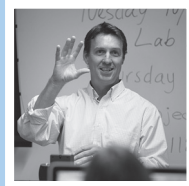


# Work place Core Skills Unit

## PROBLEM SOLVING SCQF level 5 Assessment Support Pack



### What are Core Skills?

Core Skills are skills and abilities which everyone needs in their work. This is true for every job in every workplace.

The Core Skills are:

- Communication
- Numeracy
- Information and Communication Technology
- Problem Solving
- Working with Others

Employers look for Core Skills when they are appointing new staff. They also expect their existing staff to have these skills.

Core Skills are important because they help you work effectively in your present job and also prepare you for jobs which you will do in future. Developing your Core Skills helps you deal with today's rapidly changing world and improve your career prospects.

## Part 1: Information for assessors

### What is involved?

The Unit is designed for the workplace and the content should involve tasks and skills that are suited to the requirements of the candidate's working environment.

The focus of the Unit is on transferable problem-solving skills:

- ◆ critical thinking (investigating)
- ◆ planning and organising (planning and solving)
- ◆ reviewing and evaluating (checking and evaluating)

These skills should be useful to candidates in their current and future jobs, as well as in their social and personal lives.

The Unit is designed for those who have a reasonable level of skill and experience in using problem-solving skills within the workplace, eg at intermediate or supervisory level. The Unit might be suitable for candidates who are currently working towards an SVQ/NVQ at level 3 or level 4.

Problem Solving tasks can be combined with the other Core Skills Units: Communication, Numeracy, Information and Communication Technology, and Working with Others. If you adopt this approach, records must be kept for each Unit.

## Guidance on the Unit

Candidates at SCQF level 5 are required to develop an approach to deal with a non-routine problem in a workplace context. Candidates will work independently on the tasks but may ask you for clarity on anything within the Unit that they do not understand. They may need some guidance to identify a suitable problem that meets the level of the Unit, problem solving strategies, and suitable evaluation criteria either from you, or from a supervisor or other workplace mentor.

The 'What I need to do' section of the Unit lists the knowledge, understanding, and competence that candidates must have and what they need to do to prove this. You may want to discuss these with the candidates. The following notes give detailed pointers on the things candidates need to know and be able to do.

### What candidates need to do

#### Investigating

Candidates will apply critical thinking as the first stage of the problem-solving process. They will investigate and analyse a non-routine problem to identify the main factors that affect the problem. These factors will include identifying causes of the problem, looking at why the problem has arisen, and who is involved. The candidates will identify the relative importance of these factors and their effect on the problem. Candidates will be able to use problem-solving techniques such as sub-dividing the problem onto its component parts or mind-mapping to decide on a strategy to solve the problem. They will be able to seek information or help from others if appropriate, eg from colleagues, customers, or suppliers. They will evaluate the situation and devise a strategy to deal with it. The strategy may involve an approach that is new to the candidates or may be a modification of an existing approach. Candidates should know about the systems and procedures in their workplace (including health and safety) and be aware of the personnel structure of the organisation. Candidates will need to know what resources are available to them so they can carry out the plan. They should be aware of time constraints and any other limitations.

#### Planning and solving

Candidates will use the results of their critical thinking to devise an action plan to deal with the problem. The action plan will make clear what tasks need to be carried out and the relationships between them. It may include tasks that

can be carried out simultaneously and the candidates will identify who is to carry out the tasks. In devising the action plan, the candidates will take into account any workplace limitations and issues relating to managing time and people.

The candidates will identify the resources needed to carry out the action plan. Obtaining resources may also involve implementing procedures and input from others in the workplace. Once the action plan has been devised the candidates will carry it out and either undertake tasks themselves or supervise the completion of tasks where these have been allocated to others.

### Checking and evaluating

Once all the tasks specified in the action plan have been completed, the candidates will evaluate how effective each stage of their problem-solving approach was. They will do this by choosing criteria and evidence gathered from the implementation of the action plan to review each stage of the process, ie analysing the situation and planning and organising the task.

