LEARNER GUIDE

Investigate the use of computer technology in an organisation

Unit Standard 14912

Level 3 Credits 6

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PERSONAL INFORMATION

NAME	
CONTACT ADDRESS	

Code	
Telephone (H)	
Telephone (W)	
Cellular	
Learner Number	
Identity Number	

EMPLOYER	
EMPLOYER CONTACT ADDRESS	

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Code	
Supervisor Name	
Supervisor Contact Address	

Code	
Telephone (H)	
Telephone (W)	
Cellular	
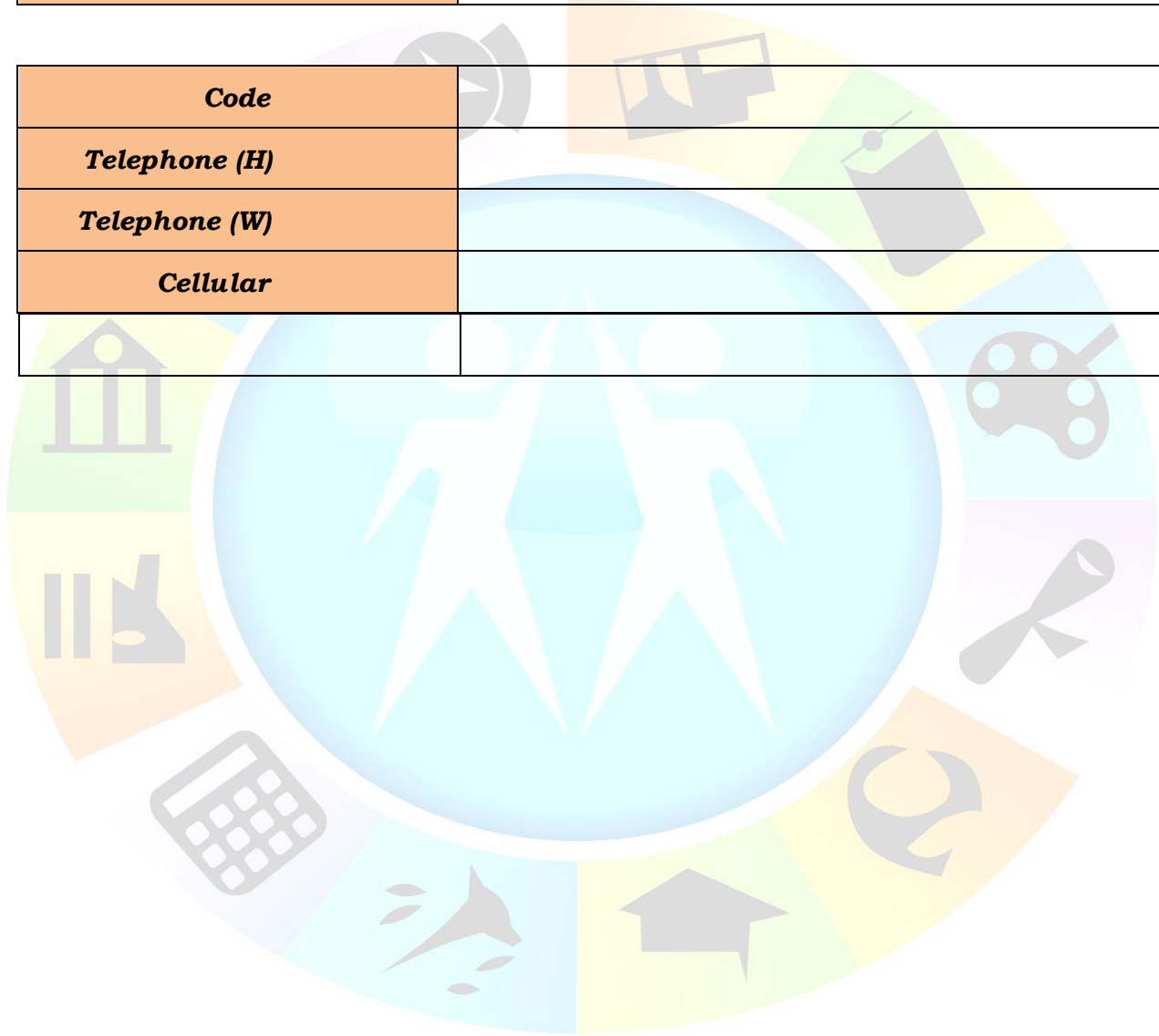
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INTRODUCTION

Welcome to the *learning programme*

Follow along in the guide as the training practitioner takes you through the material. Make notes and sketches that will help you to understand and remember what you have learnt. Take notes and share information with your colleagues. Important and relevant information and skills are transferred by sharing!

