as supporting evidence, but should not be the sole form of evidence for a and b. Where used, they should include the date, the name, signature and contact details of the witness, and details of the context in which the observation took place. Assessors are responsible for judging the validity of statements; they may need to confirm with the witness that it is genuine and clarify points regarding the assessment criteria.

C2.2 The candidate is required to read at least two documents, each of which must be a minimum of 500 words long. The documents must relate to the same subject and they can be used together in meeting the assessment criteria. At this level, the candidate must work independently to select material from the documents in order to meet the purpose of their task. The documents might be included on a reading list or be identified by the candidate, depending on the context of the research. It would be inappropriate to give candidates detailed chapter or page references. Evidence that appropriate material has been selected from the documents will be implicit in the subsequent summary or synthesis but the assignment brief or task could include details of the level of guidance provided and allow space for the candidate to record details of the documents used. In assessing the candidate's performance, evidence must show that she or he is able to select relevant material, identify accurately lines of reasoning and the main points from text, and summarise the information to suit her or his purpose.

C2.3 When writing documents, candidates at this level may be given guidance on an appropriate format for their writing. The candidate is required to produce two different types of documents, each one containing different information. One of the documents must be at least 500 words long. For each document, the candidate must show she or he can meet all the assessment criteria, ie can present relevant information in a format, structure and style that suits her or

his purpose, which is accurately spelt and punctuated, and grammatically correct, so meaning is clear.

In final work, sentences (including complex ones, where these are used) must be formed correctly, with accurate punctuation (eg commas, apostrophes, inverted commas), as well as capital letters and full stops or question marks. The candidate should not be penalised for one or two errors, providing meaning is still clear and mistakes in one document are not repeated in the second document. Where an assessor is uncertain about the candidate's writing ability, further evidence should be requested.

Note: Candidates must use at least one image *either* to obtain information *or* to convey information in their discussion, their talk or one of the documents they write in order to help the audience/reader understand the points they are making.

Guidance on communication, level 3, Part A

Part A

YOU NEED TO KNOW HOW TO:

Discuss

- develop points and ideas, with an awareness of others' feelings, beliefs and opinions
- encourage others to contribute.

Make a presentation

- prepare a formal presentation to suit your purpose
- match your language and style to suit the complexity of the subject, the formality of the situation and the needs of the audience
- structure what you say to progress logically through each stage of your presentation
- use a variety of techniques to engage the audience, including images.

Read and synthesise information

- explore a range of documents to find the most appropriate ones for your purpose
- select and use different documents to obtain relevant information
- use additional sources to help you understand complex lines of reasoning and information
- compare accounts and recognise opinion and possible bias
- present your own interpretation of the subject in a way that brings together information from different documents in a coherent form.

Write documents

- select appropriate formats for presenting information including essays, reports and articles
- select and use an appropriate style and tone to suit your audience, the degree of formality required and the nature of the subject
- organise material coherently to suit the length, complexity and purpose of your document
- proof-read and where necessary re-draft your documents so that spelling, punctuation and grammar are accurate.

Communication: level 3

You need to know how to – *discuss*

- ***Listen and respond sensitively*** Candidates should know how to develop points and ideas, taking account of how others may be feeling and how to respond in a way which shows awareness of the feelings, beliefs and opinions of others. They should respect the fact that others may have opinions and ideas which are different from their own.

- **Encourage others to contribute** Candidates should know they must go beyond simply inviting others to speak, by actively encouraging them to do so, eg by supporting points made, asking follow-up questions.

You need to know how to – *make a presentation*

- **Prepare** Candidates should know how to prepare notes, illustrations and any other aids, and appreciate the conventions of certain types of presentation (eg debates, meetings, presenting artwork). Candidates should be given practice, with feedback on content and delivery.
- **Audience needs** Candidates will need confidence in speaking about complex matters, while ensuring that language and style suit their audience and situation. It is important that they can structure their presentations so that their audience can follow their ideas and arguments, eg using key points on a flip chart, wallboard or overhead projector. Candidates should know how to begin a presentation (eg outline what they will be talking about), pace it, invite and respond to audience participation, and end it effectively (eg summarise main points). They should know about useful techniques for helping to engage audience attention (eg careful use of body language, illustrative anecdotes), including how to use images.

You need to know how to – *read and synthesise information*

- **Sources of reference** Candidates should know where to find the information they need and how to access information and obtain clarification, whether from written sources, face to face, by phone or other electronic means.
- **Compare** Candidates should be able to identify the author's main points and lines of reasoning and know how to read critically in comparing accounts, eg recognise the purpose of texts from styles of writing, obtain meaning by inference and deduction, distinguish between fact and opinion and look for evidence of bias.
- **Synthesise** Candidates are expected to go beyond just summarising findings from their reading. They should know how to assess and sort facts, opinions and ideas so they can then bring these together and present their own interpretations in a coherent form.

You need to know how to – *write documents*

- **Styles** Candidates should know how to produce writing that takes account of the vocabulary, tone and techniques normally used when producing documents for particular purposes and different audiences. Candidates should be able to write with confidence and with the appropriate degree of formality for the task in hand (eg formal and informal letters, completing official forms, writing e-mails or personal notes, producing an essay or report).
- **Coherence** It is essential that candidates know how to organise their work into a coherent whole, linking paragraphs in various ways and using features, such as indentation and highlighting, to suit different types of documents.
- **Proof-reading** Candidates should know how to check their work to ensure that spelling, punctuation and grammar are accurate. For example, candidates should know how to: write grammatically correct sentences, including correct use of a variety of verb tense, form and person (eg conditional, passive voice); spell

accurately complex, irregular and technical words; use punctuation effectively (eg bullet points, semicolon, colon, apostrophes for omission and possession) to ensure their meaning is clear.

Examples

C3.1a:

a planning session with other colleagues to discuss a project or investigation; a review following a recent event or activity; a discussion or debate on a current topic/issue; a discussion following an input from a visiting speaker; a meeting to discuss issues associated with the workplace, eg organisational issues, rules and regulations, pay structure or workers' rights.

C3.1b:

presenting: main findings from an investigation, using a graph to help explain complex data; an up-date for those involved in a team project, using a flow chart to describe options; artwork, or demonstration, as part of a briefing for clients; a case in a debate or forum about a sensitive issue, using visual aids to emphasise key points; a product or service to visitors (eg open day, careers convention, conference business stand); example of other ways in which candidates could support their main points could include use of sound recordings, smell, texture or taste.

C3.2:

reading and synthesising material to: prepare for a presentation or produce a technical report; inform a visit or fieldwork; write an essay; help plan a project.

C3.3:

an extended essay, report or article of at least 1,000 words.

The image used could be a graph, sketch or picture; hand-out for a presentation, set of instructions or short leaflet. Material electronically-produced can be used, providing it is authenticated as the candidate's own work.

Guidance on internal assessment for communication, level 3, Part B

Part B

YOU MUST:

<p>C3.1a</p> <p>Take part in a group discussion.</p>	<p><i>Evidence must show you can:</i></p> <div style="border: 1px solid #ccc; border-radius: 10px; padding: 10px; margin-top: 10px;"> <p>3.1a.1 make clear and relevant contributions in a way that suits your purpose and situation</p> <p>3.1a.2 respond sensitively to others, and develop points and ideas</p> <p>3.1a.3 encourage others to contribute.</p> </div>
<p>C3.1b</p> <p>Make a formal presentation of at least eight minutes using an image or other support material.</p>	<div style="border: 1px solid #ccc; border-radius: 10px; padding: 10px; margin-top: 10px;"> <p>3.1b.1 speak clearly and adapt your style of presentation to suit your purpose, subject, audience and situation</p> <p>3.1b.2 structure what you say to progress logically through each stage of your presentation</p> <p>3.1b.3 use an image or other material to support or enhance what you are saying.</p> </div>
<p>C3.2</p> <p>Read and synthesise information from at least two documents about the same subject.</p> <p>Each document must be a minimum of 1,000 words long.</p>	<div style="border: 1px solid #ccc; border-radius: 10px; padding: 10px; margin-top: 10px;"> <p>3.2.1 select and read relevant documents</p> <p>3.2.2 identify accurately, and compare, the main points, ideas and lines of reasoning</p> <p>3.2.3 present your own interpretation of the subject in a way that is coherent and brings together information from different documents to suit your purpose.</p> </div>
<p>C3.3</p> <p>Write two different types of documents, each one giving different information about complex subjects.</p> <p>One document must be at least 1,000 words long.</p>	<div style="border: 1px solid #ccc; border-radius: 10px; padding: 10px; margin-top: 10px;"> <p>3.3.1 select and use a format and style of writing that is appropriate to your purpose and the complexity of the subject matter</p> <p>3.3.2 organise material coherently to suit the length, complexity and purpose of your document</p> <p>3.3.3 spell, punctuate and use grammar accurately</p> <p>3.3.4 make your meaning clear.</p> </div>

■ In addition to the image used in 3.1b.3, use at least one image *either* to obtain information *or* to convey information in one of the documents you write.

Communication: level 3

At level 3, a candidate will demonstrate communication skills by dealing with complex subjects and materials. She or he will build on level 2 skills by creating opportunities for others to contribute in a group discussion, responding with sensitivity to what they say, making a presentation, synthesising information from reading material, and producing documents that are appropriate for complex subjects. Evidence does not have to cover all the items described in Part A, but must meet all the assessment criteria (in the relevant box) for each component of Part B.

C3.1a The candidate's contributions to a group discussion on a complex subject must be clear and relevant to the situation and purpose of the occasion. The candidate must show evidence of being responsive and sensitive to others in the group, demonstrate ability to create opportunities for them to contribute, and show that she or he is capable of developing points and ideas.

C3.1b The requirements for level 3 build on those for level 2. The candidate must give a presentation of at least eight minutes. Brief notes may be used as a prompt, but should not be read out. Adapting the presentation successfully to the needs of the audience, the subject, situation and purpose should always be the most important considerations in determining length, but a minimum length of 8 minutes is required in order to demonstrate all of the skills required by the assessment criteria. Assessors should look for fitness for purpose and styles of presentation that are relevant to the needs of the audience, the situation and subject matter. The candidate must give a well-structured delivery, using an image or other support materials to engage the audience that includes effective use of images or other support material. There should be evidence that the audience has been able to follow easily the main points of the presentation.

Evidence for C3.1a and C3.1b could include edited audio/video clips of the discussion and presentation, and/or assessor records from observing the candidate, that clearly show the assessment criteria being met. Witness statements can be useful as supporting evidence, but should not be the sole form of evidence for a and b. Where used, they should include the date, the name, signature and contact details of the witness, and details of the context in which the observation took place. Assessors are responsible for judging the validity of statements; they may need to confirm with the witness that it is genuine and clarify points regarding the assessment criteria.

C3.2 At this level, the candidate must work independently to select material from at least two documents, each of which must be a minimum of 1000 words in length, in order to meet the purpose of their task. The documents might be included on a reading list or be identified by the candidate, depending on the context of the research. The documents must relate to the same subject. The subject should be challenging, offering a number of strands of thought or different approaches. The documents could be the same, or different types, depending on their relevance to the candidate's purpose for reading. It would be inappropriate to give candidates detailed chapter or page references. Evidence that appropriate material has been selected from the documents will be implicit in the subsequent summary or synthesis but the assignment brief or task could include details of the level of guidance provided and allow space for the candidate to record details of the documents used. Assessors should look for evidence that the candidate can select relevant material and compare, as well as identify accurately the lines of reasoning and main points from both texts and images where appropriate. The synthesis must go beyond a summary by including the candidate's own interpretation in bringing together information in a coherent form for a specific purpose.

C3.3 The candidate is required to produce two different types of documents about complex subjects, and one document must be at least 1000 words in length.

Complex subjects include those that deal with abstract or sensitive issues, and lines of enquiry dependent on clear reasoning. The subject matter, as well as having a number of strands, must also be challenging to the individual candidate in terms of the ideas it presents. For each document, assessors should look for evidence that the candidate has met all the assessment criteria, ie selected a form of document and style of writing that are appropriate for both the subject and purpose for writing; organised relevant information using a clear and coherent structure, with use of specialised vocabulary when appropriate; and ensured text is legible, with accurate use of spelling, grammar and punctuation, so meaning is clear.

At level 3 the candidate should have responsibility for selecting and using a format and style that is fit for purpose. Within the brief or task, ‘format and style’ means the structure and format of the document. For example, where candidates have been told to write an essay, their responsibility is to select and use a structure and format that is appropriate for the particular essay. This will include aspects such as use of headings, paragraphs, overall length, summary and so on. Similar aspects apply to other briefs or tasks that might require a formal report, business letter, or article for one of a range of publications. Whatever form the candidate decides to use, it should: be appropriate to the purpose, subject and audience; provide sufficient scope for all the assessment criteria to be met; demonstrate that the relevant conventions have been followed. The candidate should not be penalised for one or two errors, providing meaning is still clear and mistakes in one document are not repeated in the second document. Where an assessor is uncertain about the candidate’s writing ability, further evidence should be requested.

Guidance on communication, level 4, Part A

Part A

YOU NEED TO KNOW HOW TO:

Develop a strategy

- choose methods for achieving the quality of outcomes required, including collating and recording information
- identify relevant sources of information, including people and reference material and research information for planning purposes
- plan the use of communication skills over an extended period of time
- identify the outcomes you hope to achieve.