Having carried out this evaluation, based on the supporting evidence, the candidates will be able to identify the strengths and weaknesses of their problem-solving approach and suggest improvements and alternative ways of dealing with similar situations in the future.

## How do candidates show they have achieved the Unit?

The Unit requires the candidates to provide evidence for each of the three tasks.

### Task 1: Investigating

Investigate and analyse why a non-routine problem, situation, or issue has arisen in their workplace. Devise a course of action to deal with it.

### Task 2: Planning and solving

Plan, organise, and carry out the course of action.

### Task 3: Checking and evaluating

Devise criteria to evaluate how well their approach to the problem-solving activity worked in practice. Use criteria and evidence gathered from the implementation of the action plan to draw conclusions and make suggestions for improvements and alternative ways of dealing with similar situations in the future.

Candidates must use only one problem situation to prove that they can do all of the tasks in the Unit. They should not gather evidence from different problem situations for different tasks.

## Assessment requirements

The problem, situation, or issue should be in a familiar context where relationships need to be clarified. Alternatively, the context may be unfamiliar to the candidates but the relationships between variables should be clear.

The action plan is likely to involve more than one strand. Some of the tasks may be carried out simultaneously.

Resources used will be less familiar to the candidates and may involve a search. They might include sources of information, set procedures, people, money, equipment, and physical resources.

Once the action plan has been devised the candidates will carry it out and either undertake tasks themselves or supervise the completion of tasks where these have been allocated to others.

Candidates will choose criteria for reviewing and evaluating the strengths and weaknesses of their approach to problem solving. Criteria may include identifying the correct causes of the problem, keeping to time, and appropriate allocation of tasks and use of resources.

Candidates will gather evidence to support their evaluation. Examples of evidence are questionnaires, records of interviews, and minutes of meetings. Candidates will consider the evidence, make their evaluations based on this, and then suggest modifications or alternatives for improving future problem-solving activities.

## Gathering evidence

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

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

If you have chosen to integrate the problem-solving work with other Units being undertaken by the candidate, it may be possible to assess the problem-solving process as part of a larger single activity. In this case you must keep separate records for this Unit. You should try to identify naturally occurring opportunities for assessment where possible. Some of the exemplars in this pack could be used or contextualised for this purpose.

The assessment process is likely to involve one or more of the following:

- ◆ observation
- ◆ recording
- ◆ oral questioning

When assessing by observation, you must keep a detailed checklist. Similarly, if you use oral questioning, you must keep a record of both the questions and the candidate responses. All evidence, whether produced by the candidate or a record made by yourself, must be retained, signed, and dated by you.

## Planning

You should work out where opportunities for meeting the Unit standards are likely to arise. Where possible, these should be built into the assessment process.

You should explain and discuss this assessment process with the candidates so that they are clear about what is expected of them.

## Part 2: Exemplar assessment tasks

Note for assessors

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

- ◆ to illustrate to candidates the type of materials that could be used to generate evidence
- ◆ to help identify the type and amount of evidence that candidates should have gathered in their portfolio
- ◆ to help identify the level of complexity in evidence required for the Core Skill at this level
- ◆ to help you to identify/create an assessment task related to the candidate's own work environment
- ◆ as an off-the-shelf assessment, although every effort should be made to source/provide candidates with assessment materials that relate to their specific area of work



## Exemplar assessment

The canteen in your workplace may have to close as it is losing money. The management are keen for it to remain open as they consider that staff leaving to go out for lunch may lead to lateness. There have also been complaints from the health and safety staff about food and drink being consumed near machinery. Your colleagues have complained that the canteen has a limited choice, is drab and unattractive, and there is no area in the canteen where people can eat packed lunches. You have to look at this problem then propose and implement a solution to make the canteen viable. You should:

- 1 Look at the situation and decide on the factors that are causing the problem.
- 2 Decide on the relative importance of these factors.
- 3 Use problem-solving techniques to analyse the problem.
- 4 Decide on an approach to solve the problem, asking for help and information if appropriate.
- 5 Draw up an action plan to deal with the key factors affecting the problem. You will need to decide on the necessary tasks and who will do them; decide which tasks would be done simultaneously; identify any limitations in the workplace; manage time and manage people.
- 6 Choose and obtain the resources you will need. You may be required to use equipment, money, information from other people, and procedures for obtaining these.
- 7 When your plan is complete put it into practice.
8. Choose criteria to judge how effective each stage of the action plan has been. These might include considering if you identified the right causes of the problem, did you keep to time, was the plan able to address the causes of the problem, and did everyone carry out their allotted tasks?
- 9 Gather evidence, relevant to the chosen criteria, with which to judge the effectiveness of all aspects of the plan. These might include questionnaires, minutes of meetings, or analyses of cost or time savings.
- 10 Decide on the effectiveness of each stage of the problem-solving activity using the evidence you have gathered.
- 11 Based on your evaluation of your problem solving suggest improvements for any similar problems you might encounter in future.

## Marking notes

### Task 1: Investigating

Examples of factors relating to the problem in the exemplar might include:

- ◆ poor choice of main courses on offer
- ◆ lack of healthy options
- ◆ unattractive drab surroundings
- ◆ no area for eating packed lunches
- ◆ only a limited number of drinks and snacks on offer
- ◆ service slow
- ◆ customers never consulted over menus
- ◆ alternatives easily available in nearby town centre

The relative importance of these factors would be likely to focus on the quality of the products offered in the canteen. The relationships between the variables are clear in that poor service has resulted in staff not using the canteen and taking their custom elsewhere. The effects of the problem are that the canteen may close. This may result in poor timekeeping and health and safety issues if food brought in is consumed at workstations. Mind-mapping could be used to analyse the problem and candidates may use brainstorming to find approaches to deal with the factors affecting the problem. Information will be needed from colleagues and help sought from others to enable an approach to be drawn up.

An approach to solve this problem would involve an initial investigation of the problem by consulting staff, possibly using a simple questionnaire and face-to-face interviews. The focus would then be on initiating improvements in line with customer requirements and evaluating the success of these. This may involve comparing the use of the canteen and its takings after the implementation of action plan with the previous situation and by evaluation of staff views.

## Task 2: Planning and solving

Examples of tasks in the action plan relating to the problem in the exemplar might include:

- ◆ survey colleagues to find views on canteen services — this will involve a questionnaire and some personal interviews
- ◆ devise and administer questionnaires/interview staff — simultaneous tasks with one carried out by colleague
- ◆ analyse results of survey
- ◆ meet with management and canteen staff to discuss findings and agree on solutions, including budget, and agree on timescale for improvements
- ◆ check procedures for ordering paint, blinds, pictures for walls, and furniture
- ◆ meet with colleagues who will organise a ‘make-over’ for the canteen
- ◆ liaise with canteen staff to implement solutions, eg new menus, a colleague to organise a ‘make-over’ for the canteen, to include an area for staff to eat packed lunches, and publicise the opening of improved canteen
- ◆ organise a staff review of the new canteen services and analyse findings
- ◆ review canteen takings after the first week

Resources might include a PC, photocopier, meeting room, and contact with suppliers.

People involved who may have tasks allocated to them or provide information might be the candidate’s line manager, canteen supervisor, health and safety personnel, colleagues, and staff from suppliers.

## Task 3: Checking and evaluating

Examples from the exemplar might include:

- ◆ Did you identify the correct causes of the problem? The candidates may have found that other factors emerged such as the canteen is not open for long enough over lunchtime or is too expensive.
- ◆ Did your action plan address these causes? Yes but indicated a need for flexibility to deal with issues that arose in implementation, such as the factor identified at a later stage.
- ◆ Did the action keep to a specified time scale? The candidates might find that some stages of the plan took longer than expected, eg personal interviews. They may also have encountered problems with arranging meetings at times to suit all the participants.
- ◆ Did everyone carry out their allotted tasks? Perhaps here the candidates may have encountered problems with monitoring tasks and with availability of colleagues to take part in interviews.
- ◆ Did you use resources effectively? The candidates may have experienced simple problems, eg a malfunctioning photocopier, or have had problems keeping to budget.

