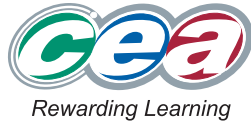


ESSENTIAL SKILLS



ACTION BASED ACTIVITIES

TOPIC VC22 ENGINEERING MAINTENANCE

COMMUNICATION



LEVELS 1 & 2

ISSUED AUGUST 2007

INSTRUCTIONS

WHAT DO I DO?

Use this booklet to help you:

- plan an Action-based Activity on the topic Engineering Maintenance
- carry out an investigation into the subject
- produce ALL the evidence needed for your portfolio

NOTE: Use this booklet WITH the Learner's Planner & Guide.

BY THE END OF THIS ACTION BASED ACTIVITY YOU SHOULD BE ABLE TO:

LEVEL 1

- take part in a one-to-one or group discussion
- read and obtain relevant information
- write two different types of document
- use at least one image effectively

LEVEL 2

- take part in a group discussion, helping move the discussion forward
- give a short talk of at least 4 minutes
- produce a document that summarises two 500+ word documents you have read
- write two different types of document, one being more than 500+ words long
- use at least one image effectively

COMMUNICATION

TOPIC VC22 ENGINEERING MAINTENANCE

TOPIC VC22 ENGINEERING MAINTENANCE

Engineering Maintenance is a big topic. If you want to study it for your Action-based work you will need to narrow it down. This guide will take you step by step from how to get started to writing and checking your final piece of work. Each step follows Part Two of your *Learner's Planner & Guide*, so read it alongside this booklet.



It's a good idea to follow this advice.



You must do this to get the qualification.



**STEP
A**



CHOOSING A TOPIC

Think about the topic "**Engineering Maintenance**" and things about it that you might like to study. Don't rush or you may miss something. One of the best ways to start is to *mindmap*.

TASK 1 GETTING STARTED MAKING A MINDMAP

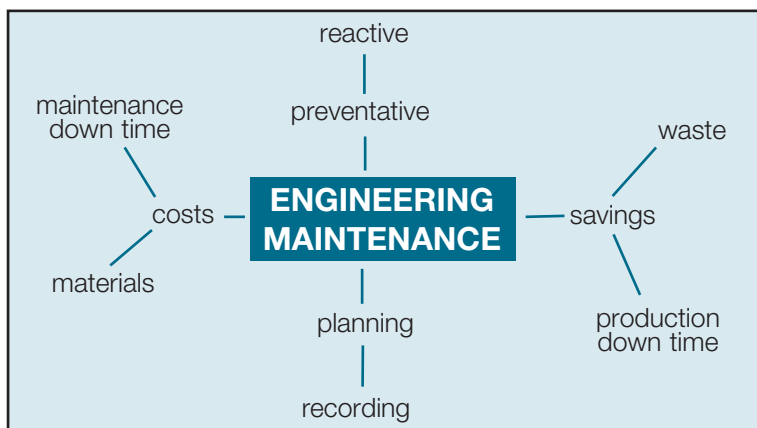
Allow about
20 minutes

On your own, or with a colleague, think about and talk about "**Engineering Maintenance**" and aspects of it you might like to study.

Work together to make a **mindmap** of the subject. You can find how to do this on Page 5 of the *Learner's Planner & Guide*. You may want to think about:

- what has changed about maintenance procedures over time
- types of maintenance procedures
- benefits of preventative maintenance
- reasons why maintenance does not take place
- costs arising from maintenance
- savings to be had from planned maintenance

PORTFOLIO EVIDENCE – You could copy and add to the unfinished example below. This could then go into your portfolio as evidence that you have thought about your chosen subject.



ESSENTIAL SKILLS

ACTION BASED ACTIVITIES



Continued

TASK 2 FRAMING A QUESTION

Allow about 15 minutes

When you have made your mindmap, focus in on one or two ideas that:

- interest you
- will be easy to research and get information about (talk to your tutor if you are unsure)

Write these ideas down and then try to turn them into **QUESTIONS**. This will help when you write up your conclusions later. The examples in the box may help you do this.