This learning programme is divided into sections. Each section is preceded by a description of the required outcomes and assessment criteria as contained in the unit standards specified by the South African Qualifications Authority. These descriptions will define what you have to know and be able to do in order to be awarded the credits attached to this learning programme. These credits are regarded as building blocks towards achieving a National Qualification upon successful assessment and can never be taken away from you!

Programme **methodology**

The programme methodology includes facilitator presentations, readings, individual activities, group discussions and skill application exercises.

Know what you want to get out of the programme from the beginning and start applying your new skills immediately. Participate as much as possible so that the learning will be interactive and stimulating.

The following principles were applied in designing the course:

- ✓ Because the course is designed to maximise interactive learning, you are encouraged and required to participate fully during the group exercises

- ✓ As a learner you will be presented with numerous problems and will be required to fully apply your mind to finding solutions to problems before being presented with the course presenter's solutions to the problems

- ✓ Through participation and interaction the learners can learn as much from each other as they do from the course presenter

- ✓ Although learners attending the course may have varied degrees of experience in the subject matter, the course is designed to ensure that all delegates complete the course with the same level of understanding

- ✓ Because reflection forms an important component of adult learning, some learning resources will be followed by a self-assessment which is designed so that the learner will reflect on the material just completed.

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This approach to course construction will ensure that learners first apply their minds to finding solutions to problems before the answers are provided, which will then maximise the learning process which is further strengthened by reflecting on the material covered by means of the self-assessments.

Different role players in delivery process

- ✓ Learner
- ✓ Facilitator
- ✓ Assessor
- ✓ Moderator

What Learning Material you should have

This learning material has also been designed to provide the learner with a comprehensive reference guide.

It is important that you take responsibility for your own learning process; this includes taking care of your learner material. You should at all times have the following material with you:

Learner Guide	*This learner guide is your valuable possession:*
	This is your textbook and reference material, which provides you with all the information you will require to meet the exit level outcomes.
	During contact sessions, your facilitator will use this guide and will facilitate the learning process. During contact sessions a variety of activities will assist you to gain knowledge and skills.
	Follow along in the guide as the training practitioner takes you through the material. Make notes and sketches that will help you to understand and remember what you have learnt. Take and share information with your colleagues. Important and relevant information and skills are transferred by sharing!
	This learning programme is divided into sections. Each section is preceded by a description of the required outcomes and assessment criteria as contained in the unit standards specified by the South African Qualifications Authority. These descriptions will define what you have to know and be able to do in order to be awarded the credits attached to this learning programme. These credits are regarded as building blocks towards achieving a National Qualification upon successful assessment and can never be taken away from you!

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Formative Assessment Workbook	The Formative Assessment Workbook supports the Learner Guide and assists you in applying what you have learnt.
	The formative assessment workbook contains classroom activities that you have to complete in the classroom, during contact sessions either in groups or individually.
	You are required to complete all activities in the Formative Assessment Workbook.
	The facilitator will assist, lead and coach you through the process.
	These activities ensure that you understand the content of the material and that you get an opportunity to test your understanding.

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Different types of activities you can expect

To accommodate your learning preferences, a variety of different types of activities are included in the formative and summative assessments. They will assist you to achieve the outcomes (correct results) and should guide you through the learning process, making learning a positive and pleasant experience.

The table below provides you with more information related to the types of activities.

Types of Activities	*Description*	*Purpose*
Knowledge Activities	You are required to complete these activities on your own.	These activities normally test your understanding and ability to apply the information.
Skills Application Activities	You need to complete these activities in the workplace	These activities require you to apply the knowledge and skills gained in the workplace
Natural Occurring Evidence	You need to collect information and samples of documents from the workplace.	These activities ensure you get the opportunity to learn from experts in the industry. Collecting examples demonstrates how to implement knowledge and skills in a practical way

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Learner Administration

Attendance Register

You are required to sign the Attendance Register every day you attend training sessions facilitated by a facilitator.

Programme Evaluation Form

On completion you will be supplied with a "Learning programme Evaluation Form". You are required to evaluate your experience in attending the programme.