Monitor progress

- evaluate information obtained from discussions with others and from reference material, identifying opinion, possible bias and distortion of information when making judgements
- synthesise information by identifying the various arguments and presenting your own interpretation in a way that brings together information coherently
- communicate relevant information about complex subjects in a form that suits your purpose
 - take a lead role in group discussions, clearly structuring what you say and using appropriate vocabulary, intonation and emphasis to make your points
 - write extended documents, structuring the material and presenting arguments and information in a logical sequence, and ensure that spelling, punctuation and grammar are accurate
 - respond perceptively to contributions from others
- monitor and critically reflect on your use of communication skills including:
 - obtaining feedback from others
 - noting choices made and judging their effectiveness
- adapt your strategy to overcome difficulties and produce the quality of outcomes required.

Evaluate strategy and present outcomes

- organise and clearly present relevant information, including your outcomes, illustrating what you say by making comparisons, providing examples that relate to the interests of the audience and using a range of methods to illustrate complex points
- vary use of vocabulary and grammatical expression to convey particular effects, enable fine distinctions to be made, achieve emphasis and engage your audience
- assess the effectiveness of your strategy, identifying factors that had an impact on the outcomes
- identify ways of further developing your communication skills.

Communication: level 4

You need to know how to – *develop a strategy*

- **Choose methods** Candidates will need to be familiar with the strengths and weaknesses of different forms of presenting information, including recording methods that may be used to aid planning, monitoring and review processes, eg a Gantt chart/timeline.
- **Identify relevant sources of information** Candidates should check out different resources, including people who may be able to support them in developing their skills and completing the work. They should make sure they know how to use appropriate referencing and filing systems, and keep records of sources used.

- ***Plan your use of communication skills*** Candidates should plan their use of communication skills so they can make the most of their work activities. They will need to spend some time researching, finding out and exploring work activities in order to identify where and how they can use oral, written and visual communication skills over the next three months or so. They should allow time to read, draft and proof-read documents, prepare presentations and set up discussions.
- ***Identify the outcomes*** An intended outcome is a statement of what candidates want/need to achieve, eg better documentation for laboratory audit work. They may need to negotiate these outcomes with others involved in the work. Candidates may benefit from writing outcomes that are specific, so they will be able to tell if they have been achieved. This will help later in monitoring and evaluating the work.

You need to know how to – *monitor progress*

- ***Evaluate information*** Candidates need to develop a ‘critical eye’ for assessing the quality and reliability of information from different sources. They may need to check facts, research other sources and question further.
- ***Synthesise information*** Candidates need to know how to look for logical relationships in the material, identify the important ideas and take a critical attitude towards the material by relating it to their own views and experience.
- ***Communicate relevant information*** Complex subjects include a number of ideas, some of which may be abstract, very detailed, difficult to follow or require candidates to deal with sensitive issues. Technical vocabulary may be used.
- ***Monitor and critically reflect*** Candidates should know how to track and record their progress (checklists can be helpful in self-assessment). They also need to identify reliable sources of feedback and be able to use feedback constructively to help them monitor their performance and make decisions, eg on whether to adapt their overall strategy.

You need to know how to – *evaluate the strategy and present outcomes*

- ***Organise and clearly present relevant information*** Candidates need to know how to present information in ways that best suit their purpose, subject and audience, eg how to structure what they say coherently so that sequences of ideas and information, including outcomes, may be followed easily; use a range of techniques to support their argument such as diagrams or models; when to use technical vocabulary and conventions.
- ***Assess the effectiveness of strategy*** This means candidates being able to identify how their decisions, and the resources and people involved in their work, have influenced the way they have tackled the activity. It also includes taking into account the effect on the outcomes of their work of their own communication strengths and weaknesses.
- ***Identify ways of further developing communication skills*** Candidates should think about their overall level of communication skills and suggest areas where they feel they need to improve, based on the experience they have gained in this activity. They should know how to identify opportunities that are available to them, eg for training, for changing working practices, for tackling new kinds of

tasks. Candidates should discuss with a line manager, colleague or mentor how they might improve working methods, take advantage of new opportunities and further develop their skills.

Guidance on internal assessment for communication, level 4, Part B

Part B

YOU MUST:

Produce evidence of meeting the requirements for C4.1, C4.2 and C4.3 as part of one activity.

Evidence must show you can:

C4.1

Develop a strategy for using communication skills over an extended period of time.

C4.2

Monitor progress and adapt your strategy, as necessary, to achieve the quality of outcomes required in work involving at least:

- **one** group discussion about a complex subject
- **one** document of 1,000 words or more about a complex subject.

C4.3

Evaluate your overall strategy and present the outcomes from your work, using at least **one** formal oral presentation. Include a variety of verbal, visual and other techniques to illustrate your points.

4.1.1 clearly identify the outcomes you hope to achieve

4.1.2 plan your use of communication skills, and make a reasoned selection of methods for achieving the quality of outcomes required

4.1.3 identify relevant sources and research the information.

4.2.1 evaluate and synthesise information from different sources

4.2.2 communicate relevant information with accuracy, effectively using a form, structure and style that suits your purpose, and respond perceptively to contributions from others

4.2.3 monitor and critically reflect on your use of communication skills, adapting your strategy as necessary to produce the quality of outcomes required.

4.3.1 organise and clearly present relevant information, illustrating what you say in ways that suit your purpose, subject and audience

4.3.2 vary use of vocabulary and grammatical expression to convey particular effects, enable fine distinctions to be made, achieve emphasis and engage the audience

4.3.3 assess the effectiveness of your strategy, including factors that had an impact on the outcomes, and identify ways to further develop your communication skills.

Communication: level 4

For internal assessment purposes, candidates must produce evidence of meeting the requirements for C4.1, C4.2 and C4.3, as part of one activity. The activity must include all aspects of communication (written, oral or visual); it is therefore important that candidates include such opportunities in developing their strategy. Evidence does not have to cover all the items in Part A, but must meet all assessment criteria (in the relevant box) for each component of Part B, and include evidence from:

- at least one group discussion about a complex subject
- at least one written document of 1000 words or more about a complex subject

- at least one formal oral presentation that includes a variety of verbal, visual and other techniques to illustrate critical points.

C4.1 Evidence that the candidate can develop a strategy for using communication skills might include entries in a personal development plan/progress file or a project proposal, with annotated references of sources used for researching information. Assessors should look for evidence that the candidate has given reasons for the methods they have selected for achieving the quality of outcomes required. The strategy must be for an extended period of time (eg about three months). The candidate will need to plan and manage evidence of their achievements from the outset.

C4.2 The candidate must show that they can evaluate and synthesise information from different sources and can communicate relevant information, with accuracy, in one group discussion and one written document of at least 1000 words. Assessors will look for evidence that the candidate can use effectively a form, structure and style that suits their purpose (eg informing, exploring, persuading, theorising). The candidate must also show that they can respond perceptively to contributions from others in discussions (eg respond with sensitivity to signs that indicate how others may be feeling, and take into account hidden agendas), and in written work (eg through noting feedback comments and incorporating them where appropriate).

Evidence of the discussion could include minutes of meetings and edited audio/video clips or records of observation by an assessor. Witness statements can be useful as supporting evidence. They should include the date, name, signature and contact details of the witness, and details of the context in which the discussion took place. Assessors are responsible for judging the validity of statements and may need to confirm with the witness that it is genuine and clarify points regarding the assessment criteria.

Monitoring progress is about the candidate reviewing the quality of their use of communication skills, not only reporting that the work is going well or not so well. Monitoring accurately their own performance is difficult so it is important that the candidate obtains feedback on their performance from others. Presenting evidence relating to monitoring may be through discussion (eg with their line manager or tutor) and/or written records of their reflections on the work, outcomes, timescales, use of resources, etc. It is helpful if the candidate keeps notes, a diary/log or a more formal document detailing how they have adapted their strategy in response to changes in their work or circumstances.

C4.3 The candidate is required to make a formal oral presentation that presents the outcomes of their work, using a variety of verbal, visual and other techniques (eg charts, graphs, diagrams, photographs, video/film clips, models) to illustrate complex points. The candidate must show that they can organise and clearly present relevant information, illustrating what they say by drawing comparisons and providing examples that relate to the interest of their audience. Assessors should look for how the candidate uses vocabulary and grammatical expression to convey effects, make fine distinctions and achieve emphasis, and should check audience reaction.

The evaluation of the overall strategy could be included in the candidate's presentation, a recorded discussion with their line manager, tutor or mentor, or a written report. It must include an in-depth consideration of the factors that affected the outcomes of their work, and include ways of further developing their communication skills.

Application of number, levels 1–4

Note: In developing your application of number skills, you may find it useful to refer to the level 1 and level 2 National Standards for Adult Numeracy. These provide additional help and guidance for preparing candidates for the application of number key skill at levels 1 and 2.

Introduction

The aim of the application of number standards is to encourage candidates to develop and demonstrate their skills in interpreting information involving numbers, carrying out calculations, interpreting results and presenting findings. The standards are essentially concerned with developing and recognising the ability of candidates to *select* and *apply* numerical, graphical and related mathematical skills in ways that are appropriate to their particular context. However, they can also be used to help individuals make connections with less familiar contexts and develop their ability to progress to higher levels of competence.

Techniques such as being able to measure and read scales, carry out specific calculations, or draw a particular type of diagram, are essential, but so too are the skills of application, such as interpreting information from tables, graphs or charts, selecting appropriate methods, describing what findings show, etc. Techniques and skills of application contribute both to understanding a task or problem and to deciding on the best course of action.

Application of number requires candidates to interpret information presented in different graphical forms and to produce these themselves in order to present their own findings. For the purposes of the key skill, it is not necessary to distinguish between ‘graph’ and ‘chart’. The basic differences between these representations and a diagram are set out in the table below

Chart or Graph	A representation of the relationship between variables such as categories and frequency data, or x and y coordinates.	Pie or bar chart, histogram, pictogram, frequency polygon, frequency chart or diagram. Single or multiple line graph; scatter graph with or without line of best fit.
Diagram	Any other graphical method of representation where scale is or is not a factor	Scale drawing, plan or workshop drawing, circuit drawing, 3D representation, flow chart, critical path or network diagram, organisation chart

Progression from levels 1–4

The key skills standards are designed to recognise candidates’ progression in terms of both techniques and skills of application.

Progression through the levels is demonstrated by increased ability to internalise the cycle of:

Collect ➡ Process ➡ Interpret

with these three elements corresponding to the three sections of Part B of the standards.

At level 1 candidates are required to handle simple numerical and graphical information, and apply techniques in the context of short activities. Calculations will usually involve only one or two steps. Much of the numerical content will be concerned with whole numbers and the use of decimals in everyday contexts (eg in using money or taking measurements), and the use of common units of measurement. At this level, candidates must cover each element of the Collect ➡ Process ➡ Interpret cycle, but are not required to combine them. Evidence for each element may be presented separately.

At level 2 candidates are required to set their use of application of number skills in the context of at least one activity that covers all of the assessment criteria. Such an activity will give them more scope to make decisions on how to find the information they need, what calculations to use, and how best to present their findings. Calculations will involve two or more steps and a more demanding range of techniques and understanding. Candidates will be expected to know how to work with numbers of any size, including addition and subtraction of fractions, calculations involving area and volumes, ratio, unit conversions, percentages and scaling, as well as the use of formulae and graphs. At this level, at least one piece of work must show evidence of the whole Collect ➡ Process ➡ Interpret cycle, with other work showing evidence of ‘collect and process’ or ‘process and interpret’.

At level 3 there is an increase in the complexity of activities and techniques needed. Candidates are required to be responsible for planning and carrying through their use of application of number in the context of one or more activities that cover all of the assessment criteria, including handling data from a large data set (usually over 50 items, see page 65 for further guidance). Compared with level 2, calculations will involve several stages. Candidates need to justify their approaches and methods, in addition to presenting their findings. Calculations involve use of compound units and powers, as well as using formulae. At this level, all of the candidate’s work must show evidence of the whole collect, process, interpret cycle.

At level 4 the focus of the level 4 key skills standard is on candidates improving their number skills by applying them to their work, study or other activities over an extended period of time (eg about three months). The extended time frame is to ensure there are sufficient opportunities for the work to develop, as well as for the candidates to monitor and critically reflect on the effectiveness of their application of number skills, so that changes can be made to their strategy in response to feedback from others and new demands.

As candidates use and apply number skills it may be useful for them to record in a diary or logbook how they tackled each task. They should include plans, targets, ways of working and comments about the choices they made and how effective they were. Evidence of application and development can include annotated working drafts, documents or print-outs, or comments on their work from a colleague or line manager. A progress file, that includes a plan and records of review, is helpful in skill development and for recording their achievements.

Some activities at level 4 may have a clear path from start to finish. In most cases, however, candidates will not have such a clear path. Typically candidates will be likely to:

- call on similar skills at several points in their work
- change and adapt their original plans in the light of new demands
- use calculations at several stages of the work
- find that there are several smaller cycles of work within the main activity, each one requiring them to monitor, present, evaluate and adapt their skills.

It is important that candidates establish good foundations for their work. These foundations are likely to include planning and researching, being clear about what they hope to achieve and establishing that they have considered all realistic sources of information. The temptation may be to go for the first workable plan, rather than to consider alternatives. Candidates should learn that time taken to seek out alternative methods and information and an open-minded approach can often pay dividends in completing the work and achieving high quality outcomes. They should take time to consider that they may need to learn new ways of researching and new mathematical techniques.

Guidance on application of number, level 1, Part A

Part A

YOU NEED TO KNOW HOW TO:

Interpret information

- read and understand tables, charts, graphs and diagrams
- read and understand numbers used in different ways (eg *large numbers in figures or words, simple fractions, decimals, percentages*)
- read scales on familiar measuring equipment (eg *watch, tape measure, measuring jug, weighing scales, thermometer*) using everyday units (eg *minutes, millimetres, litres, grams, degrees*)
- make accurate observations (eg *count number of people or items*)
- identify suitable calculations to get the results you need for your task.

