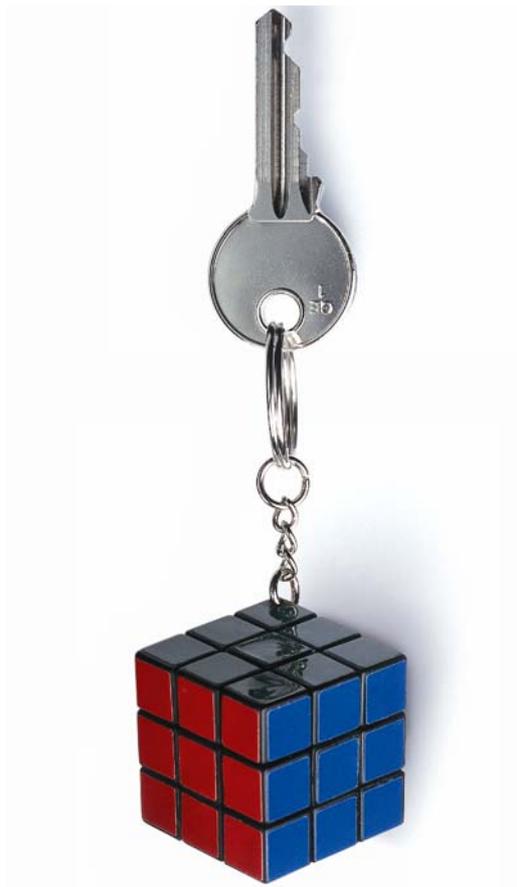


Level 4 Key Skills in Problem Solving

2004 standard and logbook



Please complete the following:

Your name

Programme start date

Date registered for key skills qualifications

City & Guilds enrolment number

Date of portfolio completion

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More information about key skills is available from the City & Guilds key skills website – www.key-skills.org

Introduction

How do I use this logbook?

This logbook will help you work toward the key skill of Problem Solving at level 4. It contains the following:

- national standard (as published by QCA, ACCAC and CCEA, the qualification regulatory authorities for England, Wales and Northern Ireland)
- Part A coverage record sheets
- Part B evidence record sheets.

The coverage and evidence record sheets are designed to help you to track your progress and organise your portfolio so that your assessor/tutor can determine with you when you have met the required standard.

Standards and guidance document

Further examples and guidance on the key skills standards can be found in 'The Wider Key Skills Standards and Guidance' (QCA publication QCA/04/1294). Your assessor/tutor **must** have a copy of this document.

Part A question

The 2004 standard wider key skills are available as pilot qualifications within the National Qualifications Framework. As well as producing your portfolio (which must cover all the requirements set out in Part B of the standard), you may also need to respond to a generic question to confirm that you know how to use the knowledge and understanding listed in Part A of the standard.

The Part A question is contained in a separate document that will be given to you once your portfolio is complete; the questioning process only needs to cover the points within Part A that have not been explicitly shown in your portfolio. The amount of detail you need to give will therefore depend on how your portfolio has been put together; you should discuss this with your assessor/tutor.

Your response to the Part A question will be assessed by your assessor/tutor. A record of your response must be kept with this logbook so it can be checked by the internal verifier and external verifier.

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Problem Solving level 4 standard

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 Problem Solving, you will learn to use and adapt your 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. Each level of the key skill above level 1 incorporates and builds on the previous ones. 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 these 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 of 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 Problem Solving at level 4, you must be able to apply your skills to suit different purposes. You will show that you can:

- establish opportunities for problem solving
- manage the problem solving process
- identify ways of improving your problem solving skills.

Part A – you need to know how to:

Develop a strategy for problem solving

- identify opportunities for problem solving by spending time looking at work activities, and clearly identify what you hope to achieve
- explore problems to establish their critical features, including, as appropriate:
 - re-framing each problem by broadening its focus, re-visualising the problem by creating different perspectives and reviewing changes simplifying the problem and discounting misleading information
 - making comparisons with similar problems and finding analogies
 - consulting other people such as those affected by the problems, your line manager or specialists, to help inform your choice of problem
- generate different ways of tackling a problem, making use of mathematical, verbal, visual, auditory, collaborative and physical methods, as appropriate
- negotiate with your line manager and other relevant people, the approach to use, supporting your case with a cost/benefit analysis of its value and risks and, if appropriate, counter-factual arguments
- plan how you will implement your approach to the problem, to include:
 - use of planning methods such as a Gantt chart/time-line
 - consideration of opportunities and constraints that may affect your plans, including your own and others' attitudes to risk, your level of expertise and factors to do with finance, resources, health and safety and other rules and regulations.