Topic: Engineering Maintenance

Original Idea	Question
Engineering Maintenance	What does it involve?
Costs	What costs are involved?
Benefits	What are the benefits?
Changes	How has maintenance changed over the past, say, 50 years?
Types of Maintenance	What factors would influence the method chosen?

In your portfolio, write down your chosen title/question.

Check with your tutor that it is okay. Remember, you can always change it later if necessary.

TASK 3 LOCATING RELEVANT INFORMATION

Allow about 10 minutes

Your next task is to locate relevant information for your portfolio. Check with your tutor that:

- there is enough information
- it is easily located
- it is of the right standard

TASK 4 ACTION PLANNING

Allow about 30 minutes



PLAN – It's a good idea next to draw up a plan of action. Make a table and on it write down what you intend to do and when you will do it by. Highlight key dates and deadlines (e.g. when you are giving a talk or having a discussion). Examples are located in the Learner's Planner & Guide – Level 1 Page 7, Level 2 Page 17.

COMMUNICATION

TOPIC VC22 ENGINEERING MAINTENANCE



READING TO OBTAIN INFORMATION

Reading and obtaining information are an essential part of the qualification and you must be able to show that you have collected, read and extracted relevant information. Level 2 learners must be able to summarise what was read into one document.

There are lots of ways of finding information on this subject such as:

- the training booklet ESP/214H for Mechanical Maintenance NVQ unit
- engineering reference books and charts
- information from the Internet
- company maintenance records
- carrying out a survey of your company and others you know

TASK 5 READING AND FINDING OUT (to answer your question)

Allow about
1½ hours

Look for suitable documents to read. If you are studying for **Level 2** communication skills they will need to be more than 500 words long, (see Page 18 of the Learner's Planner & Guide).

TASK 6 RECORDING INFORMATION

Allow about
1½ hours

READ and MAKE NOTES from all documents that you think are helpful and relevant (the box below shows you how to write your notes).



TOPIC: "What Does Engineering Maintenance Involve?"

Information source: 'Training Booklet ESP/214H'

Author: EMTA

Section: Planning Maintenance Activities
Pages 2 & 3

Main points in this section:

- importance of planning
- requirements for a work plan
- sources of specific instructions
- merits of a systematic approach

Summary:

You will then need to write down in your own words what you have read in this section.

For **Level 2**, you must produce a document that brings together in **one** summary at least two 500 word long documents that you have read. A good way to do this would be to construct a response to the question/title you constructed in Task 2. An example of this is on Page 19 of the Learner's Planner & Guide.



ASSESSMENT Your tutor will assess that:

- the notes you have made are relevant
- you have clearly identified key points
- you understand what you have read

ESSENTIAL SKILLS

ACTION BASED ACTIVITIES

**STEP
C**



DISCUSSIONS

Taking part in discussions is an essential part of the qualification. For Level 1 you can take part in a one-to-one OR a group discussion. At Level 2, it must be a group discussion.

Your **tutor** will need to observe and assess how well you do.

TASK 7

TAKING PART IN DISCUSSIONS ABOUT YOUR TOPIC

Allow about
1 hour

1. **Invite** colleagues to join you in a discussion about your chosen topic and fix a time and date when you will meet. Make sure your tutor is also able to be there if you want to be assessed.
2. **Plan** and practise for the discussion so you are properly prepared (see the box below).



PLANNING AND TAKING PART IN DISCUSSIONS

1. Think about what you will talk about – it’s no good just having a chat! The discussion must be focused on the subject.
2. Decide on a subject and a question to discuss e.g. “What are the cost implications of using Planned Maintenance?”
3. Agree a time and place for the discussion.
4. Set aside 15–20 minutes for the meeting.
5. Make sure your tutor is there to assess it.



ASSESSMENT Your tutor will assess you on:

- speaking clearly
- keeping to the point
- giving relevant information
- listening to others
- using positive body language
- keeping the discussion going

STEP
D



GIVING A TALK (Level 2 only)

At Level 2 you must give a short talk to an audience (see your *Learner's Planner & Guide*, page 21 for detailed tips on how to give a good talk).

Although there are no hard and fast rules, a talk will normally follow the format given in the box below (in this case on the topic of "Why Use Planned Maintenance?")