Carry out calculations

- add and subtract, with whole numbers and simple decimals with or without a calculator (eg *using money or length*)
- work to the level of accuracy you have been told to use (eg *round to the nearest whole unit, nearest 10, two decimal places*)
- multiply and divide a simple decimal by a whole number with and without a calculator (eg *using money or length*)
- understand and find simple fractions and percentages (eg $\frac{2}{3}$ of £15 is £10, 75% of 400 is 300)
- work out areas of rectangular spaces (eg *floor area*)
- work out volumes of rectangular-based shapes (eg *a box*)
- use scales on diagrams such as 20mm to 1m (eg *finding distances from maps*)
- use ratios and proportion (eg *three parts to one part*)
- find the average (mean) of up to 10 items (eg *temperatures, prices, time*)
- find the range for up to 10 items (eg *temperature range from highest to lowest was 16°C*)
- make sure your answers make sense and use different methods to check your calculations (eg *estimate to reject impossible answers, check a subtraction by 'adding back'*).

Interpret results and present your findings

- use suitable ways of presenting information, including a chart or diagram
- use the correct units (eg *for area, volume, weight, time, temperature*)
- label your work correctly (eg *use a title or key*)
- describe what your results tell you.

Application of number: level 1

You need to know how to – *interpret information*

■ *Understand tables, charts, graphs and diagrams*

Candidates should know how to obtain information from tables, such as a timetable or price list, charts, such as a pictogram, pie chart or bar chart (eg to identify the number of items sold on a given day, the sales for a week or the day with the most sales), and single line graphs (eg to identify the temperature at given times of day, the time of day when the temperature was highest or lowest), diagrams, such as a simple map, workshop drawing or plan using a scale such as 10mm to 1m.

■ *Read and understand numbers* Candidates should know how to deal with

numbers presented in different ways, eg write down spoken numbers, such as ‘one thousand and fifty’, or ‘three fifths’, recognise decimal fractions and know that one third is a bit more than 30% or 0.3.

- **Read scales and observe** Candidates should know how to read off numbers from scales, eg from a thermometer or a ruler when taking measurements, and make accurate observations, eg when carrying out stock checks, using everyday units eg minutes, millimetres, litres, grams, degrees.
- **Identify calculations** Candidates should know how to pick out the calculation needed for a task, eg ‘I must multiply these numbers’ or ‘I must divide by 100’.

You need to know how to – *carry out calculations*

- **Calculations** Application of number requires evidence of a candidate’s ability to perform a number of different types of calculations with and without a calculator (amounts or sizes; scales or proportion; handling statistics). From each of these categories, only a minimum of one example has to be presented as evidence in the portfolio. ‘Amounts or sizes’ is a single category. ‘Scales or proportion’ is another single category.
 - a) **amounts or sizes** Candidates should know how to work with:

decimals – in the context of everyday tasks such as dealing with money and measuring, eg how to multiply and divide decimals by 10, 100, 1,000

fractions and percentages – how to find parts, such as $\frac{2}{3}$ or $\frac{3}{4}$ of whole number amounts or measurements, and find percentages, including how to carry out calculations to work out increases in amounts (eg a 10% rise in cost) and decreases in amounts (eg a 20% reduction in a sale). Candidates should know how to convert within the same system, eg convert 70 minutes to 1 hour 10 minutes, 0.36 metres to 360mm, know that 0.6 hours is not 6 minutes, but $0.6 \times 60 = 36$ minutes

areas and volumes – how to find a rectangular area in m^2 or volume of a box in cm^3 .
 - b) **scales or proportion** Candidates should know how to use simple scales on diagrams to work out actual measurements and how to increase and reduce whole-number amounts using ratio and direct proportion, eg scale up amounts of food for three times the number of people or put items in two piles, one with twice as many items as the other
 - c) **handling statistics** Candidates should know how to calculate the range and mean, understanding that mean is a ‘central value’ of a group of numbers with some higher and some lower.

Level of accuracy Candidates should know how to work to given levels of accuracy, such as the nearest pound (£) or nearest hundredth, and to round results (eg 12.458 on a calculator means £12.46). Tutors may advise candidates as to an appropriate level of accuracy.

- **Check calculations** Checks for accuracy and sense are always needed as the final stage in the calculation process. Producing evidence of what is often a mental process is not necessary on every occasion. Where there is a series of calculations of the same type, evidence of checking at least the first few of each type should be

recorded for assessment purposes. For the remainder, accurate results should confirm that effective checking has taken place. Candidates should be aware of the importance of checking both their results and be familiar with different methods of carrying out checks. Candidates should know how to estimate the likely results of their calculations, eg ‘It’s got to be between 10 and 15, so 128 is bound to be wrong, but 12.8 could be correct’, and how to check using inverse operations.

You need to know how to – *interpret results and present findings*

- ***Presenting*** Candidates should know how to present information in different ways, eg be able to choose for themselves when to present discrete data in a bar chart, draw a diagram such as a plan of a room or piece of equipment (this does not need to be to scale). They should know how to use common measures and units of measurement to define quantities and be familiar with the conventions of labelling charts and diagrams.
- ***Describing results*** Candidates should know how to present their findings in ways that describe what the results of their calculations show in relation to the purpose of their task, (eg show that the results of their calculations suggest that the answer to the original question is ‘no’).

Guidance on internal assessment for application of number, level 1, Part B

Part B

YOU MUST:

N1.1

Interpret information from **two** different sources.
At least **one** source must include a table, chart, graph or diagram.

N1.2

Carry out and check calculations to do with:

- a. amounts or sizes
- b. scales or proportion
- c. handling statistics.

N1.3

Interpret the results of your calculations and present your findings—in two different ways using charts or diagrams.

Evidence must show you can:

1.1.1 obtain the information you need to meet the purpose of your task

1.1.2 identify suitable calculations to get the results you need.

1.2.1 carry out calculations to the levels of accuracy you have been given

1.2.2 check your results make sense.

1.3.1 choose suitable ways to present your findings

1.3.2 use more than one way of presenting your findings

1.3.3 present your findings clearly using a chart or diagram

1.3.4 describe what your results tell you.

Application of number: level 1

At level 1, subject matter and materials should be straightforward, (ie those commonly met in the context in which the candidates are working or studying) and have content put across in a direct way so that candidates can easily identify the information they need for their task. The precise nature of the information and calculations will depend on their relevance to the task.

For Part B, all calculations should ideally be clearly set in context although stand-alone exercises are acceptable at level 1. Evidence does not have to cover all the items described in Part A, but must meet all the assessment criteria (in the relevant box) for each component of Part B. Candidates should try to show that they are clear about

Examples

N1.1:

a brief investigation to collect information about client or customer behaviour, to find ways of improving a service; measurement of temperature, distance, weight, volume or area, to help solve a problem; use of printed text (eg tables, graphs and charts) to find out statistics to help in an assignment.

N1.2:

using information collected first-hand as the basis of calculations (eg calculating the average waiting time in a queue from records of observations); carrying out calculations using data from a secondary source, such as a text-book, report or other document containing tables, charts, diagrams or line graphs.

N1.3:

presenting findings in two different ways to a tutor or supervisor, using charts or diagrams to help describe results, eg weekly sales; producing a chart to summarise findings from an investigation; using a diagram to show the best way to do something, eg arrange furniture in a room.

their purpose for obtaining information and carrying out calculations, and describe what their results tell them in relation to the purpose of the task they have undertaken.

- N1.1** In assessing a candidate's performance in interpreting information, evidence relating to each source must show that the candidate can obtain the information required, and can identify, for themselves, the calculations that are suitable for getting the results they need. One source must be a table, chart, diagram or graph. The second source may be direct observation or measurement, but it does not have to be; it could be another graphical source, eg a diagram if a table, chart or graph was chosen in the first instance. Evidence of candidates being able to pick suitable calculations could be a record of describing their choice to a tutor or trainer. Evidence needs to make clear the purpose of the tasks that were tackled and include copies of source material (and, where relevant, details of site of observation/measurement) and records of information obtained.
- N1.2** In assessing a candidate's performance in carrying out calculations, assessors should look for examples (at least one from each category) of working with amounts or sizes (eg working out costs or the area of a room); scales or proportion (eg in using a map or working out how to mix or dilute a household product); and handling statistics (eg in working out temperature mean and range). Evidence must include records of how the candidate has checked that the results make sense.
- N1.3** In assessing a candidate's performance in interpreting the results of calculations and presenting findings, assessors should look for (and document) evidence to show that the candidate can make, unaided, suitable choices of chart or diagram, with appropriate labels and correct use of units. Overall, candidates should use two different ways of presenting findings. It is also important that the candidate can describe how the results of calculations relate to the purpose of the task, eg more staff are needed to handle enquiries between 12.30 and 1.30 because findings show this as the busiest time (a total of 48 enquiries being made, compared to 27 at other times of the day). Information and communication technology can be used for producing charts and diagrams, providing the candidate can use these to clearly present findings.

Guidance on application of number, level 2, Part A

Part A

YOU NEED TO KNOW HOW TO:

Interpret information

- get relevant information from different sources (*eg from written and graphical material, first-hand by measuring or observing*)
- read and understand tables, charts, graphs and diagrams
- read and understand numbers used in different ways, including negative numbers (*eg for losses in trading, low temperatures*)
- estimate amounts and proportions
- read scales on a range of equipment to given levels of accuracy (*eg to the nearest 10mm or nearest inch*)
- make accurate observations (*eg count the number of customers per hour*)
- select appropriate methods to get the results you need, including grouping data when this is appropriate (*eg heights, salary bands*).

Carry out calculations

- carry out calculations involving two or more steps, with numbers of any size with and without a calculator
- show clearly your methods of carrying out calculations and give the level of accuracy of your results
- work with and convert between fractions, decimals and percentages
- convert measurements between systems (*eg from pounds to kilograms, between currencies*)
- work out areas and volumes (*eg area of an L-shaped room, number of containers to fill a given space*)
- work out dimensions from scale drawings (*eg using a 1:20 scale*)
- use proportion and calculate using ratios where appropriate
- compare sets of data of an appropriate size such as 20 items each (*eg using percentages, using mean, median, mode*)
- use range to describe the spread within sets of data
- understand and use given formulae (*eg for calculating volumes, areas such as circles, insurance premiums, $V=IR$ for electricity*)
- check your methods in ways that pick up faults and make sure your results make sense.

Interpret results and present your findings

- select effective ways to present your findings
- construct and use tables, charts and graphs and label with titles, scales, axes, and keys as appropriate
- highlight the main points of your findings and describe your methods
- describe what your results tell you and how they meet your purpose.

Application of number: level 2

You need to know how to – *interpret information*

- **Get relevant information** Candidates should know how to read and understand graphical, numerical and written material, in order to independently select and compare sets of data, check or confirm expectations, and make judgements about what information is relevant to the purpose of their activity (*eg be able to interpret information from bar charts, pie charts and graphs with more than one line, draw conclusions from scatter diagrams using basic ideas of correlation and interpret diagrams that show layouts*). They should also know how to obtain information

first-hand, by measuring or observing, in order to record discrete and continuous data.

- **Read and understand numbers** Candidates should know how to read and understand numbers presented in different ways, eg understand negative numbers used in practical contexts, such as appreciating that -2.3° is less than -2° when measuring temperature.
- **Estimate** Candidates should know how to make straightforward comparisons and carry out related mental calculations, eg the length of a room is about three times its width, the proportion of male clients is about three-fifths, the stockroom is about two thirds full.
- **Read scales** Candidates should know how to read scales to given levels of accuracy for the task in hand, including scales that require interpolation (ie estimating a reading between two known readings).
- **Select methods** Candidates should know how to generate results to an appropriate level of accuracy, using methods and measures appropriate to the specified purpose. They need to make their own decisions about methods for carrying through a task, eg ‘to find the mean and produce a frequency chart, it would save me time to group data in a frequency table’ or ‘to estimate costs for a poster display, I first need to work out how many A3 posters there is room for’.

You need to know how to – *carry out calculations*

- **Show/check methods** Checks for accuracy and sense are always needed as the final stage in the calculation process. Producing evidence of what is often a mental process is not necessary on every occasion. Where there is a series of calculations of the same type, evidence of checking at least the first few of each type should be recorded for assessment purposes. For the remainder, accurate results should confirm that effective checking has taken place. Candidates should be aware of the importance of checking both their results and their methods and be familiar with different methods of carrying out checks. Candidates need to make explicit the methods they have used to make calculations, so they are able to pick up errors and make sure results make sense. Level of accuracy could be to the nearest 10mm when making measurements, but it could also include lower and upper limits, such as between 15 and 20m^2 . They should be able to use approximations to corroborate results.
- **Calculations** Application of number requires evidence of a candidate’s ability to perform a number of different types of calculations (amounts or sizes; scales or proportion; handling statistics; using formulae). From each of these categories, only a minimum of one example has to be presented as evidence in the portfolio. ‘Amounts or sizes’ is a single category. ‘Scales or proportion’ is another single category.

Both with and without a calculator, candidates should know how to carry out calculations involving two or more steps, ie use at least two operations in a sequence (eg multiply and add to find the area of an L-shaped room) when working with:

- a) **amounts or sizes** eg when solving problems that involve converting between fractions, decimals and percentages, different currencies or systems of measurement; evaluating one number as a fraction or percentage of another; working out volumes and areas of composite shapes

- b) **scales or proportion** eg when enlarging shapes by using a positive whole number scale factor, calculating ratios such as sharing £60 in the ratio 3:5
- c) **statistics** eg when finding the mean, median and mode (from charts, for example, showing two weeks' sales results), and using them to compare two sets of data; finding the range and using it to describe the spread within sets of data
- d) **formulae** eg when using given formulae expressed in words, as rules (eg 'length in cm/2.54=length in inches'), as well as those using symbols (eg $c/2.54=l$).