Monitor progress and adapt your strategy for solving the problem

- manage the problem solving process by:
 - getting and making efficient use of resources, including your own and others' specialist knowledge and skills
 - applying effectively methods that you have chosen as appropriate for the task
 - keeping to health and safety and other relevant rules and regulations
- keep track of progress and systematically check results by testing, observing, inspecting, measuring and sampling, as appropriate.

Evaluate your strategy and present the outcomes of your problem solving

- bring together and clearly present the results of your approach to problem solving, including evidence to support your conclusions
- agree with appropriate people, such as those affected by the problem, your line manager and specialists, the extent to which you solved the problem
- assess the strengths and weaknesses of your strategy, including how your decisions and other factors affected the results
- identify ways of further improving your problem solving skills.

Part B – you must:

Provide at least **one** example of meeting the standard for PS4.1, PS4.2 and PS4.3. The example should show that you can explore at least two problems (for PS4.1), one of which must be followed through to conclusion.

Evidence must show you can:

PS4.1

Develop a strategy for Problem solving.

-
- 4.1.1 identify opportunities for problem solving and clearly establish what you hope to achieve
 - 4.1.2 explore problems to identify their critical features and devise different ways of tackling them
 - 4.1.3 negotiate with appropriate people the approach to use and plan how you will implement this.
-

PS4.2

Monitor progress and adapt your strategy for solving the problem.

-
- 4.2.1 manage effectively and efficiently the problem solving process, using appropriate methods
 - 4.2.2 keep track of progress and systematically check results
 - 4.2.3 reflect critically on your approach to tackling the problem and adapt your strategy as necessary to improve your problem-solving skills.
-

PS4.3

Evaluate your strategy and present the outcomes of your problem solving skills.

-
- 4.3.1 bring together and clearly present the results of your approach to problem solving, including evidence to support your conclusions
 - 4.3.2 agree with appropriate people the extent to which the problem has been solved
 - 4.3.3 assess the effectiveness of your strategy, including factors that affected the outcomes, and identify ways of further improving your problem solving skills.
-

Examples and guidance

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

Develop a strategy for problem solving

Explore problems to establish their critical features, simplifying the problem, broadening the focus of the problem, creating different perspectives.

Generate different ways of tackling a problem by drawing on similar problems, finding analogies with other situations.

Monitor progress and adapt your strategy for solving the problem

Manage the problem solving process by obtaining the resources needed, and keep track of progress by maintaining momentum, spotting and correcting errors.

Evaluate your strategy and present the outcomes of your problem solving

Clearly present the results of your approach and support your conclusions using written, oral, visual material, demonstration of a working model.

Identifying ways of improving your problem solving skills by reflecting on the process and evaluating the extent to which the problem has been solved.

For further examples and guidance on the key skills standards please refer to 'The Wider Key Skills Standards and Guidance' (QCA publication QCA/04/1294).

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 assessor/tutor. It may be possible for you to produce evidence using alternative methods. Depending on the skill and level, these may include the use of a scribe (amanuensis); Braille, voice activated software and British Sign Language.

Detailed guidance is available in the document 'Basic and Key Skills: Guidance for Candidates with Particular Requirements', published by the Joint Council for Qualifications. A summary of this information can also be found in the City & Guilds key skills centre guide k, and both documents can be obtained from the City & Guilds key skills website – www.key-skills.org

Please ask your assessor/tutor if you have any questions about this.

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

Part A coverage record

These record sheets are designed to help you and your assessor/tutor compare your work to what the Problem Solving level 4 standard says you need know how to do.

Unlike the Part B evidence record and the Part A question you will answer once your portfolio is complete, this coverage record for Part A is not a compulsory part of your assessment. You may not be able find examples covering all the bullet points listed here, although both you and your assessor/tutor should be happy that you are showing these skills in your work by the time your portfolio is complete.