It is a good idea to prepare prompt cards and material (e.g. pictures, PowerPoint etc) to illustrate your talk.



1. Think of a **title** e.g. "Why Use Planned Maintenance?"
2. **Introduction** – "What is meant by Maintenance?" and explain the procedures commonly used.
3. **Main section** – Highlight the pros and cons of each procedure.
4. **Conclusion** – give your opinion on the benefit of one system.
5. **Questions** – Seek comments from your audience.

TASK 8

Allow about
2 hours

GIVING A TALK OF AT LEAST 4 MINUTES ABOUT YOUR TOPIC

Note: This task is only relevant if you are doing Level 2.

Plan and prepare for your talk. Make sure the time and date is fixed and that your tutor can be there to assess it. Practise at home – it really does help!



ASSESSMENT Your tutor will assess you on:

- speaking and making your case clearly
- keeping to the point
- giving relevant information
- being well organised
- using positive body language
- answering questions clearly

ESSENTIAL SKILLS

ACTION BASED ACTIVITIES

STEP
E



PLANNING AND WRITING DOCUMENTS

Your portfolio must contain at least two different written or word-processed documents (see pages 12–13 in your *Learner's Planner & Guide*). At Level 2, one of them must be over 500 words long.

TASK 9

Allow about
2 hours

PLANNING AND WRITING ONE TYPE OF DOCUMENT ON YOUR CHOSEN TOPIC

1. Check what you already have in your portfolio. You should have notes of documents you have read and information gathered. You may find that you have already written a letter or short report which you can use as evidence of writing! Level 2 learners could review the document they produced at Task 6.
2. Decide on **one** type of document you will produce. For example, you might include a report on a survey you have carried out in your workplace or an advice leaflet you produced on protecting your lungs at work.



EXAMPLES OF DOCUMENTS YOU MIGHT WRITE ON 'ENGINEERING MAINTENANCE'

Short documents:

- a set of instructions designed for a training task
- a report of checks carried out on a piece of equipment
- a list of spare parts required

Longer documents:

- an article on why Planned Maintenance is used
- a structured report on a survey you carried out
- an essay outlining a maintenance procedure you have written

3. Start **WRITING** one type of document on your chosen topic. You are strongly advised to use a computer to do this as this will:
 - enable you to redraft work quickly and easily
 - make your work look more professional
 - make spell checking easy
 - provide opportunities to include images, tables, charts, graphs etc – you **MUST** include an **image**
4. **PROOF READ** your work carefully.

COMMUNICATION

TOPIC VC22 ENGINEERING MAINTENANCE



ASSESSMENT Your tutor will assess your work for:

- its relevance – sticking to the point
- its structure – it must be organised
- its style – easy to read and suited to the job

TASK 10 PLANNING AND WRITING A DIFFERENT TYPE OF DOCUMENT ON YOUR CHOSEN TOPIC

Allow about
2 hours

Repeat Task 9 for a different type of document on your chosen topic. **Level 2** learners should make sure that one of the documents is more than 500 words long. One document should contain an image you have used to illustrate a point made in your writing.



COMPILING THE FINAL PORTFOLIO

TASK 11 THE FINAL PORTFOLIO OF EVIDENCE

Gather together all your work and select from it the evidence needed to meet the requirements of the qualification. The minimum pieces of evidence you must produce are to be found on Page 3 of the Learner's Planner & Guide.

(Your tutor will help you with this task).

**ENGINEERING MAINTENANCE
MORE ACTION BASED ACTIVITY IDEAS**

1. Carry out a small survey of companies to establish what type of maintenance procedures they use. You could talk to some of the maintenance staff for advice.
2. Research and compare two or more types of maintenance procedure e.g. preventative against predictive.
3. Investigate types of fault diagnosis techniques used in maintenance.
4. Research common maintenance problems which occur with machinery.
5. Investigate safety issues around lack of maintenance. The company Safety Officer could be a useful source of accident records.
6. Look at long term employment issues around having a maintenance programme within a production environment. Company records and maintenance records could be possible sources for research.



PUBLISHED BY NORTHERN IRELAND COUNCIL FOR CURRICULUM, EXAMINATIONS AND ASSESSMENT



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