Level of accuracy Candidates should know how to work to appropriate levels of accuracy, such as the nearest pound (£) or nearest hundredth, and to round results (eg 12.458 on a calculator means £12.46). At level 2, candidates should determine the level of accuracy for themselves, without guidance from the tutor.

You need to know how to – *interpret results and present findings*

- **Presenting** Candidates should know how to present and explain results using numerical, graphical and written formats appropriate to their purpose and findings.
- **Construct and use graphs, charts or diagrams** Candidates should know how to draw accurate and clear pie charts, bar charts and scatter graphs, so they understand how they can be used in presenting data, including the conventions for labelling. If information and communication technology is used, it is essential that candidates can check the accuracy of, and explain, the examples they use.
- **Highlight main points/describe your methods** Candidates should know how to present the main results of their findings and calculations, rather than give a narrative account of everything they did, and be able to describe what the results tell them and how they relate to the original purpose of the activity.

Guidance on internal assessment for application of number, level 2, Part B

Examples

N2.1:

obtaining information: from a health club leaflet about physical fitness and health statistics in a newspaper; from bus/train timetables and details of actual travel times over a period of time; from a small business, showing income and expenditure over three months.

N2.2:

calculations to: compare health statistics at national and local level and work out a fitness programme or healthy diet (scaling down or up to meet needs, using suitable formulae); compare mean differences, range and median between advertised travel times and actual travel times; scale up likely business profits and losses over the next six months of trading.

N2.3:

presenting findings using: a graph of local and national health statistics, a pie chart of items in a healthy diet and a diagram showing height/weight relationships; a graph of actual and advertised travel times, a bar chart of one person's journey times and a network diagram of travel routes; a time line graph showing results of scaling up likely profits and loss, a pie chart of main items of expenditure and a diagram to show plans for improving the business.

Part B

YOU MUST:

Carry out at least one activity that includes tasks for all three of N2.1, N2.2 (a or b or c or d) and N2.3*.

Overall, through one or more activities you must:

- use two different sources which include material containing a chart or graph (N2.1)
- do calculations for a, b, c and d (N2.2)
- present findings in two different ways using charts, graphs or diagrams (N2.3).

N2.1

Interpret information from a suitable source.

Evidence must show you can:

- 2.1.1 choose how to get the information you need to meet the purpose of your activity
- 2.1.2 obtain relevant information
- 2.1.3 choose appropriate methods to get the results you need.

N2.2

Use your information to carry out calculations to do with:

- a amounts or sizes
- b scales or proportion
- c handling statistics
- d using formulae.

- 2.2.1 carry out calculations, clearly showing your methods and levels of accuracy
- 2.2.2 check your methods to identify and correct any errors, and make sure your results make sense.

N2.3

Interpret the results of your calculations and present your findings.

- 2.3.1 select effective ways to present your findings
- 2.3.2 present your findings clearly using a chart, graph or diagram and describe your methods
- 2.3.3 use more than one way of presenting your findings
- 2.3.4 describe what your results tell you and how they meet your purpose.

*If you need to carry out additional activities to meet all the requirements of N2.2 (a,b,c,d) each activity must include tasks for N2.2 and N2.3 or N2.1 and N2.2

Application of number: level 2

At level 2, candidates are expected to demonstrate familiarity with the Collect ➡ Process ➡ Interpret cycle. At least one of the activities they undertake must include all three parts of the cycle, ie evidence for at least part of each of N2.1, N2.2 and N2.3. Stand-alone activities are not permitted at level 2, and all activities must cover at least two parts of the cycle, ie Collect/Process or Process/Interpret. Within these activities, candidates must provide evidence for the overall requirements, ie they must use two different sources (either in a single activity or in separate activities), one of which must include material containing a chart or graph. They must also carry out calculations to do with amounts or sizes, scales or proportion, handling statistics and using formulae (again, different types of calculation may be in different activities, or

one activity may contain more than one type of calculation). Finally, they must present their findings in two different ways.

Evidence does not have to cover all the items described in Part A, but must meet all the assessment criteria (in the relevant box) for each component of Part B.

Guidance should be given to candidates on the types of activities that will provide sufficient scope for covering all aspects of Part B, but candidates must both identify and carry out the tasks for themselves.

N2.1 In assessing a candidate's performance in interpreting information, assessors should look for evidence of information obtained from two different sources. One source must be material that contains a chart or graph. The other could be a graph or another form of graphical or written material, or direct measurements or observations, depending on the context in which the candidate is working. The candidate must show that she or he can use each source to obtain information that is relevant to the purpose of the activity, and can select, unaided, appropriate methods to get the results needed. Evidence needs to make clear the purpose of the activity and include a note of how choices were made, plus copies of source material (and, where relevant, details of site of observation/measurement) and records of information obtained.

N2.2 In assessing a candidate's performance in carrying out calculations involving two or more steps, using the information from N2.1, assessors should look for examples (at least one from each category) of working with amounts or sizes; scales or proportion; handling statistics; and using formulae. In handling statistics, the candidate must show that she or he can use calculations to compare sets of data of an appropriate size (eg 20 items). Evidence must include records of the calculations that clearly show methods and levels of accuracy used, plus notes of how the candidate checked methods, corrected any errors, and made sure that the results made sense.

N2.3 In assessing a candidate's performance in interpreting results and presenting findings, assessors should look for evidence that the candidate can select forms of presentation (a graph, chart or diagram) to effectively match the types of information being presented. Information and communication technology can be used to construct the graph, chart or diagram, providing the candidate can use these to clearly present findings. The candidate must describe both the methods used and what the results of the calculations mean in terms of meeting the purpose of the activity.

Guidance on application of number, level 3, Part A

Part A

YOU NEED TO KNOW HOW TO:

Plan an activity and interpret information

- plan an activity by breaking it down into a series of tasks
- get relevant information from different sources, including at least one data set of a size appropriate to a planned activity and use this to meet the purpose of the activity
- group data into classes of width appropriate to the data
- use estimation to help you plan, multiplying and dividing numbers of any size rounded to one significant figure
- make accurate and reliable observations over time and use suitable equipment to measure in a variety of appropriate units
- read and understand tables, charts, graphs and diagrams
- read and understand ways of writing very large and very small numbers (eg £1.5 billion, 2.4×10^{-3})
- understand and use compound measures (eg speed in kilometres per hour (kph), pressures in pounds per square inch (psi), concentrations in parts per million (ppm))
- choose appropriate methods to get the results you need and justify your choice.

Carry out calculations

- show your methods clearly and work to appropriate levels of accuracy
- carry out multi-stage calculations with numbers of any size (eg find the results of growth at 8% over three years, find the volume of water in a swimming pool)
- use powers and roots (eg work out interest on £5,000 at 5% over three years)
- work out missing angles and sides in right-angled triangles from known sides and angles
- work out proportional change (eg add VAT at 17.5% by multiplying by 1.175)
- work out actual measurements from scale drawings (eg room or site plan, map, workshop drawing) and scale quantities up and down
- compare distributions, using measures of average and range, and estimate mean, median and range of grouped data
- rearrange and use formulae, equations and expressions (eg formulae in spreadsheets, finance, and area and volume calculations)
- use checking procedures to identify errors in methods and results.

Interpret results and present your findings

- select and use appropriate methods to illustrate findings, show trends and make comparisons
- examine critically, and justify, your choice of methods
- construct and label tables, charts, graphs and diagrams using accepted conventions
- draw appropriate conclusions based on your findings, including how possible sources of error might have affected your results
- describe what your results tell you and whether they meet the purpose of your activity.

Application of number: level 3

You need to know how to – plan an activity and interpret information

- **Plan an activity** Candidates should know how to break down an activity into a series of interrelated tasks, and identify the problems to be tackled. It may not be immediately clear what these problems are, and candidates may need to extend their knowledge of methods and approaches. They will need to take time to specify the problem, formulate questions in terms of the data needed, plan how they will obtain this information and what they are going to do (ie methods they will use for organising data, such as tabulating and grouping, types of calculations, how they will take account of variability or bias) to meet the purpose of their activity.

- **Get information** Candidates should know how to select and use suitable equipment for making accurate measurements and observations, as well as how to interpret a variety of numerical, written and graphical material, including complex tables and charts, (ie those that present very detailed information relating to a large data set), in order to make decisions on their relevance to the activity. The data set should be of a size appropriate to the activity, sufficiently complex to be challenging to interpret and sufficiently large to enable candidates to carry out statistical calculations relating to grouped data. Candidates should also be able to group the data into classes of appropriate width. Where two sets of data are used for such a comparison, one set must have been obtained by the candidate while the other set may have been given. Although a set of some 50 items may be appropriate at this level, where opportunities arise within the candidate's normal work to manipulate slightly smaller sets of data for a worthwhile purpose, these should not be rejected in favour of less relevant activities. The critical point is that there should be a realistic need to group the data. There are many sources of secondary data such as: reference books and journals; organisations which collate their own statistical information; the internet; and newspapers. Candidates should be able to deal with scales, such as 1:1250 (as on large-scale maps), graphs with several graph lines on the same axes (eg power outputs compared with speed for different temperatures, weights against heights for a range of body mass indexes).
- **Compound measures** Candidates should know how to interpret compound measures, eg those presented as 'something per something' such as milligrams per 100 millilitres (implying a division) or 'something-somethings', such as person-days (implying a multiplication).
- **Choose methods** Candidates should extend their knowledge of methods (eg look up formulae, information relating to similar tasks or problems), weigh up the pros and cons of alternatives and be able to justify their choice in relation to its suitability for their purpose and circumstances.

You need to know how to – *carry out calculations*

- **Carry out multi-stage calculations** Application of number requires evidence of a candidate's ability to perform a number of different types of calculations (amounts or sizes; scales or proportion; handling statistics; rearranging and using formulae). From each of these categories, only a minimum of one example has to be presented as evidence in the portfolio. 'Amounts or sizes' is a single category. 'Scales or proportion' is another single category. Candidates should know how to tackle calculations that involve at least two interrelated stages, ie where the results from one stage are used to provide some of the data for calculations at the next stage, and so on, eg finding the mean time taken by shoppers at checkouts, and using the results, together with data about the number of shoppers in the supermarket, to calculate the number of checkout assistants required at different times of the day (this differs from level 2 in that each stage might include calculations involving two or more steps, eg adding and dividing to find the mean).
- a) **amounts or sizes** eg using powers and roots, such as 'square', 'cube' and 'square root', 10^6 , 10^{-3} ; finding missing angles and sides, such as when working out the space implications for ramps at different slopes, when it is quicker to use calculations than scale drawings

- b) *scales or proportion* eg knowing that if land measurements on a plan are doubled, the area of land is four times as much, or if three dimensions of an object are trebled, its volume or weight becomes 27 times as much
- c) *handling statistics* eg using several methods (visual, such as frequency charts, histograms or cumulative frequency graphs; numerical, such as calculations of mean, median and interquartile range) to compare distributions of grouped data
- d) *using formulae* eg solving simultaneous linear equations with two variables, using formulae with letters and rearranging them so as to change the subject (output) of a formula, such as making w or h the subject rather than b in $b = hw^2$ as well as finding the value of w given the values of h and b .

You need to know how to – *interpret results and present findings*

- *Examine critically* Candidates should be able to identify strengths and weaknesses of alternative methods, ie of different types of graph, chart and diagram, in order to decide on the most suitable for the nature of the data they want to present and the noteworthy features they want to highlight. They should be able to give reasons to support their choices.
- *Draw appropriate conclusions* Checks for accuracy and sense are always needed as the final stage in the calculation process. Producing evidence of what is often a mental process is not necessary on every occasion. Where there is a series of calculations of the same type, evidence of checking at least the first few of each type should be recorded for assessment purposes. For the remainder, accurate results should confirm that effective checking has taken place. Candidates should be aware of the importance of checking both their results and their methods and be familiar with different methods of carrying out checks. At this level, not only do conclusions need to be supported by evidence, but there needs to be an assessment of the likely accuracy or dependability of the results, taking into account approximations in calculations and possible inaccuracies in the original information.

Guidance on internal assessment for application of number, level 3, Part B

Part B

YOU MUST:

Plan and carry out one or more activities that each includes tasks for all three of N3.1, N3.2 (a or b or c or d) and N3.3

Overall, through one or more activities you must:

- use two different types of sources, including a large data set ie over 50 items of data (N3.1)
- carry out calculations to do with a, b, c and d (N3.2)
- present findings in two different ways using charts, graphs or diagrams (N3.3).

N3.1

Plan an activity and get relevant information from relevant sources.

Evidence must show you can:

3.1.1 plan how to get and use the information needed to meet the purpose of your activity

3.1.2 obtain the relevant information

3.1.3 choose appropriate methods to get the results you need and justify your choice.

N3.2

Use this information to carry out multi-stage calculations to do with:

- a amounts or sizes
- b scales or proportion
- c handling statistics
- d using formulae.

3.2.1 carry out calculations to appropriate levels of accuracy, clearly showing your methods

3.2.2 check methods and results to help ensure that errors are found and corrected.

N3.3

Interpret the results of your calculations, present your findings and justify your methods.

3.3.1 select appropriate methods of presentation and justify your choice

3.3.2 present your findings effectively

3.3.3 describe what your results tell you and whether they meet your purpose.

Application of number: level 3

Examples

N3.1:

planning and getting information required for: redesigning a workspace in response to findings from an insurance or health and safety audit; an investigation into local conditions, compared with national statistics in social care or historical studies; devising a business plan, taking into account premises, costs and market potential; designing a new product or service.