Standard	✓ if you feel you have done it	Notes/comments or referred to Part A question
<p>Develop a strategy for problem solving</p> <ul style="list-style-type: none"> • identify opportunities for problem solving by spending time looking at work activities, and clearly identify what you hope to achieve • explore problems to establish their critical features, including, as appropriate: <ul style="list-style-type: none"> – re-framing each problem by broadening its focus, re-visualising the problem by creating different perspectives and reviewing changes simplifying the problem and discounting misleading information – making comparisons with similar problems and finding analogies – consulting other people such as those affected by the problems, your line manager or specialists, to help inform your choice of problem • generate different ways of tackling a problem, making use of mathematical, verbal, visual, auditory, collaborative and physical methods, as appropriate 	<p style="text-align: center;"> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </p>	

See next page

Part A coverage record (continued)

Standard	✓ if you feel you have done it	Notes/comments or referred to Part A question
<p>Develop a strategy for problem solving (continued)</p> <ul style="list-style-type: none"> • negotiate with your line manager and other relevant people, the approach to use, supporting your case with a cost/benefit analysis of its value and risks and, if appropriate, counter-factual arguments • plan how you will implement your approach to the problem, to include: <ul style="list-style-type: none"> – use of planning methods such as a Gantt chart/time-line – consideration of opportunities and constraints that may affect your plans, including your own and others' attitudes to risk, your level of expertise and factors to do with finance, resources, health and safety and other rules and regulations. 	<p style="text-align: center;">□</p> <p style="text-align: center;">□</p> <p style="text-align: center;">□</p>	

See next page

Part A coverage record (continued)

Standard	✓ if you feel you have done it	Notes/comments or referred to Part A question
<p>Monitor progress and adapt your strategy for solving the problem</p> <ul style="list-style-type: none"> • manage the problem solving process by: <ul style="list-style-type: none"> – getting and making efficient use of resources, including your own and others' specialist knowledge and skills – applying effectively methods that you have chosen as appropriate for the task – keeping to health and safety and other relevant rules and regulations • keep track of progress and systematically check results by testing, observing, inspecting, measuring and sampling, as appropriate. 	<p style="text-align: center;"> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </p>	

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Key skills 2004 logbook – Problem Solving level 4

Part B evidence record

Standard	✓ if met	Purpose of task and details of evidence presented to meet criteria	Evidence location/reference	Date of completion
Overall <ul style="list-style-type: none">• Provided at least one example of meeting standard for PS4.1, PS4.2 and PS4.3.	<input type="checkbox"/>			

See next page

Key skills 2004 logbook – Problem Solving level 4

Part B evidence record (continued)

Standard	✓ if met	Purpose of task and details of evidence presented to meet criteria	Evidence location/reference	Date of completion
<p>PS4.1</p> <ul style="list-style-type: none"> • Developed a strategy <input type="checkbox"/> • identified opportunities for problem solving <input type="checkbox"/> • clearly established what it was hoped to achieve <input type="checkbox"/> • explored first problem to identify critical features <input type="checkbox"/> <ul style="list-style-type: none"> – devised different ways of tackling problem <input type="checkbox"/> • explored second problem to identify critical features <input type="checkbox"/> <ul style="list-style-type: none"> – devised different ways of tackling problem <input type="checkbox"/> • followed at least one of the two problems through to conclusion <input type="checkbox"/> • negotiated with appropriate people the approach to use (for problem taken through to satisfactory conclusion) and plan how this will be implemented. <input type="checkbox"/> 				

See next page

Key skills 2004 logbook – Problem Solving level 4

Part B evidence record (continued)

Standard	✓ if met	Purpose of task and details of evidence presented to meet criteria	Evidence location/reference	Date of completion
<p>PS4.2</p> <ul style="list-style-type: none"> • Monitored progress of at least one problem <input type="checkbox"/> • managed problem solving process effectively and efficiently <input type="checkbox"/> • used appropriate methods <input type="checkbox"/> • kept track of progress and systematically checked results <input type="checkbox"/> • reflected critically on approach to tackling problem <input type="checkbox"/> • adapted strategy as necessary to improve problem solving skills. <input type="checkbox"/> 				

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Key skills 2004 logbook – Problem Solving level 4

Part B evidence record (continued)

Standard	✓ if met	Purpose of task and details of evidence presented to meet criteria	Evidence location/reference	Date of completion
PS4.3 <ul style="list-style-type: none"> • Evaluated strategy and presented outcomes <input type="checkbox"/> • brought together and clearly presented results of own approach to problem solving <ul style="list-style-type: none"> – included evidence to support conclusions <input type="checkbox"/> • agreed with appropriate people the extent to which the problem had been solved <input type="checkbox"/> • assessed effectiveness of strategy, including factors that affected the outcomes <input type="checkbox"/> • identified ways of futher improving problem solving skills. <input type="checkbox"/> 				

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

Assessor's name _____ Assessor's signature _____ Date _____

Candidate's name _____ Candidate's signature _____ Date _____

Internal Verifier's name _____ Internal Verifier's signature _____ Date _____

Note Part A coverage must also be confirmed (using the Part A question as necessary) before a qualification certificate can be claimed.

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