Evidence relating to the evaluation might include:

- ◆ surveys and their findings relating to the first three tasks in the action plan
- ◆ minutes of meetings relating to the fourth, sixth, and seventh tasks in the action plan
- ◆ copies of procedures, catalogues, and order forms for the fifth task in the plan
- ◆ evaluation sheets and their findings from colleagues who have used the canteen after its improvement

The candidates will be able to decide how effective each stage of the plan has been, basing their decisions on the evidence they have collated. The candidates will then be able to devise alternative ways of solving problems in future. Building in time for reviewing the progress of the tasks in the action plan to allow for changes or flexibility might be an improvement suggested for the future. The candidates might also find that more tasks could be delegated or that more time should be allocated to parts of the plan.

## Part 3: Exemplar recording documentation

This section gives some examples of forms that could be used by the candidates and/or assessor to gather evidence and record assessment decisions.

You are encouraged to adapt these materials to suit you and your candidate's preferred approach, ie boxes can be made bigger, format can be changed to a non-table format, font size etc.

### Assessment plan

You should work out where naturally occurring opportunities for meeting the standards are likely to arise and, where possible, build them into the assessment process.

You should explain and discuss the assessment process with candidates so they are clear about what is expected of them.

### Record sheets

Record sheets are provided for each of the three tasks:

Task 1: Investigating

Task 2: Planning and solving

Task 3: Checking and evaluating

The candidates can provide written answers on these forms. Alternatively, if you use oral questioning, you may use them to write down the candidates' answers.

### Assessment checklists

Candidates could use the assessment checklists as a means of cross-referencing evidence in their portfolio to the Unit.

Assessors could use the assessment checklists to record assessment decisions and any relevant comments.

### Summary checklist

The summary checklist could be used to record the assessment decisions from the assessment checklists on a single form.

## Assessment plan

Problem Solving (SCQF level 5)

Candidate: \_\_\_\_\_

Task to be assessed: \_\_\_\_\_

Proposed date of assessment: \_\_\_\_\_

Proposed method of assessment	Tick	Notes
Assignment or project		
Observed performance		
Witness testimony		
Written questions		
Oral questioning		
Product evaluation, eg written document		
Previous evidence		
Other evidence		

Details agreed and signed by:

Assessor \_\_\_\_\_

Candidate \_\_\_\_\_

Line manager (if required) \_\_\_\_\_

Date \_\_\_\_\_

## Record sheet

Problem Solving (SCQF level 5)

Task 1: Investigating

Candidate name: \_\_\_\_\_

Date: \_\_\_\_\_

### Task 1: Investigating why a problem, situation, or issue has arisen

What is the problem, situation, or issue?

What are the main factors affecting the problem? For example, what are the causes of the problem, why has the problem arisen, and who is involved?

What are the most important factors and why?

What approaches are you going to take to deal with the problem and why?

Who will you need to help you with this?

Assessor's comments



## Record sheet

Problem Solving (SCQF level 5)

Task 2: Planning and solving

Candidate name: \_\_\_\_\_

Date: \_\_\_\_\_

### Task 2: Work out an action plan to deal with the problem and carry it out

Use the rows below to help you make a plan to deal with the problem. You should show what tasks need to be done and the order in which they should be carried out in. Some tasks will need to be carried out simultaneously and you will need to identify who carries these out; this could be you or someone else. You should identify any limitations to your plan, such as time or cost, and also any resources you will need, such as equipment, money, or help from other people. Note any procedures that need to be followed to obtain these, eg completing an order form. When your plan is complete, check with your assessor before putting the plan into action. Keep a record of what you do and when you do it as you complete the different tasks.

