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| **Problem Solving** |
| **Level 3** |
| Candidate Name: |
| Candidate Number: |
| Course: |
| Assessor: |



Written to meet City and Guilds Wider Key skills standards

**Part A: These are the skills you need to know before you begin to complete this Workbook**

**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.

**Part B: Problem Solving at Level 3**

You must give **ONE example** to show you have met the standard for PS3.1, PS3.2 andPS3.3. This example must show you have explored **at least three different ways** of tackling the problem (for PS3.1).

**Your evidence in this Workbook must show you can:**

**PS3.1 - Explore a problem and identify different ways of tackling it**

**3.1.1** Identify, analyse and accurately describe the problem,

**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 their chosen way of solving the problem and get the go-ahead from an appropriate person

**3.2.2** Put their 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 their 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 greed 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 they were in solving the problem

**3.3.3** Review their approach to problem solving, including whether other approaches might have proved more effective.

**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 Part A questions as necessary) before a qualification certificate can be claimed.**

PROBLEM SOLVING – LEVEL 3

UNIT SUMMARY

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| --- | --- |
| Candidate |  |

**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).**

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| --- | --- | --- | --- |
| **COMPONENT** | **REFERENCE(S)** | | |
| **PS 3.1: Explore a problem and identify different ways of tackling it** | **SOLUTION 1** | **SOLUTION 2** | **SOLUTION 3** |
| **PS 3.1.1: Identify, analyse and accurately describe the problem, and agree with others how you will know it has been solved** |  |  |  |
| **PS 3.1.2: Select and use a variety of methods to come up with different ways of tackling the problem** |  |  |  |
| **PS 3.1.3: Compare the main features and risks of each approach, and justify the method you decide to use.** |  |  |  |
| **PS 3.2: Plan and implement at least one way of solving the problem** | **REFERENCE(S)** | | |
| **PS 3.2.1: Plan your chosen way of solving the problem and get the go-ahead from an appropriate person** |  | | |
| **PS 3.2.2: Put your plan into action, effectively using support and feedback from others to help tackle the problem** |  | | |
| **PS 3.2.3: Check regularly progress towards solving the problem, revising your approach as necessary.** |  | | |
| **PS 3.3: Check if the problem has been solved and review your approach to problem solving** | **REFERENCE(S)** | | |
| **PS 3.3.1: Apply systematically methods agreed with an appropriate person, to check if the problem has been solved** |  | | |
| **PS 3.3.2: Describe fully the results and draw conclusions on how successful you were in solving the problem** |  | | |
| **PS 3.3.3: Review your approach to problem solving, including whether other approaches might have proved more effective.** |  | | |

I confirm that the evidence submitted is the candidate’s own work and that it meets all the evidence requirements for this key skill.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ASSESSOR** | |  | **CANDIDATE** |  |
|  | |  |  |  |
| **DATE** |  | | **DATE** |  |

**Problem Solving Part A questions – Level 3 & Level 4**

Your assessor/tutor will advise on how you should tackle the following question. You will need to answer it as fully as possible giving examples:

**With regard to planning, doing and reviewing, what have you learnt about problem solving?**

|  |  |  |  |
| --- | --- | --- | --- |
| ASSESSOR |  | CANDIDATE |  |
| DATE |  | DATE |  |

**PS3.1**

1. What is the problem that you have identified that you are going to solve? **(3.1.1)**
2. Describe and analyse in detail the features of the problem, remember to refer to relevant factors and to the sub-problems within the overall problem. **(3.1.1)**
3. Discuss the problem with an appropriate person. This could, for example, be your tutor or an instructor. Together, agree how you will know that the problem has been solved. Include a record of your discussions in the evidence section of your portfolio. **(3.1.1)**

|  |  |
| --- | --- |
| Name and status of the person you have consulted | How will you know if the problem has been solved? |
|  |  |
| Signed by the candidate: |  |
| Signed by the person consulted: |  |

1. You will need to come up with at least three ***different ways*** for tackling the problem. These should not be options based on the *same* basic method. **(3.1.2)**

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| --- |
| Method 1: |
| Method 2: |
| Method 3: |

1. Explain how you came up with each of these three methods. You should indicate whether the method is based on written work, on practical experiment, on study, on imitation and so forth and why that approach is appropriate for that particular possible solution. **(3.1.2)**
2. What are the main features and risks of each of the methods of tackling the problem? **(3.1.3)**

|  |  |
| --- | --- |
| Method 1 | |
| Main Features | Risks |

|  |  |
| --- | --- |
| Method 2 | |
| Main Features | Risks |

|  |  |
| --- | --- |
| Method 3 | |
| Main Features | Risks |

**7.** Which method will you adopt and why? Explain your decision in detail. **(3.1.3)**

**PS3.2**

**8. ACTION PLAN**

Give details of each of the tasks that you have to undertake and the dates they are planned for. **(3.2.1)**

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| --- | --- |
| **Actions to be taken** | **By When** |
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Ask the person who has approved your plan to sign and date below **(3.2.1)**

Signed: …………………………………………. Date: ……………………..

Status: ………………………………………………….

1. **ACTIVITY LOG**

Give details of what you actually did and of how you used support and feedback from others. **(3.2.2)**

|  |  |
| --- | --- |
| Action Taken (with dates) | Support/Feedback given and from whom (name and status) |
|  |  |
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1. When and how did you check your progress and what was the outcome of each progress check? **(3.2.3)**

|  |  |
| --- | --- |
| Date of progress check and reason for check at this time | Give details of any changes needed and explain why |
|  |  |
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If no changes were needed, discuss with your tutor what could have proved difficult and how you might have tackled such obstacles. Include a record of this discussion in the portfolio evidence section.

**PS3.3**

1. What methods will you use to check that the problem has been solved? **(3.3.1)**

|  |  |  |
| --- | --- | --- |
| Checking method | Agreed with whom  (name and status) | Outcome of check |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Ask the person with whom you have agreed your checking methods to sign and date below. **(3.3.1)**

*I have discussed and agreed the checking methods with the candidate:*

Signed: ………………………………………….. Date: ……………………

Status: ……………………………………………

1. Give a full and detailed description of the results of your problem solving activity and assess in detail how successful you have been in solving your problem. **(3.3.2)**
2. Consider critically the way you approached and tacked the problem. Give a detailed assessment of any other ways of tackling the problem that might have proved to be more effective. **(3.3.3)**

**Include any evidence you have collected along the way of you achieving your targets in the evidence section**

**Evidence**

**Section**