Please complete the form at the end of the programme, as this will assist us in improving our service and programme material. Your assistance is highly appreciated.

Assessments

The only way to establish whether a learner is competent and has accomplished the specific outcomes is through the assessment process. Assessment involves collecting and interpreting evidence about the learners' ability to perform a task.

To qualify and receive credits towards your qualification, a registered Assessor will conduct an evaluation and assessment of your portfolio of evidence and competency.

This programme has been aligned to registered unit standards. You will be assessed against the outcomes as stipulated in the unit standard by completing assessments and by compiling a portfolio of evidence that provides proof of your ability to apply the learning to your work situation.

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How will Assessments commence?

Formative Assessments

The assessment process is easy to follow. You will be guided by the Facilitator. Your responsibility is to complete all the activities in the Formative Assessment Workbook and submit it to your facilitator.

Summative Assessments

You will be required to complete a series of summative assessments. The Summative Assessment Guide will assist you in identifying the evidence required for final assessment purposes. You will be required to complete these activities on your own time, using real life projects in your workplace or business environment in preparing evidence for your Portfolio of Evidence. Your Facilitator will provide more details in this regard.

To qualify and receive credits towards your qualification, a registered Assessor will conduct an evaluation and assessment of your portfolio of evidence and competency.

Learner Support

The responsibility of learning rests with you, so be proactive and ask questions and seek assistance and help from your facilitator, if required.

Please remember that this Skills Programme is based on outcomes based education principles which implies the following:

- ✓ You are responsible for your own learning – make sure you manage your study, research and workplace time effectively.

- ✓ Learning activities are learner driven – make sure you use the Learner Guide and Formative Assessment Workbook in the manner intended, and are familiar with the workplace requirements.

- ✓ The Facilitator is there to reasonably assist you during contact, practical and workplace time for this programme – make sure that you have his/her contact details.

- ✓ You are responsible for the safekeeping of your completed Formative Assessment Workbook and Workplace Guide

- ✓ If you need assistance please contact your facilitator who will gladly assist you.

- ✓ If you have any special needs please inform the facilitator

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Learner Expectations

Please prepare the following information. You will then be asked to introduce yourself to the instructor as well as your fellow learners

Your name:
The organisation you represent:
Your position in organisation:
What do you hope to achieve by attending this course / what are your course expectations?

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UNIT STANDARD 14912

Unit Standard Title

Investigate the use of computer technology in an organisation

Unit Standard ID

14912

NQF Level

3

Credits

6

Purpose

This unit standard is intended:

- ✓ To provide knowledge at a proficient level, of the areas covered.
- ✓ For those working in, or entering the workplace in the area of Information Systems & Technology Management.
- ✓ As additional knowledge for those wanting to understand the areas covered

People credited with this unit standard are able to:

- ✓ Plan an investigation of the use of computer technology in an organisation.
- ✓ Conduct an investigation of the use of computer technology in an organisation.
- ✓ Describe the use of computer technology in the chosen organisation.
- ✓ Evaluate the use of computer technology in the chosen organisation.
- ✓ Present the results of the investigation of the use of computer technology in the chosen organisation.

The performance of all elements is to a standard that allows for further learning in this area.

Learning assumed to be in place

The credit value of this unit is based on a person having prior knowledge and skills to:

- ✓ Communicate in English (or the applicable language) at least at NQF level 3
- ✓ Describe the management and use of computers in an organisation.
- ✓ Conduct a predictable one-to-one interview.
- ✓ Present a computer topic using computer technology.

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Unit standard range

N/A

Specific Outcomes and Assessment Criteria

Specific Outcome 1: Plan an investigation of the use of computer technology in an organisation. Identify an organisation, the contact person, scope & objectives, and milestones

Assessment Criteria

- ✓ The plan identifies the scope and objectives of the investigation.
- ✓ The plan identifies an organisation that has agreed to be investigated
- ✓ The plan identifies requirements of the investigation from the organisation.
- ✓ The plan is accepted by the primary contact person from the organisation.
- ✓ The plan specifies milestones and reporting requirements.

Specific Outcome 2: Conduct an investigation of the use of computer technology in an organisation. .

Assessment Criteria

- ✓ The investigation proceeds according to the investigation plan.
- ✓ The investigation justifies any modifications to the plan: Reasons; Cost-Benefit; Timeframes
- ✓ The investigation indicates progress at planned intervals. Milestones are adhered to. Reports presented per milestones

Specific Outcome 3: Describe the use of computer technology in the chosen organisation.