N3.2:

in redesigning a workspace, the results of calculations from scaling up measurements from a scale drawing (b) could be used with the results of using a formula (d) for calculating the minimum space needed for each person, in order to work out the amount/size (a) of furniture or equipment to fit in the space available and meet health and safety requirements. The outcome from these findings could be combined with calculations comparing local and national statistics (c), using data from an insurance or health and safety report.

N3.3:

presenting findings in two different ways using a scale drawing (eg showing the layout of a work-space), a pie chart illustrating types of accident in the workplace, a graph (eg to show the relationship between local and national statistics on accidents at work).

At level 3, candidates are expected to demonstrate complete understanding of the Collect ➡ Process ➡ Interpret cycle. All of the activities they undertake must cover all three parts of the cycle.

At level 3, candidates are expected to demonstrate their skills in the context of one or more activities that each include tasks covering all three of the assessment components (N3.1; N3.2; N3.3) Overall, through one or more activities, candidates must:

- use two different types of sources, including a large data set (ie over 50 items of data – N3.1 see below for more detail)
- carry out calculations to do with a, b, c and d (N3.2)
- present findings in two different ways using charts, graphs or diagrams (N3.3).

For clarification, appropriate activities are ones which can be broken down ‘into a series of tasks’ and where the techniques needed to carry out the activity are themselves more sophisticated (eg interrelated multi-stage calculations rather than ones requiring two or more separate steps). They might offer different possible approaches which would be evaluated to decide how best to tackle the problem.

Guidance should be given to candidates on the types of activity that will provide sufficient scope for covering all aspects of Part B, but candidates must plan the activity and both identify and carry out the tasks for themselves. The activity from which evidence is taken must be complex, requiring candidates to consider carefully the nature and sequence of tasks when planning how to obtain and use information to meet their purpose. At this level, there must be agreement between the candidate and tutor or supervisor that the task was in itself sufficiently demanding.

N3.1 In assessing a candidate’s performance in planning and getting relevant information, assessors should look for evidence of information obtained from two different types of source, including a large data set (ie over 50 items). See page 65 for more detail. These sources could include graphical or written material, and/or direct measurements or observations, depending on the context in which the candidate is working. Evidence of planning must include a clear description of the activity, and its purpose, details of how the candidate expects to obtain relevant information, and a clear sequence of tasks showing how she or he intends to use this information. Assessors should look for evidence that the candidate can obtain information and not only choose for her or himself appropriate methods for getting the results needed, but also justify these choices.

N3.2 Assessors should look for examples of calculations, using the information from N3.1, that involve at least two stages, ie where the results from one stage are used to provide some data for calculations at the next stage. The stages can involve calculations from any of the four categories. Overall, candidates must provide at least one example of calculations from each category. Evidence must show clearly methods and levels of accuracy used in making calculations, plus details of how the candidate has checked methods and results, and made any corrections.

N3.3 In assessing the candidate’s performance, assessors should look for evidence that she or he can both select and justify methods of presentation and present findings effectively in two different ways, using forms (charts, graphs or diagrams) that are appropriate to the nature of the data being presented. Examples could include a graph with several graph lines on the same axis, a flow chart, bar chart, pie chart, histogram, frequency polygon, scatter diagram, network diagram, scale drawing. If ICT is used to produce these, it is essential that the candidate checks their accuracy and fully explains them. The candidate must describe both the methods used and what the results of the calculations mean in terms of meeting the purpose of the activity.

Guidance on application of number, level 4, Part A

Part A

YOU NEED TO KNOW HOW TO:

Develop a strategy

- establish opportunities for using application of number skills over an extended period of time (*eg in a programme of study, project or work to be carried out over three months or so*)
- identify the outcomes you hope to achieve (*eg an accurate analysis of research data, best use of limited finance for a project, an improved product design or production method*)
- identify relevant sources of information, including people and reference material (*eg line manager, specialists, customers, colleagues, reports, manuals, databases, the Internet; sites for direct observations or measurements*) and research the information needed for planning purposes
- plan your use of application of number skills (*eg options, sequence of work, resources, level of expertise needed*) and make a reasoned selection of methods to achieve the quality of outcomes required, including:
 - formulating hypotheses, using models and other techniques to explore them (*eg Gantt charts, network analyses*)
 - establishing methods for testing hypotheses (*eg using statistical techniques*).

Monitor progress

- evaluate information from different sources, developing alternative lines of enquiry where appropriate
- carry out calculations to appropriate levels of accuracy, drawing on a range of numerical, graphical and other mathematical techniques involved in:
 - making measurements or observations, including use of compound units
 - reading and interpreting scale drawings, graphs, complex tables and charts
 - organising and classifying data (*eg grouping data, using appropriate software packages*)
 - making inferences from sets of data (*eg from standard deviations, interquartile range*)
 - using numerical, graphical and algebraic methods to develop models (*eg spreadsheet simulations, formulae and graphical representations*)
 - using ideas of proportion, variation and scaling, including inverse proportion and other non-linear variation (*eg in numerical and spatial calculations, in estimating and forecasting*)
 - working with expressions, formulae and equations, including powers and roots
 - working with probability (*eg calculating the probability of a compound event*)
 - making deductions in algebraic and spatial reasoning and applying these to your work
- monitor and critically reflect on your use of application of number skills, including:
 - getting feedback from others (*eg colleagues, tutor, project supervisor, line manager*)
 - noting choices made and judging their effectiveness (*eg impact on the quality of work*)
- adapt your strategy to overcome difficulties and produce the quality of outcomes required.

Evaluate your strategy and present outcomes

- interpret results and identify the main findings from your work, including evidence to support your conclusions (*eg examine generalisations and solutions, identifying the reasoning underlying the acceptance or rejection of original hypotheses*)
- present information effectively, selecting appropriate methods to illustrate findings, including charts, graphs and diagrams (*eg use of non-linear scales to bring out relationships*)
- explain results in relation to your work and hypotheses (*eg explain patterns of relationship, trends and possible consequences, explain why particular lines of enquiry were followed and others rejected*)
- assess the effectiveness of your strategy, identifying factors that had an impact on the outcomes (*eg availability of resources, level of own expertise, precision*)
- identify ways of further developing your application of number skills.

Application of number: level 4

You need to know how to – develop a strategy

- **Establish opportunities for using application of number skills** Candidates will need to spend some time researching and exploring work activities in order to identify where and how they can use number skills. Activities will need to involve obtaining numerical information from different sources and working on data, eg in measuring environmental changes or making financial forecasts.
- **Identify the outcomes** An intended outcome is a statement of what candidates want or need to achieve, eg a better financial management system. They may need to negotiate these outcomes with others involved in the work. Candidates may

benefit from practising writing outcomes that are specific so they will be able to tell if they have been achieved. This will help later in monitoring and evaluating the work.

- **Identify relevant sources of information** Candidates should check out different resources, including people who may be able to support them in developing their skills and in completing the work. They may need to arrange access to specialist training, on-line resources, a library or specialist publications.
- **Plan use of application of number skills** Candidates should take stock of the skills needed to achieve their intended outcomes. They need to be able to identify opportunities and constraints, eg level of personal expertise, resources, work patterns, health and social issues, social and ethical concerns as well as set realistic targets and deadlines.
- **Make a reasoned selection of methods** Candidates will need to know how to select methods that are valid and effective for exploring and testing hypotheses (eg to test whether or not the number of accidents at work indicates a breach of health and safety protocols). They should know how to use a mathematical model to represent an existing situation, select methods of collecting and recording data for the purpose of refining the model, and use statistical techniques for testing the possible consequences of changed circumstances.

You need to know how to – *monitor progress*

- **Evaluate information** Candidates need to know how to check, for example, the sufficiency of sample size and how to detect possible bias in the selection of samples. They may need to refer to other data sources and question further.
- **Carry out calculations** Candidates need to know how to choose levels of accuracy appropriate to the task and when working with approximate numbers, or rounding to significant figures, evaluate the scale of any accumulating errors and their effect on the overall results of calculations.
- **Monitor and critically reflect** Candidates need to know how to track and record their progress (use of ICT may be useful). They should be able to identify reliable sources of feedback and know how to use feedback constructively to help monitor their performance and make decisions, eg on adapting their overall strategy.

You need to know how to – *evaluate strategy and present outcomes*

- **Interpret results and identify main findings** Candidates need to interpret the results of their calculations and be able to identify the key features of a set of data, and then use the data as a basis for drawing appropriate conclusions.
- **Present information effectively** Candidates should know how to express relationships, patterns, trends and possible consequences in words, graphs, diagrams, rates, tables and/or formulae so as best to clarify complex situations, and use appropriate terms to describe relationships and trends (eg linear, exponential). They need to know how to select appropriate levels of accuracy for presenting data and how to choose appropriate styles, scales and axes for statistical and other diagrams, and appropriate class intervals for grouped data. Charts, diagrams and graphs need to be labelled correctly.
- **Explain results** Candidates need to show they understand how the information or data relates to the original hypothesis and give reasons, supported by evidence, to justify their results.

- ***Assess the effectiveness of strategy*** Candidates should identify how their decisions, level of precision and resources have influenced the way they have tackled the activity. They should also take into account the effect on the outcomes of their work of their own strengths and weaknesses in application of number.
- ***Identify ways of further developing number skills*** Candidates should suggest areas where they feel they need to improve. They should discuss with their line manager or training development manager, facilities and resources that are available to them, eg for tackling new kinds of tasks, for training in a specific area.

Guidance on internal assessment for application of number, level 4, Part B

Part B

YOU MUST:

Provide at least **one** example of meeting the standard for N4.1, N4.2 and N4.3 (your example must show you can formulate and test hypotheses, and draw conclusions).

<p>N4.1</p> <p>Develop a strategy for using application of number skills over an extended period of time.</p>	<p><i>Evidence must show you can:</i></p> <div style="border: 1px solid black; border-radius: 10px; padding: 10px;"> <p>4.1.1 establish opportunities for using application of number skills and clearly identify the outcomes you hope to achieve</p> <p>4.1.2 identify relevant sources and research the information needed for planning purposes</p> <p>4.1.3 plan your use of application of number skills, and make a reasoned selection of methods for achieving the quality of outcomes required.</p> </div>
<p>N4.2</p> <p>Monitor progress and adapt your strategy, as necessary, to achieve the quality of outcomes required in work involving:</p> <ul style="list-style-type: none"> ■ deductive and inferential reasoning ■ algebraic modelling. 	<div style="border: 1px solid black; border-radius: 10px; padding: 10px;"> <p>4.2.1 evaluate information from different sources, developing alternative lines of enquiry where appropriate</p> <p>4.2.2 carry out calculations to appropriate levels of accuracy, drawing on a range of techniques to suit your purpose</p> <p>4.2.3 monitor and critically reflect on your use of application of number skills, adapting your strategy as necessary to produce the quality of outcomes required.</p> </div>
<p>N4.3</p> <p>Evaluate your overall strategy and present the outcomes from your work, including use of charts, graphs and diagrams to illustrate complex data.</p>	<div style="border: 1px solid black; border-radius: 10px; padding: 10px;"> <p>4.3.1 interpret results and identify the main findings from your work, including evidence to support your conclusions</p> <p>4.3.2 present information effectively, selecting appropriate methods to clearly illustrate findings, and explain results in relation to your hypotheses</p> <p>4.3.3 assess the effectiveness of your strategy, including factors that had an impact on the outcomes, and identify ways of further developing your application of number skills.</p> </div>

Application of number: level 4

For internal assessment purposes, the candidate must provide at least one example of meeting the standards for N4.1, N4.2 and N4.3, including formulating and testing hypotheses and drawing conclusions. The example should also include evidence of both ‘deductive and inferential reasoning’ and ‘algebraic manipulation’, but these do not have to be from a single activity. These two aspects can be split between two activities carried out within the extended period of time, providing the candidate considers both when developing, monitoring and evaluating their strategy. Alternatively, the remaining aspect, and related hypotheses, could be covered through another extended example that meets N4.1 and N4.3, as well as N4.2. This could run

concurrently. Evidence does not have to cover all the items in Part A, but must meet all assessment criteria (in the relevant box) for each component of Part B.

N4.1 Evidence that the candidate can develop a strategy for using application of number skills might include entries in a personal development plan in a progress file, or a project proposal with annotated references of sources used for researching information. Assessors should look for evidence that the candidate has formulated hypotheses (at least two) and established methods for testing these. The strategy must be for an extended period of time (eg about three months). The candidate will need to plan and manage evidence of their achievements from the outset.

N4.2 The candidate's evidence must show that they can evaluate information from different sources and develop, where appropriate, alternative lines of enquiry. Calculations must be carried out to appropriate levels of accuracy, drawing on a range of techniques. Assessors should look for specific evidence that they have engaged in deductive and inferential reasoning (eg made deductions in spatial reasoning and applied these to their work; made inferences from sets of data using standard deviations or interquartile range) and algebraic manipulation (eg worked with algebraic methods to develop models). Candidates must provide evidence of where these skills have been used and their contribution to progressing the work.

The candidate must also be able to show that they have monitored and critically reflected on their use of application of number skills. This means keeping records, such as a diary or log, of the feedback they have received from others, the decisions they have made and how they have adapted their strategy to take account of problems and produce the quality of work required.

N4.3 The candidate can present the outcomes of their work (eg to their line manager, tutor, colleagues, customers/client) in an illustrated written report or through an oral presentation, with use of visual aids. Evidence must show that the candidate can interpret results of their calculations and identify the main findings from their work, including evidence to support their conclusions, and can explain results in relation to their hypotheses. Assessors will look for the effective use of charts, diagrams and graphs (at least one example of each) in illustrating findings.