<b>What needs to be done and in what order?</b>	
<b>Identify any tasks which can be done simultaneously</b>	
<b>Who will do the tasks?</b>	
<b>What resources are needed?</b>	
<b>Identify procedures required to obtain any resources</b>	
<b>Any limitations, such as time or cost?</b>	
<b>Task completed and time taken</b>	
<b>Assessor's comments</b>	

## Record sheet

Problem Solving (SCQF level 5)

Task 3: Checking and evaluating

Candidate name: \_\_\_\_\_

Date: \_\_\_\_\_

### Task 3: Decide how well your approach to the problem-solving activity worked in practice

Now you have completed your action plan, decide on criteria to assist you to identify the strengths and weaknesses of each part of your problem-solving approach. Your criteria might include was the cause of the problem correctly identified, was the course of action taken the most appropriate, were the allotted timescales appropriate to the tasks, were the resources suitable for the task, did everyone work effectively on their allocated tasks, was the plan completed within budget, and was the problem resolved. Use the columns below to keep a record of your review and evaluation.

You should also note evidence you have retained to support your evaluation, eg minutes of meetings, questionnaires, evaluation sheets, and cost analyses.

Evidence to support evaluation	Stages of the plan	Strengths	Weaknesses

## Record sheet

Problem Solving (SCQF level 5)

Task 3: Checking and  
evaluating

Candidate name: \_\_\_\_\_

Date: \_\_\_\_\_

### Task 3: continued

Based on the evidence gathered, describe how effective each stage of your problem-solving strategy was.

Suggest alternative ways of solving similar problems in the future, with reasons.

Assessor's comments

## Assessment checklist

Problem Solving (SCQF level 5)

Task 1: Investigating

Candidate name: \_\_\_\_\_

Date: \_\_\_\_\_

**Task 1: Investigate and analyse why a non-routine problem related to your work has arisen.**

	<b>Evidence</b>	<b>Assessor initials and date</b>	<b>Comments</b>
Identified factors contributing to the problem, situation, or issue			
Assessed the relevance of these factors and how they relate to one another			
Applied problem-solving techniques			
Developed a strategy to deal the problem, situation, or issue			

## Assessment checklist

Problem Solving (SCQF level 5)

Task 2: Planning and solving

Candidate name: \_\_\_\_\_

Date: \_\_\_\_\_

<b>Task 2: Plan, organise, and carry out a suggested approach to deal with the problem</b>			
	<b>Evidence</b>	<b>Assessor initials and date</b>	<b>Comments</b>
Worked out an action plan to deal with the key factors contributing to the problem, situation, or issue			
Identified and obtained the resources to carry out the action plan			
Carried out the action plan			

## Assessment checklist

Problem Solving (SCQF level 5)

Task 3: Checking and  
evaluating

Candidate name: \_\_\_\_\_

Date: \_\_\_\_\_

<b>Task 3: Check how well your approach to the problem-solving activity worked in practice</b>			
	<b>Evidence</b>	<b>Assessor initials and date</b>	<b>Comments</b>
Devised criteria to identify the strengths and weaknesses of the problem-solving approach			
Gathered evidence to support evaluation			
Decided the effectiveness of each stage of the problem-solving strategy, referring to supporting evidence			
Considered the results of the evaluation and suggested ways of approaching similar problems in future, with justification			

## Summary checklist

Problem Solving (SCQF level 5)

Candidate name: \_\_\_\_\_

Candidate number: \_\_\_\_\_

Centre: \_\_\_\_\_

Task	Date achieved
1 Critical thinking (investigating)	
2 Planning and organising (planning and solving)	
3 Reviewing and evaluating (checking and evaluating)	
Assessor's signature: _____	Date: _____

## ADMINISTRATION INFORMATION

### Credit Value

6 SCQF credit points at SCQF level 5



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**Tel:** 0845 213 5249  
**Fax:** 0845 213 5000  
**Website:** [www.sqa.org.uk/coreskills](http://www.sqa.org.uk/coreskills)

**Optima Building**  
58 Robertson Street  
Glasgow  
G2 8DQ

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