Assessment Criteria

- ✓ The description identifies the planning procedures used for implementation of computer technology. Initial investigation, Analysis, Feasibility, Design, Testing, Implementation
- ✓ The description identifies the computer systems in use within the organisation. CPU type, Peripherals, Configurations, Networks, Software
- ✓ The description outlines the personnel involved in the provision of computer systems. IT Managers, Vendors

Specific Outcome 4: Evaluate the use of computer technology in the chosen organisation.

Assessment Criteria

- ✓ The evaluation identifies the strengths of the computer systems in use. Ability of system to meet user requirements (Computer architecture, hardware, software)
- ✓ The evaluation identifies areas of future developments based on weakness and anticipated future needs. Ability of system to meet user requirements (Computer architecture, hardware, software)

Specific Outcome 5: Present results of an investigation of the use of computer technology in the chosen organisation.

Assessment Criteria

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- ✓ The presentation meets the objectives of the investigation plan.

- ✓ The results of the investigation are reviewed for accuracy with the organisation.

- ✓ The presentation communicates the results of the investigation to peers. Appropriate reports are presented, following industry-accepted formats

Unit Standard Essential Embedded Knowledge

- ✓ Performance of all elements is to be carried out in accordance with organisation standards and procedures, unless otherwise stated. Organisation standards and procedures may cover: quality assurance, documentation, security, communication, health and safety, and personal behaviour. An example of the standards expected is the standards found in ISO 9000 Certified Organisations.

- ✓ Performance of all elements complies with the laws of South Africa, especially with regard to copyright, privacy, health and safety, and consumer rights.

- ✓ All activities must comply with any policies, procedures and requirements of the organisations involved, the ethical codes of relevant professional bodies and any relevant legislative and/ or regulatory requirements.

Critical Cross-field Outcomes (CCFO)

Unit Standard CCFO Working: Work effectively with others as a member of an organisation

Unit Standard CCFO Organizing: Organise and manage him/her self and his/her activities responsibly and effectively

Unit Standard CCFO Collecting: Collect, analyse, organise, and critically evaluate information

Unit Standard CCFO Science: Use science and technology effectively and critically, showing responsibility towards the environment and health of others

Unit Standard CCFO Contributing: Contribute to his/her full personal development and the social and economic development of the society at large by being aware of the importance of: reflecting on and exploring a variety of strategies to learn more effectively, exploring education and career opportunities and developing entrepreneurial opportunities.

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PLAN THE INVESTIGATION

Specific Outcome:

Plan an investigation of the use of computer technology in an organisation

Assessment Criteria:

- ✓ Identify the scope and objectives of the investigation and show it in the plan.
- ✓ Ensure that the plan identifies an organisation that has agreed to be investigated.
- ✓ Ensure that the plan identifies requirements of the investigation from the organisation.
- ✓ Ensure that the plan is accepted by the primary contact person from the organisation.
- ✓ Ensure that the plan specifies milestones and reporting requirements.
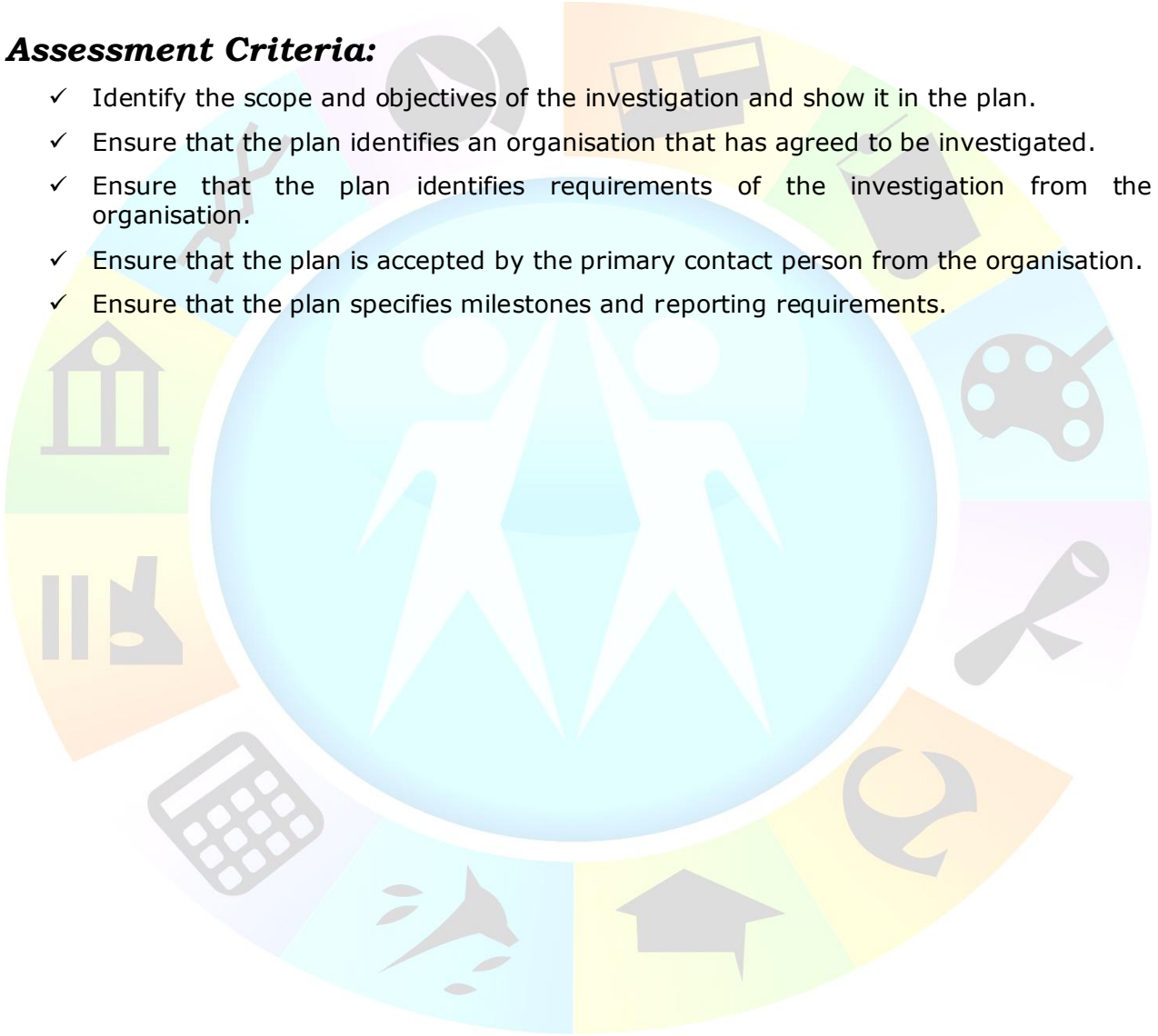
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Importance Of Technology

In our modern times we are extremely dependant on computer technology. Ask yourself this question: where would we be in the office environment, factories, airports, aeroplanes, ships and ports, traffic control and just everyday life without computers? Where would we store data such as client lists and information? In factories we need computers to run and control a lot of the machinery, and in air control centres to track and land aeroplanes. We use these systems to perform or lighten certain tasks for us on a daily basis. Without computers and their applications we wouldn't even be able to send an email or type a letter.

You need to keep this in mind when you are consulting an organisation. They are dependant on computer technology in many ways. You need to make your visit, whether an investigation or implementation of a solution, as comfortable and fast as possible and at the same time deliver quality service.

You will have to plan ahead and schedule time for each workstation.

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Identify An Organisation To Investigate

In this unit standard you will need to identify and contact an organisation that you will investigate in order to complete your assignment. You will have to contact an organisation by phone, make an appointment, and explain over the phone why you would like to see them and what your intentions are.

You will achieve this by doing the following:

Schedule A Meeting

- ✓ First decide on an organisation that you would like to investigate. We will use ABC Parts Centre as an example. They sell and distribute automotive parts.

- ✓ Get their general telephone number, e.g. the switchboard.

- ✓ Ask the secretary who the person is that you should speak to.

- ✓ Be sure to have a pen and paper ready to write down the name and extension of the relevant person.

- ✓ When speaking to this person e.g. Mrs. B. Otto, explain to her what your intentions are and that you would only do an investigation to complete your assignment.

- ✓ If she agrees, schedule a meeting by setting a date and time when it would be convenient for both parties, meaning you and the organisation.

- ✓ Write it down and be sure to not to forget, or be late for the meeting.

Explain The Need For The Investigation

- ✓ When you get to a meeting, your objective is to sell a solution to the organisation, even though you are not really going to implement the solution in this assignment.