The candidate must also show that they can evaluate the effectiveness of their overall strategy and comment on those factors that have influenced the outcomes. He or she should identify ways of further developing their application of number skills, for example as part of a new project or a training course.

Information and communication technology, levels 1–4

Introduction

The aim of the information and communication technology standards is to encourage candidates to develop and demonstrate their skills in using ICT for finding, exploring, developing and presenting information (text, images and numbers). The standards are essentially concerned with developing and recognising the ability of candidates to *select* and *apply* ICT skills in ways that are appropriate to their particular context. However, they can also be used to help individuals to make connections with less familiar contexts and develop their ability to progress to higher levels of competence.

Techniques when using software are essential, but so too are the skills of application, such as making decisions about the relevance of information and the quality of work. Techniques and skills of application contribute both to understanding a task or problem and to deciding on the best course of action. The standards do not stipulate particular hardware or software packages, but it is assumed that candidates will be working with equipment and software that are appropriate to their work, study or other activities.

Progression from levels 1–4

The key skills standards are designed to recognise candidates' progression in terms of both techniques and skills of application.

At level 1 candidates are required to handle simple numerical, textual and graphical information in the context of short, straightforward tasks, using basic techniques. There is no requirement at level 1 to combine information, or for candidates to use spreadsheets when manipulating numerical information – there are many software applications that manipulate numbers. Candidates should know how to use technology safely, care for equipment, and avoid losing data. They should also know how to send and receive email and to whom they should turn if things go wrong.

At level 2 candidates are required to carry out effective searches and derive new information. They must also present combined information, such as text with images or numbers, in a consistent way. Activities require a greater range of techniques, and more steps, than at level 1. Candidates should be able to enter formulas when using appropriate software (eg spreadsheet, stock control, accounting) to generate simple calculations such as totals. They need to observe copyright and confidentiality laws, and health and safety risks. They should be able to spot errors and their causes and be aware of ways of reducing the risk of viruses. They should also know how to send and receive emails.

At level 3 there is an increase in the complexity of activities and techniques required, such as the ability to create structures and procedures for developing text, images and numbers. Candidates are required to plan and carry through at least one major task. They must know how to manage their work, and the technology and

software they are using. This includes observing laws of copyright and rules of confidentiality; safe working and avoiding loss of information; identifying errors and minimising risks from viruses. Candidates need to be aware of the wider implications of using ICT. They should also know how to send and receive emails with attachments.

The focus is on a critical approach, requiring candidates to make judgements on their work, in terms of speed, ease of use, effort and accuracy, and compare their use of ICT against other systems and manual methods.

At level 4 the focus of this key skills standard is on candidates developing and improving their ICT skills by applying them to their work, study or other activities over an extended period of time (eg about three months). The extended time frame is to ensure there are sufficient opportunities for the work to develop, as well as for the candidate to monitor and critically reflect on the effectiveness of their ICT skills, so that changes to their strategy can be made in response to feedback from others and new demands.

As candidates apply ICT skills it may be useful for them to record in a diary or logbook how they tackled each task (this can be done electronically). They could include plans, targets, ways of working and comments about the choices they made and how effective they were. Evidence of application and development can include annotated working drafts, documents or print-outs, or recorded comments on their screen displays by their assessor. A progress file, that includes a plan and records of review, is helpful in skill-development and for recording achievements.

Guidance on information and communication technology, level 1, Part A

Part A

YOU NEED TO KNOW HOW TO:

- use ICT to help you in different tasks
- save information so it can be found easily
- minimise health risks
- know how to get help when dealing with errors
- send and receive email.

Find information

- find different types of information from ICT sources (*eg files, CD ROMs, the Internet*) and non ICT sources (*eg written notes, price lists, diagrams*)
- select information relevant to your purpose.

Develop information

- enter information (*eg copy and paste text, import images*) using formats that help development (*eg tabs, tables, format of numbers*)
- develop information in the form of text, image and numbers (*eg structure information, carry out calculations using suitable software, moving and resizing images*).

Present information

- use layouts and techniques to suit different purposes (*eg select page layouts for different types of document such as letters or invoices, organise the presentation by moving, copying, deleting or inserting information*)
- present information in a consistent way (*eg fonts, bulleted lists, alignment*) making sure it is accurate and clear (*eg ask others, proof read, use a spell checker, highlight information to improve its clarity*).

Information and communication technology: level 1

General guidance on use of ICT

Time should be spent with candidates discussing the pros and cons of using information and communication technology for various tasks and operations, and health and safety issues. When using software applications, candidates should be encouraged to try out various techniques and alternative approaches. When using hardware, candidates should be aware of, and observe, safety requirements of the equipment they are working with. This includes safe working periods with monitors, using equipment for an appropriate purpose, and correct procedures when closing down programs (where they exist). At this level, candidates are not expected to deal

with equipment failures or significant errors, but should know where to turn for help and understand the importance of reporting problems immediately. Candidates should know how to use help facilities such as help screens and wizard facilities, to learn new things and overcome difficulties. They should also know how to send and receive emails.

Candidates should know how to save their work in ways that make it easy to retrieve later. This requires use of suitable filenames (eg those which give an idea of content, ownership, sequence, and placing information in, and retrieving information from, appropriate folders/directories).

You need to know how to – *find information*

- **Find** Candidates should know how to find different types of information that might be relevant for a particular purpose, including electronically stored information. Techniques, such as basic key word and ‘wild-card’ search facilities, may be employed when searching for files, and ‘find and replace’ for faster editing.
- **Select** It is important that candidates should be able to confirm the purpose of the work in hand and then identify and select which sources and types of information are relevant to it.

You need to know how to – *develop information*

- **Enter** Candidates should know how to enter text and numbers and be able to copy text, images and numbers. They should be aware of methods that help subsequent processing, such as consistent use of tabs and spaces between paragraphs and minimal use of spaces and enter key. Candidates should know how to import information or images, eg by using a scanner, by copying from a disc or CD-ROM, or by cutting and pasting.
- **Formats** It is acceptable for candidates to make use of design templates and style sheets (eg when wordprocessing a letter), and to use fixed tab settings. They do not need to know how to alter tab settings at this level.
- **Develop** Having found various sources of information and possible ways of processing it, candidates should know how to develop text, numbers or images, as needed. For example, they should know how to change the format of their work (eg size of text, size of image, place a border around work), how to change the way text is organised (eg by moving, copying, deleting, inserting) and how to do calculations by using software that can process numbers (eg obtain totals).

You need to know how to – *present information*

- **Layouts** Candidates should know how to select and carry out work using supplied layouts (eg business letter, invoice). They should be aware of the advantages and disadvantages of using different formats for presenting information, on screen as well as on paper (eg portrait and landscape orientation, A4 paper size).
- **Presentation** Candidates should know how to make the style of presentation consistent so that people using it will find it clear and easy to follow (eg font sizes, alignments). They should know how to edit their work to ensure that it is accurate and fit for its purpose, eg by using spell-checker, proof-reading, asking others.

Guidance on internal assessment for information and communication technology, level 1, Part B

Part B

YOU MUST:

Overall, through two or more activities you must:

- include at least one ICT based information source
- include at least one non ICT based information source
- use at least one example of text, one example of image and one example of number
- present evidence of purposeful use of email.

Evidence must show you can:

<p>ICT1.1</p> <p>Find and select relevant information.</p>	<p>1.1.1 choose information that is relevant to your tasks.</p>
<p>ICT1.2</p> <p>Enter and develop information to suit the task.</p>	<p>1.2.1 enter information using formats that help development</p> <p>1.2.2 save information so it can be found easily.</p>
<p>ICT1.3</p> <p>Develop the presentation so that the final output is accurate and fit for purpose.</p>	<p>1.3.1 use appropriate layouts for presenting information in a consistent way.</p>

Information and communication technology: level 1

At level 1, subject matter and materials will be those commonly met in the context in which the candidates are working or studying, and tasks will be of a straightforward nature. Assessors and candidates need to be aware that evidence is required that shows the processes the candidate has used, not just final products. Where the development process involves revising, correcting, redrafting or reformatting work, evidence might be in the form of: draft or rough work; notes; annotations; highlighting; or alterations. Alternatively the evidence might be a signed statement

from the person who has witnessed the process providing sufficient detail (as outlined on page 33). Where witness statements are used, there should normally be supporting evidence in the form of notes or plans, or the final work itself, or evidence that the assessor has been able to discuss the detail of the process with the candidate. While relating ICT1.1, ICT1.2 and ICT1.3 in a single task is often more meaningful, components 1.1, 1.2 and 1.3 do not need to be related to the same task, but work must be clearly set in context and not be stand-alone exercises.

The portfolio must contain evidence of purposeful use of email as part of at least one of the tasks. Evidence does not have to cover all the items described in Part A, but it must meet all the assessment criteria (in the relevant box) for each component of Part B. Candidates must show they are clear about their purposes for using ICT. Separate tasks should be undertaken for each activity, to provide sufficient evidence for assessors to judge the candidate's performance in using ICT.

ICT1.1 In common with all key skills, candidates should demonstrate their information and communication technology skills in relevant contexts through purposeful tasks. The candidate is required to use ICT for two different tasks. Demonstrating the ICT key skill in itself is not sufficient as a task. The assignment brief or task, or the evidence itself, should indicate what the candidate set out to do, the purpose and the outcome expected. Portfolios must contain sufficient evidence to show that candidates have met all of the components for two different tasks. For *each* task, assessors should look for evidence that the candidate can find and select relevant information. Across the tasks, there must be evidence of at least one ICT source of information and one non-ICT source of information. Annotated drafts of work, or records of observed screen-displays, are helpful in showing this process.

ICT1.2 Candidates must enter selected information into software applications, using appropriate formats, and develop their work to suit the task. Information may be cut, moved, inserted or re-organised using software tools. Numerical information must be suitable for simple numerical operations such as summing.

ICT1.3 The candidate must use ICT to present information for two different tasks. For *each* task, assessors should look for evidence that the candidate can use an appropriate layout to ensure that information is presented in a consistent way (eg consistent use of tabs and spacing between paragraphs), can develop the presentation so that it is accurate and clear, and can save work so that it can be found easily.

At this level, text, images and numbers do not have to be combined in one piece of work; the candidate can produce separate examples. Evidence could include notes or highlighted key points in the final text, print-outs or authenticated records of screen displays, and drafts to show the development of the presentation.

Examples

ICT1.1:

Using the internet to find travel details; confirming a business address from a trade directory; locating customer details on an electronic database.

ICT1.2:

A letter transcribed from handwritten to wordprocessed form; a table of costs produced in a wordprocessor or spreadsheet; an image scanned at a suitable resolution and cropped for a workplace notice.

ICT 1.3:

a memo produced in an approved format, checking the accuracy of the final document; position and size an image in a document suitable for printing as a workplace notice.

Guidance on information and communication technology, level 2, Part A

Part A

YOU NEED TO KNOW HOW TO:

- identify errors (*eg in hardware and software you are using*) and their causes
- observe copyright and/or confidentiality when it is necessary
- how to minimise health risks
- how to minimise risks from viruses
- send and receive email.

Find and select information

- identify suitable sources of information (*eg written documents, material to be scanned, files, CD ROMs, the Internet*)
- search for information using multiple search criteria (*eg using AND or '<' and '>', or tools such as search engines*)
- interpret information and select what you need for different purposes (*eg to respond to an enquiry, write a project report, design or make something*).

Develop information

- enter and combine information (*eg copy and paste or insert text, images and number*), using formats that help development (*eg using table structures, text boxes or text wrap to position information*)
- develop information in the form of text, images and numbers (*eg organise information under headings, structure tables, generate charts and graphs from data, use queries to select records*)
- derive new information (*eg compare information from different sources to reach a conclusion, use formulas to calculate information such as a total or average*).

Present information

- select and use layouts and techniques to suit different tasks (*eg document structures such as indents, columns and headings, borders for images and text, tables, highlight information to improve its impact, make sure it suits the needs of the audience*)
- develop the presentation to suit your purpose and audience and the types of information used ie text, images and numbers (*eg format information to improve its impact, refine layout making sure it suits the needs of the audience*)
- present information in a consistent way (*eg paragraph layouts, sizes and styles of text, alignment, fonts*).
- ensure your work is accurate and clear.

Information and communication technology: level 2

General guidance on use of ICT

Time should be spent with candidates discussing the pros and cons of using information and communication technology for various tasks and operations, and health and safety issues. When using software applications, candidates should be encouraged to try out various techniques and alternative approaches. When using hardware, candidates should be aware of, and observe, safety requirements of the equipment they are working with. This includes safe working periods with monitors, using equipment for an appropriate purpose, and correct procedures when closing

down programs (where they exist). At this level, candidates are not expected to deal with equipment failures or significant errors, but should know where to turn for help and understand the importance of reporting problems immediately. Candidates should know how to use help facilities such as help screens and wizard facilities, to learn new things and overcome difficulties. They should also know how to send and receive emails.

Candidates should know how to save their work in ways that make it easy to retrieve later. This requires use of suitable file names (eg those which give an idea of content, ownership, sequence, and placing information in, and retrieving information from, appropriate folders/directories).

You need to know how to – *find and select information*

- **Information sources** Candidates should be able to think ahead about the information they need for a specific purpose, eg to respond to an enquiry, tackle a problem or get ideas for a design, and identify where they might obtain this information.
- **Search** Candidates should know how to conduct appropriate searches, depending on the type and location of the information. They should be capable of using multiple criteria. For example, when interrogating a database, they should know how to refine a search using two or more criteria (eg all males over the age of 65).
- **Interpret** Candidates should know how to read and understand different types of information (numerical data, images such as graphs and charts, text, such as letters, reports), so they can spot possible error or bias, and check facts, in making judgements on whether information suits their purpose.

