

KEY SKILLS

Problem solving Level 3

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 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 3 you must be able to apply your skills to suit different purposes. You will show that you can:

- identify and analyse the problem
- plan your chosen way of solving the problem
- review your approach to problem solving.

Part A

YOU NEED TO KNOW HOW TO:

Explore a problem and identify ways of tackling it

- identify, analyse and accurately describe the problem:
 - recognise when a problem exists
 - use different methods to analyse the problem, including breaking it down into manageable sub-problems (simplifying), investigating its effects on other people (broadening its focus), looking at the problem from different viewpoints, checking if the problem changes from place-to-place or over time (reframing) and comparing it with similar problems
 - describe each sub-problem and the factors that affect these
- agree with others (those affected by the problem, your line manager or specialist) how you will know the problem has been solved
- select and use a variety of methods, such as written, visual, numerical and physical techniques, your imagination and creative ideas from working with others, to come up with different ways of tackling the problem
- compare the main features, including value (pay-off), and risks (likelihood and consequences of failure) of each approach and use this information to justify the method you decide to use.

Plan and implement a way of solving the problem

- plan your chosen way of solving the problem to include:
 - resources, methods, the sequence of steps to be taken and time-line, including points for checking progress
 - the necessary action to meet health and safety procedures and other regulations, and ways to overcome difficulties
- get the go-ahead to implement your plan from a person who has expertise in your problem-solving area and authority, such as your line manager or specialist
- put your plan into action, make judgements about when support and feedback would be helpful from others, such as those affected by the problem and specialists, and use this effectively to help tackle the problem
- look at your plan regularly to check progress and to decide on any necessary revisions to your approach.

Check if the problem has been solved and review approach to problem solving

- identify methods for checking the problem has been solved, such as testing, measuring, observing, inspecting and sampling methods, and agree with a person who has expertise in your problem solving area and authority, such as your line manager or specialist, the methods you will use
- apply these methods systematically to check if the problem has been solved
- describe fully the results and draw conclusions on how successful you were
- review the strengths and weaknesses of each stage of your approach, including whether other approaches might have proved more effective.

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Part B

YOU MUST:

Provide at least **one** example of meeting the standard for PS3.1, PS3.2 and PS3.3. The example should include exploring at least **three** different ways of tackling a problem (for PS3.1).

PS3.1

Explore a problem and identify different ways of tackling it.

Evidence must show you can:

- 3.1.1 Identify, analyse and accurately describe the problem, and agree with others how you will know it has been solved
- 3.1.2 select and use a variety of methods to come up with different ways of tackling the problem
- 3.1.3 compare the main features and risks of each approach, and justify the method you decide to use.

PS3.2

Plan and implement at least one way of solving the problem.

- 3.2.1 plan your chosen way of solving the problem and get the go-ahead from an appropriate person
- 3.2.2 put your plan into action, effectively using support and feedback from others to help tackle the problem
- 3.2.3 check regularly progress towards solving the problem, revising your approach as necessary.

PS3.3

Check if the problem has been solved and review your approach to problem solving.

- 3.3.1 apply systematically methods agreed with an appropriate person, to check if the problem has been solved
- 3.3.2 describe fully the results and draw conclusions on how successful you were in solving the problem
- 3.3.3 review your approach to problem solving, including whether other approaches might have proved more effective.

EXAMPLES AND GUIDANCE

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

EXPLORE A PROBLEM AND IDENTIFY DIFFERENT WAYS OF TACKLING IT

Identify, analyse and accurately describe a problem by, for instance, identifying the gap between the current situation and what is desirable.

Select and use a variety of different ways of tackling the problem and investigate how others are affected, compare with similar problems.

PLAN AND IMPLEMENT A WAY OF SOLVING THE PROBLEM

Plan your chosen way of solving the problem using techniques such as flow charts, time lines, and check out your plan with a supervisor or tutor.

Put your plan in action, check progress regularly, for instance against time lines, resources allocated.

CHECK IF THE PROBLEM HAS BEEN SOLVED AND REVIEW APPROACH TO PROBLEM SOLVING

Describe your results and draw conclusions by stating to what extent the problem was solved and the level of satisfaction of others.

Review the strengths and weaknesses of each stage of your approach by checking how well you followed the plan, any adaptations to the plan, any side effects from your actions.

For further examples and guidance on the key skills standards please refer to *The Key Skills Standards and Guidance* (order ref: QCA/04/1272).

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 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.

This is available from 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.

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