- ✓ You will have to convince the organisation that they need your service and that by utilising your services their working environment will improve and worker productivity will increase.

- ✓ Put emphasis on important points that are relevant to the specific organisation that you are working with.

Here are a couple of tips:

- ✓ In the example of ABC Parts Centre, convince them that their workers will save a lot of time on new equipment. Latest models operate at a faster rate.

- ✓ New models like a Pentium 4, with a 40-gigabyte or more hard drive will be able to handle more information.

- ✓ A new hard drive does not pose such a big risk in crashing.

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- ✓ If the organisation is willing to spend a little more you can suggest Pentium processors instead of Celeron, which will also increase the speed at which the computer operates.

- ✓ A later model computer will also enable the company to install the latest software.

- ✓ New and latest software is designed to be more user friendly and has more features. This will also increase worker productivity that will result in parts going to the dealer faster and more effective information will be gathered.

- ✓ Later model motherboards come with USB hubs. This will increase the compatibility of the computers and most peripherals like printers and flash drives.

- ✓ In general USB hubs are more reliable than other ports, such parallel ports, on a motherboard.

- ✓ Using flash drives you also have a more reliable portable storage system. Flash drives are so much better than writable or rewritable cd's and stiffy's.

- ✓ You can store information on a flash drive, lock it so no changes can be made and when finished with the information delete it again so you never lose the amount of memory available on the flash drive.

- ✓ Once you've got a foot in the door you are going to do your investigation according to a checklist.

- ✓ Identify problem areas and areas that need no attention.

- ✓ Make notes of these points.

- ✓ When you are done, give Mrs. Otto a short report of what you found.

- ✓ Prepare your complete solution and give a detailed feedback report with all the problem areas and solutions or suggested improvements to Mrs. Otto.

- ✓ You will have to put your suggestions in a strong light to make the client believe they need to make these changes to their computer systems.

- ✓ After giving her your full report, and the client is convinced, you need to get approval to go ahead with the solution that you have come up with.
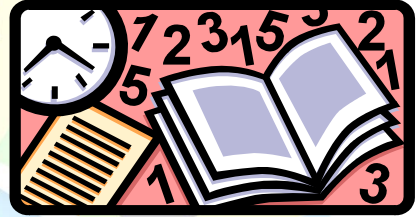
Plan the Investigation

In every instance where you are going to modify or setup computers according to an organisations needs you will need to plan ahead and investigate to determine the needs of the organisation.

When you are planning an investigation, there are a couple of fundamental things you need to look at to set a scope for yourself and the client:

1. What type of organisation are you working with?

2. How big or small is the organisation?

3. Do you have the relevant contact information?

4. Have you made an appointment?

5. How much time can you spend doing the investigation without disturbing the employer and employees too much?

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6. How many potential users does the organisation have?

7. Are all the existing users (if any) aware of your visit?

8. What are the needs of the users?

9. Find out what the building layout looks like and where all the workstations are.

10. Set certain points of importance to investigate at each workstation.

11. Set time limits for each workstation.

12. Determine how much the organisation is willing to pay for your services.

The easiest way to determine all these factors is to set up a checklist for yourself. Your checklist will most probably look different for each organisation that you are going to consult or investigate.

Example:

Investigation Checklist:

Question	Information gathered	Comments and hints
Organisation Name:	ABC Parts Centre	
1. What type of organisation are you working with?	This organisation sell and distributes parts	
2. How big or small is the organisation?	The organisation has 23 employees	Find out how many employees are computer literate and how many of the 23 employees will actually need a computer
3. Relevant contact person:	Mrs. B. Otto Tel: (012) 529 6000	Make sure your contact person is the relevant one in order to avoid any misunderstandings
4. Have you made an appointment?	Yes, 20 January 2012 11:30 225 Earl street, Roslyn.	Make a note of your appointment. Write the date and time down on your checklist.
5. How much time can you spend doing the investigation without disturbing the employer and employees too much?	The employees work from 7:00 till 16:30 with an hour lunch break.	Try to arrange with the employees to take lunch at different times of the day so you can investigate their workstation while they are