You need to know how to – *develop information*

- **Enter and combine** Candidates should know how to combine different forms of information (eg text with images). They should be able to enter information in a form that suits the software and future development.
- **Formats** Candidates should know how to use formats that are helpful in handling information that has been entered, or imported from other sources. For example, they should know how to lay out text using tabulation, justification, spacing and supplied styles, incorporate images into frames and put data into tables or columns, so as to make future editing of information as straightforward as possible.
- **Develop/derive new information** Candidates should know how to use appropriate software features for editing and changing the way information is organised. The processing of data will generate new information, such as totals, page references and indexes. Candidates should be able to further their purpose, eg use formulae for making calculations, draw their own conclusions.

You need to know how to – *present information*

- **Layouts** Candidates should know how to select and use layouts that are suitable for presenting combined information, including the basic conventions applied to commonly used documents (eg letters, spreadsheets, tables). They should know how to use headings, margins, columns, tables and borders for presenting text and images, and formatted spreadsheets for presenting numerical data.

- **Presentation** Candidates should know the importance of checking that their work is presented in a consistent way and both accurate and clear. In developing their presentation, they should be familiar with techniques that improve the look of material, such as highlighting. They should know how to save their work in ways that make it easy to retrieve, eg by using suitable filenames (so as to give an idea of content, ownership or sequence) and appropriate folders or directories.

Guidance on internal assessment for information and communication technology, level 2, Part B

Part B

YOU MUST:

Overall, through two or more activities you must:

- include at least one ICT based information source
- include at least one non ICT based information source
- use at least one example of text, one example of image and one example of number
- present evidence of purposeful use of email.

ICT2.1

Search for and select information to meet your needs.

Use different information sources for each task and multiple search criteria in at least one case.

Evidence must show you can:

2.1.1 select information relevant to the tasks.

ICT2.2

Enter and develop the information to suit the task and derive new information.

2.2.1 enter and combine information using formats that help development

2.2.2 develop information and derive new information as appropriate.

ICT2.3

Present combined information such as text with image, text with number, image with number.

2.3.1 develop the presentation so that the final output is accurate and shows consistent use of formats

2.3.2 use layout appropriate to the types of information.

Information and communication technology: level 2

At level 2, subject matter and materials should be those that are commonly met in the context in which candidates are working or studying, and tasks should be of a straightforward nature. Evidence is required that shows the processes the candidate has used in selecting, entering and developing information, not just the final products. Where the development process involves revising, correcting, redrafting or reformatting work, evidence might be in the form of: draft or rough work; notes; annotations; highlighting; or alterations. Alternatively the evidence might be a signed statement from the person who has witnessed the process providing sufficient detail

Examples

ICT2.1:

conducting searches using a CD-ROM database or website(s) on the internet to find information to inform purchases or travel plans, locate relevant information for a task, debate or assignment, eg on local and national use of NHS resources.

ICT2.2:

investigating travel arrangements and producing a table showing modes of transport and costs; drafting a multi-page essay; exploring sales data over a period of time to produce a graph; entering data readings in a suitably formatted spreadsheet, and manipulating this data to calculate totals or averages.

ICT2.3:

a memo or e-mail with a table attached on travel arrangements; an essay including statistical information to support an argument; a report with a graph showing findings from an investigation; an illustrated information leaflet; an invoice with a covering letter; a workplace notice, with graphics; a screen display showing a design for a product or a working model.

(as outlined on page 33). Where witness statements are used, there should normally be supporting evidence in the form of notes or plans, or the final work itself, or evidence that the assessor has been able to discuss the detail of the process with the candidate.

In building on skills at level 1, candidates should be able to derive new information from these processes, as well as use multiple criteria in searching for information, and present combined information in a consistent way. The portfolio must contain evidence of purposeful use of email as part of at least one of the tasks.

In common with all key skills, candidates should demonstrate their information and communication technology skills in relevant contexts through purposeful activities. The candidate is required to use ICT for at least two different tasks. Demonstrating the ICT key skill in itself is not sufficient as a purpose. The assignment brief or task, or the evidence itself, should indicate what the candidate set out to do, the purpose and the outcome expected. Portfolios must contain at least one ICT based information source and one non-ICT based information source. Whilst relating the three components in a single task is often more meaningful, they do not have to be related to the same task, but work must be set in context and not be stand-alone exercises. For each component the two tasks must differ in significant aspects.

ICT2.1 The candidate must identify suitable sources of information and show that she or he can search for and select relevant information. Assessors should look for evidence (either through observing the candidate or by looking at search records) that the candidate can use multiple criteria for making searches. The relationship between the information selected and purpose should be clear. The sources used should be noted, along with the scope and nature of the searches, and their outcomes.

ICT2.2 The candidate must show that she or he can enter and combine information, develop information, and derive new information. In particular, assessors should look for evidence (eg annotated drafts, answers to questions) that the candidate has entered text and numbers consistently and used formats such as styles that have assisted the subsequent development of information, and has added some new information of her or his own to that obtained from other sources.

ICT2.3 The candidate must show she or he can select and use an appropriate layout for presenting combined information in an integral way, such as text with images or numbers, images and numbers, or all three types together. Assessors should look for evidence of how the candidate has developed the presentation and its suitability for the purpose and the types of information used. The final work must be accurate, clear and saved appropriately.

Guidance on information and communication technology, level 3, Part A

Part A

YOU NEED TO KNOW HOW TO:

- save your work for easy retrieval and to avoid loss, using version management
- minimise health risks
- minimise risks from viruses
- send and receive email with attachments.

Find and select information

- plan and organise your work (eg by use of subdirectories/subfolders)
- select sources of information which are suitable for your purpose (eg spreadsheets containing sales figures, a database containing customer details, a web page of product details)
- choose appropriate search techniques for finding information efficiently (eg database query techniques and multiple search criteria).

Develop information

- enter information in consistent formats (eg using font styles, data formats, table structures)
- use software features to improve the efficiency of your work (eg mailmerge, database queries, validation of database entries and LOOKUP functions within spreadsheets)
- create and use structures and procedures for developing and combining text, images and numbers (eg group and sort information, use spreadsheet software to generate graphs and charts)
- derive new information (eg a document incorporating information from a variety of sources, a spreadsheet to calculate results using conditional statements with logical operators and other formulas).

Present information

- develop the structure of your presentation (eg modify templates and paragraph styles, apply automatic referencing facilities such as page numbers, dates and filenames)
- develop and refine your presentation by combining text, images and numbers (eg improve impact by changing format for layouts, use of slide transition features, use of hyperlinks in web pages)
- present information so that it meets your purpose and the needs of the audience (eg from spreadsheets, selected mailmerge printouts, database reports of grouped information).

Information and communication technology: level 3

General guidance on use of ICT

Candidates should know when it is appropriate to use ICT, in terms of its effects on their own work and that of others, by comparing their use of ICT with other systems. They should observe copyright and confidentiality, and know how to identify errors and their causes. They should know how to minimise the risk of information loss (saving files and backing up), including how to protect against viruses. Candidates should observe safety requirements, including safe working periods with monitors, and correct procedures for using equipment and when closing down programs. They should also know how to send and receive emails with attachments.

You need to know how to – *find and select information*

- **Plan and organise** Candidates should know how to plan and organise their work (using subdirectories and subfolders) and carry through a number of different tasks, including one major task, relating to planning information retrieval, processing information, and presenting outcomes.
- **Select** Candidates should be familiar with using different sources of information, including databases and the internet, and be aware of the pros and cons of each source (eg in terms of ease of use, speed, likelihood of finding relevant information) and make judgements about their suitability for specific purposes.
- **Techniques for finding information** Candidates should know how to use a search engine, and multiple criteria, for carrying out internet and database searches. It may not always be possible, or appropriate, to explore the internet using more advanced search features, such as those incorporating the use of relational operators (less than, greater than) and logical criteria (AND, OR, NOT). However, candidates need to be familiar with them.

You need to know how to – *develop information*

- **Improving efficiency** Candidates should know how to enhance the processing of information using software features to improve efficiency such as macros, database query and report routines, and the validation of database entries. The level of sophistication can vary enormously, according to needs and contexts, but the key aspect is a capacity to use software to improve the efficiency of their work in relation to the particular task. Candidates should have experience of customising these applications and appropriate routines.
- **Structures** Candidates should know how to create and adapt structures for the development of text, numbers and images. For example, when preparing text for printing, candidates should know about templates and paragraph styles and be able to restructure and, if necessary, re-create them. They should be able to set up mail merges and simple database structures. In using spreadsheets, they should know how to incorporate multiple and linked calculations (eg use of relative and absolute referencing, IF/THEN conditions, lookup tables).
- **Derive information** Candidates should know how to optimise their use of ICT to assist them in designing and following lines of enquiry and to help them tackle problems, eg how to set up a break-even investigation. Examples of new information, appropriate to this level, include incorporating information from a variety of sources, using formulae and logical relationships to obtain meaning from numerical data, generating new views from 3D objects.

You need to know how to – *present information*

- **Develop and refine** Candidates should know how to modify structures, such as templates and paragraph styles, and use automatic referencing systems, but should also be able to use the views of other people in making improvements to the format and style of materials.
- **Present** Candidates should take into account the needs of their audience in terms of type of presentation (paper-based, single electronic form or multi-media), as well as the accuracy, clarity and appropriateness of content, and the purpose of the presentation.

Guidance on internal assessment for information and communication technology, level 3, Part B

Part B

YOU MUST:

Show that you can **plan** and carry through a number of different tasks, one of which must be a major task covering ICT3.1, ICT3.2 and ICT3.3.

Each component, ICT3.1, ICT3.2 and ICT3.3, must be covered at least twice, and ICT3.3 must be covered for at least two different audiences. Smaller tasks may be used to ensure each component is covered.

Overall through at least two activities you must:

- include at least one ICT based information source
- include at least one non ICT based information source
- use at least one example of text, one example of image and one example of number
- use one example of combined information such as text and number, or image and number or text and image
- present evidence of purposeful use of email; one of these emails must have an attachment related to the task.

ICT3.1

Search for information, using different sources, and multiple search criteria in at least one case.

ICT3.2

Enter and develop the information and derive new information.

ICT3.3

Present combined information such as text with image, text with number, image with number.

Evidence must show you can:

3.1.1 **plan how to obtain and use the information required for your tasks**

3.1.2 **make selections based on judgements of relevance and quality.**

3.2.1 **enter and bring together information using formats that help development**

3.2.2 **use software features to improve the efficiency of your work**

3.2.3 **annotate/document your work to show that you have understood the processes followed and have taken account of the views of others.**

3.3.1 **develop the presentation so it is accurate, clear and presented consistently, taking account of the views of others**

3.3.2 **present your final output effectively using a format and style that suits your purpose and audience.**

Information and communication technology: level 3

The portfolio must include at least one major task comprising all of the evidence components (3.1, 3.2 and 3.3) and their associated assessment criteria. Candidates are expected to obtain the information from different sources (3.1), process the information (3.2) and then go on to present outcomes (3.3). Evidence is required of planning the major task, indicating how they will use the resources available and meet the needs of the audience. Portfolios must contain sufficient evidence to show that candidates have met component 3.3 for at least two different audiences.

Levels 1–4

Examples

ICT3.1:

a major task might be concerned with a survey of transport services, the development of a technical design or an analysis of local business opportunities. Information may be obtained from a variety of sources, including the internet; practical survey or experimental work.

ICT3.2:

the development of a major task that demonstrates systematic management of information, eg the capture of data by setting up structures (eg spreadsheet or database) that will enable reporting of information, with the generation of graphs derived from the data. It may incorporate oral information that is transcribed into text on a computer, images that are on CD-ROM or scanned from paper sources.

ICT3.3:

documents such as an illustrated newsletter or report, customised database reports, a series of spreadsheets with associated graphs, a series of static screen displays or a multi-media display.

Each component must be covered a second time although not necessarily as part of a second major task. Additional tasks should be undertaken to meet the requirements of the relevant components and these tasks should differ in significant aspects from those of the major task. These additional tasks can be organised to cover one or more component(s).

In common with all key skills, candidates should demonstrate their information and communication technology skills in relevant contexts through purposeful tasks. Demonstrating the ICT key skill in itself is not sufficient as a purpose. The assignment brief or task, or the evidence itself, should indicate what the candidate set out to do, the purpose and the outcome expected. At level 3 the audience must also be specified.

There should also be an understanding of when the use of ICT, rather than another method of research or presentation, would be appropriate. An example of this is in the use of e-mail to obtain relevant information (ICT3.1). The portfolio must contain evidence of at least one email with attachment, related to the task. This should not be a discrete activity with no clear purpose. A purposeful use of e-mail might be to attach files and invite comment on a draft presentation in order ‘to guide refinements’. Candidates are not required to receive and open attachments if this is not appropriate to the task (ICT3.3).

ICT3.1 Assessors should look for evidence of a clear planning process, including how the candidate will ensure that available resources are used to best effect and that information is suited to the task. Candidates must produce evidence of appropriate and effective searches for finding and selecting relevant information from ICT and other sources. Overall, evidence of at least one example of using ICT to carry out effective searches (eg using the internet or a database) should be provided. The relationship between the information and the purpose should be clear. Sources must be named and records made of the scope and nature of the searches (eg records from observing the candidate, notes or print-outs), with an assessment of the relevance and quality of the information gained (eg annotated print-outs, copies of source material, recorded answers to questions).

ICT3.2 At level 3, the candidate is expected to demonstrate the use of software features to improve the efficiency with which they carry out tasks. Assessors should look for evidence that the candidate can create appropriate procedures and structures for exploring and developing information, and deriving new information. In any one activity, the use of procedures and structures may vary in terms of the relative emphasis given to developing information and deriving new information.

ICT3.3 The candidate must show that she or he can develop the structure and content of the presentation in consultation with others (eg provide copies of working drafts or records of screen displays, with notes showing where work was refined in response to advice from others), as well as present information in a way that is appropriate to its purposes and audience. The audience could be a peer group, line manager or a tutor. At least one example of text, graphics and numbers must be presented. Text styles should be applied systematically. Assessors should look for evidence that the candidate has checked the work for both accuracy and sense.

Guidance on information and communication technology, level 4, Part A

Part A

YOU NEED TO KNOW HOW TO:

Develop a strategy

- establish opportunities for using ICT skills over an extended period of time (*eg in a programme of study, project or work to be carried out over about three months*)
- identify the outcomes you hope to achieve (*eg improved access to information, faster communication, more efficient design or problem solving capability*)
- identify relevant sources of information, including people and reference material (*eg line manager, specialists, customers, colleagues; manuals, CD-ROMs, databases, the internet, on-line help*) and research the information needed for planning purposes
- plan your use of ICT skills (*eg options, sequence of work, resources, level of expertise needed*), taking into account factors that may affect your plans (*eg patterns of work, health and safety, social, economic, ethical and moral issues raised by the use of ICT*)
- make a reasoned selection of methods for achieving the quality of outcomes required (*eg internet search engines, e-conferencing, CAD/CAM techniques*).

Monitor progress

- prepare ICT (*eg create macros, link spreadsheets, define styles, create database structures, customised query routines, set up control equipment to monitor experiment results and generate readings for a report, organise e-conferencing*) and use ICT to aid:
 - efficient searching, evaluation and selection of information (*eg to assist in finding, organising and comparing information, consulting others on its reliability and quality*)
 - exploration of alternative lines of enquiry (*eg varying rules within models to make predictions and test hypotheses*)
- develop and exchange relevant information to meet your purpose (*eg use e-mail, shared access to documents, video conferences*)
- derive new information (*eg make calculations, synthesise information from a variety of sources to reach own conclusions, predict trends, create a new design*)
- monitor and critically reflect on your use of ICT skills, including:
 - obtaining feedback from others (*eg colleagues, tutor, project supervisor, line manager*)
 - noting choices made and judging their effectiveness (*eg impact on quality of work*)
 - adapting your strategy to overcome difficulties and produce the quality of outcomes required.

Evaluate strategy and present outcomes

- develop the structure for presenting your work, integrating different types of information to ensure consistency in changes to the display of text, numbers and images
- use the views of others to guide refinements to content and design
- present information effectively, using a format and style (*eg a single form or multi-media*) to suit your purpose, subject and audience, and ensure that:
 - it is accurate in terms of content and conventions (*eg spelling, punctuation and grammar, labelling of charts, diagrams and graphs, house style for design features*)
 - it makes sense (*eg proof-read and amend where necessary*)
- assess the effectiveness of your strategy, identifying factors that had an impact on the outcomes (*eg availability and quality of resources, features of the working environment, level of own expertise*)
- identify ways of further developing your ICT skills.

Information and communication technology: level 4

You need to know how to – develop a strategy

- **Establish opportunities for using ICT skills** Candidates will need to spend some time researching and exploring work activities in order to identify where and how they can use ICT to aid efficient searching, development, exchange and presentation of information, including text, images and numbers.
- **Identify the outcomes** An intended outcome is a statement of what candidates want or need to achieve, eg a computer-based conferencing system to support team working. They may need to negotiate these outcomes with others involved in the

work. Candidates may benefit from writing outcomes that are specific, so they will be able to tell if they have been achieved. This will help later in monitoring and evaluating the work.

- **Identify relevant sources of information** Candidates need to know how to access help and gain access to the internet, databases on CD-ROM or on-line, a library or specialist publications. In using a web browser, they should know how to bookmark relevant web pages, download and save information.
- **Plan use of ICT skills** Candidates should take stock of the skills needed to achieve their intended outcomes. Candidates should identify opportunities and constraints, eg to do with level of personal expertise, resources, work patterns, health and safety issues, social, ethical and moral concerns. They should set realistic targets and deadlines.
- **Make a reasoned selection of methods** Candidates need to be familiar with the strengths and weaknesses of ICT methods for handling, processing and presenting different types of information (eg specific software facilities).

You need to know how to – *monitor progress*

- **Prepare ICT** Candidates may need to learn about style sheets, templates, macros to handle repeated operations, database structures, how to set up queries using search engines, and refine their search. They should establish criteria (eg by date, author, subject, organisation, type and format) to help select required information. They should set up different search strategies and criteria to explore alternative lines of enquiry, eg use a financial model on a spreadsheet to explore and predict possible consequences of cost and pricing changes on sales and profits. They should be critical of the reliability and quality of information from different sources, taking into account commercial, political, academic or personal interests that may influence content and presentation.
- **Develop and exchange information** Candidates should identify methods of exchange (eg e-mail, computer conferencing, video conferencing, web pages, sharing documents) and how they affect the development of information and ways of working. They should recognise organisational factors such as version control, document retrieval, transaction monitoring, security, archiving and back-up.
- **Define new information** Candidates should identify and note information generated as their work progresses (eg different ideas, interpretations, improvisations, plans).
- **Monitor and critically reflect** Candidates should know how to track and record progress, including any ICT problems and what they did about them. They need to identify reliable sources of feedback and use this constructively to help monitor their performance and make decisions, eg on adaptations to their overall strategy.

You need to know how to – *evaluate strategy and present outcomes*

- **Present information** Candidates should know how to develop appropriate structures for integrating different types of information, eg to ensure that fonts, layout, number formats, sizes and shapes of graphs, images and tables are consistent. They should ensure that conventions of format, language and style are used as agreed, and obtain feedback from others. Candidates should check spelling,

punctuation and grammar, and check that graphs, diagrams and charts are correctly labelled and any specific requirements (eg word length, types of binding, paper size) have been met.

- ***Assess the effectiveness of strategy*** Candidates should identify how their decisions, and the resources and people involved in their work, have influenced the way they have tackled the activity. Candidates should take into account the effect on the outcomes of their work of their strengths and weaknesses in using ICT.
- ***Identify ways of further developing ICT skills*** Candidates need to think about their overall level of ICT skills and suggest areas where they feel they need to improve. They should discuss with a line manager, colleague or mentor how they might do this, eg opportunities for training, changing working practices, tackling new tasks.

Guidance on internal assessment for information and communication technology, level 4, Part B

Part B

YOU MUST:

Provide at least **one** extended example of meeting the standard for ICT4.1, ICT4.2 and ICT4.3 (your example must show you can use ICT to handle text, images and numbers).

<p>ICT4.1</p> <p>Develop a strategy for using ICT skills over an extended period of time.</p>	<p><i>Evidence must show you can:</i></p> <div style="border: 1px solid black; border-radius: 10px; padding: 5px;"> <p>4.1.1 establish opportunities for using ICT skills and clearly identify the outcomes you hope to achieve</p> <p>4.1.2 identify relevant sources and research the information needed for planning purposes</p> <p>4.1.3 plan your use of ICT skills, making a reasoned selection of methods for achieving the quality of outcomes required.</p> </div>
<p>ICT4.2</p> <p>Monitor progress and adapt your strategy, as necessary, to achieve the quality of outcomes required in work involving the use of ICT for two different, complex purposes.</p>	<div style="border: 1px solid black; border-radius: 10px; padding: 5px;"> <p>4.2.1 prepare, and use, ICT to aid efficient searching, evaluation and selection of information, exploring alternative lines of enquiry where appropriate</p> <p>4.2.2 develop and exchange relevant information, and derive new information, to meet your purpose</p> <p>4.2.3 monitor and critically reflect on your use of ICT skills, adapting your strategy as necessary to produce the quality of outcomes required.</p> </div>
<p>ICT4.3</p> <p>Evaluate your overall strategy and present the outcomes from your work using at least one presentation, showing integration of text, images and number.</p>	<div style="border: 1px solid black; border-radius: 10px; padding: 5px;"> <p>4.3.1 develop the structure for presenting your work, integrating different types of information and using the views of others, where appropriate, to guide refinements</p> <p>4.3.2 present information effectively, using a format and style to suit your purpose, subject and audience, and ensure it is accurate and makes sense</p> <p>4.3.3 assess the effectiveness of your strategy, including factors that had an impact on the outcomes, and identify ways of further developing your ICT skills.</p> </div>

Information and communication technology: level 4

For internal assessment purposes, the candidate must provide at least one extended example of meeting the standard for ICT4.1, ICT4.2 and ICT4.3, including use of ICT to handle text, images and numbers. The example should also include evidence of use of ICT for two different complex purposes, but these do not have to relate to the same activity. These two purposes can be split between two activities carried out within the extended period of time, providing the candidate considers both when developing, monitoring and evaluating their strategy. Alternatively, the second purpose could be covered through another extended example that meets ICT4.1 and ICT4.3,

as well as ICT4.2. This could run concurrently. Evidence does not have to cover all the items in Part A, but must meet all assessment criteria (in the relevant box) for each component of Part B.

ICT4.1 Evidence that the candidate can develop a strategy for using a variety of ICT skills might include entries in a personal development plan in a progress file, or a project proposal with annotated references of sources used for researching information. Assessors will look for evidence that the candidate has taken into account the need to plan and use ICT for meeting two different complex purposes, and work with different forms of information (text, images and numbers). The strategy must be for an extended period of time (eg about three months). The candidate will need to plan and manage evidence of their achievements from the outset.

ICT4.2 Evidence must show that, in the course of their work, the candidate has used ICT for two different complex purposes (eg to speed up the design process of a product and to aid financial management when producing the product).

The candidate must show that they can prepare and use ICT to aid efficient searches, evaluation and selection information, and explore different lines of enquiry, where appropriate. The candidate must also show that they are able to develop and exchange relevant information, and derive new information to meet their purpose. Sources should be named and records made of the scope and nature of their searches. Examples of evidence may include copies of source material, annotated print-outs and copies of earlier versions, records of exchanged information and recorded answers to questions by the assessor when observing the candidate's screen displays.

In monitoring their use of ICT skills, the candidate will need to keep a log/diary or other record of their reflections, the decisions they make and how they use feedback from others in adapting their strategy to help them produce the quality of work required.

ICT4.3 The candidate's presentation can be a printed report, or static or dynamic screen displays of their final work. However, it must show that they can integrate different types of information in a format and style that suits their purpose, subject and audience. Images they can use include diagrams, photographs, charts and graphs. Suitable presentations for numbers are tables or spreadsheets containing numerical data, and financial accounts. The information must be accurate and make sense.

The candidate must also evaluate the effectiveness of their overall strategy in achieving their intended outcomes and comment on those factors that influenced the outcomes. The candidate should identify ways of further developing their ICT skills, for example as part of a new project or a training course.

Relevant sources of information

England

Qualifications and Curriculum Authority (QCA) tel: 020 7509 5555
www.qca.org.uk/keyskills

Department for Education and Skills (DfES) tel: 0114 259 3759

The Key Skills Support Programme tel: 020 7297 9000. The programme funded by DfES and coordinated by LSDA and Learning for Work aims to:

- raise awareness and understanding of key skills
- provide advice and models of how to organise key skills delivery
- provide materials on how to develop and assess key skills
- provide training through conferences, workshops and courses.

Helpline (for schools and colleges) tel: 0870 872 8081

Learning for Work tel: 0870 758 1411

Helpline (for employers and training providers) tel: 0845 602 3386

Wales

Qualifications, Curriculum and Assessment Authority for Wales (ACCAC) tel: 02920 375400
www.accac.org.uk

The National Assembly Education Department tel: 02920 825111

Key Skills Support Programme Cymru helpline: 02920 741820

Northern Ireland

Northern Ireland Council for the Curriculum, Examinations and Assessment (NICCEA) tel: 028 9026 1200

Department of Education (DE) tel: 028 9027 9279

Key Skills Resource Centres

Belfast tel: 028 9090 0080
 Dungannon tel: 028 8772 6035
 Londonderry tel: 028 7186 1904

Department for Employment and Learning tel: 028 9025 7777

QCA Northern Ireland Office tel: 028 9033 0706

Key skills awarding bodies

List available on QCA website

Other relevant publications

Key skills standards

The wider key skills qualifications standards and guidance, working with others, improving own learning and performance and problem solving (QCA/04/1294)

QCA Publications (and QCA website) tel: 01787 884444
www.qca.org.uk



Curriculum and Standards

Audience	This guidance is aimed at assessors, candidates, teachers in schools and colleges, training providers, careers service and employers and all those involved in the delivery of key skills.
Circulation List	Key skills awarding bodies
Type	Guidance
Description	This publication provides guidance on the interpretation of the key skills in communication, application of number and information and communication technology at levels 1–4. In addition, the publication includes the current key skills standards (level 1–4) for communication, application of number and information and communication technology
Cross ref	<i>The key skills qualifications standards and guidance</i> levels 1–4 in working with others, improving own learning and performance and problem solving (order ref: QCA/04/1294)
Action required	This document has been produced to help all those involved in the delivery of key skills to achieve consistency in interpretation of the national standards.
Contact	The Basic and Key Skills Team (020 7509 5611)

For more copies, contact:

QCA Orderline, PO Box 29, Norwich NR3 1GN

(tel: 08700 60 60 15; fax: 08700 60 60 17; email: orderline@qca.org.uk)

Price and order ref: £10 QCA/04/1272