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		on lunch.
6. How many potential users does the organisation have?	One employee is a tea lady, and one does maintenance. The organisation has 21 potential users	This will be clear after completing step 2.
7. Are all the existing users (if any) aware of your visit?	Send the relevant person a letter to hand out to all the employees notifying them of your visit. Be sure to send the letter at least a week (5-7 working days) before hand to ensure that they have enough time to prepare.	Request in the letter that they take lunch at different times and to send you a schedule with who take lunch at what time, and which work station is theirs
8. What are the needs of the users?	In this example, the users work with parts. They will need a database. In this case the organisation uses Excel.	Depending on the size these types of organisations can use anything from Excel, Access or enterprise level will use SAP.
9. Find out what the building layout looks like and where all the workstations are.	The building exists of two stories. 12 users are sitting downstairs and 9 are upstairs.	This is important to know in order to save time. If you don't have this information when you are conducting the actual investigation allot of time might be wasted by getting lost.
10. Set certain points of importance to investigate at each workstation	In this case you will check the following things: The model and type of computer The operating system on the computer If the user has Excel	In this example the user will need a type of database programme like Excel. Make sure that MS Office is loaded on the computer, if not you will suggest that it should be installed in your report.
11. Set time limits for each workstation.	Each workstation should take more or less 15 min. To get the relevant information, right click on My Computer - scroll down to Properties – click on the General tab. There you will find what model and type of computer it is, who the computer is registered to and what operating system is loaded on the computer.	The initial investigation will be very short. We just need to find out the basics like what type of operating system they are using and what type of computer.

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12. Determine how much the organisation is willing to pay for your services.	You have to reach an agreement with the organisation of what they will pay you, in other words you need to give them a quote.	Become familiar with the average prices that are set in the market. Go to 2 or 3 IT companies and find out what they would quote for the same organisation. **Important:** don't give your leads away! They might give the organisation a cheaper quote and you could lose business.

To check the details of the computer:

- ✓ Click on Start, right click on computer, scroll down and click on Properties. The Properties window will display

- ✓ You will be able to see the computer information here, hardware and operating system

Getting Approval

- ✓ Once the client is convinced they need your services you need to set up an approval form.
- ✓ Be sure to include all the points that you plan on implementing on the form.

Here's an example of a form you could use:

Task to be completed:	**Comments:** (here you will fill in your own	**Estimated time it will take:** (here you will fill in your own

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(here you will fill in your own tasks)	comments)	time estimates)
1. Planning the location of the computer for each workstation	You need to look at each workstation layout. How will you place the computer for each employee? Desk size and position will vary from workstation to workstation and between organisations as well.	15 min per workstation 10 January 2012
2. Installing power points if necessary.	In some instances there will not be a plug available at some of the desks where you are going to deploy a computer. There is a couple of ways to deal with this. If you are not qualified to work with electricity you can subcontract an electrician or request that the organisation's maintenance team installs the plugs in time for your implementation.	This will depend on how you want the power points to be installed. If you use extensions it will take less time although having power points built into the walls will look neater. It will be more costly though. (find out how long it will take from electrician) The date and duration will vary depending on the option you choose. Suppose it takes a week, then the date would be 10-14 January 2012
3. Installing new computers at employees desks or workstation	In this example we will use computers that have already been assembled. This will mean you will need to place the assembled box, screen, keyboard and mouse on a strategic and comfortable place for the worker.	15 min per workstation 17 January 2012
4. Installing software	In most cases you will install Windows XP, or sometimes Linux	The installation time will also vary depending on the type of computers you and the organisation decided to purchase that is suitable for them. If you are installing Windows it will be an estimated time of 30 – 45 min. 17 January 2012

5. Customizing the personal settings	You will probably need to set up at least one internet connection and then an e-mail address. Depending on the company	20 – 30 min per workstation. 17 January 2012

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	policy you have to set up passwords. It is a good idea to start all the users on the same simple password e.g. password123 and let them personalize it themselves. A lot of companies prohibit having passwords. Remember to find out these details beforehand.	
Total time: 10 – 17 January 2012 **Name: Mrs. B. Otto** (Of relevant person)	_____ **Signature**	_____/_____/_____ **Date**

Hint: It is very important to be sure of the approval given to go ahead with the implementation! If the wrong person gives you approval you might end up implementing your solution and not getting paid for the work that has been done. Be sure to let the correct person sign an approval form containing all the details of what you plan on doing.

Specify Milestones And Reporting Requirements

Once you start implementing your plan, it is very important to keep good and open communication with the client. You should frequently give feedback to the organisation/relevant person telling them about the progress being made or delays and what is causing the delay.

You can use your approval form as your action plan since you stated all the actions on it. You will probably have to customise it slightly.
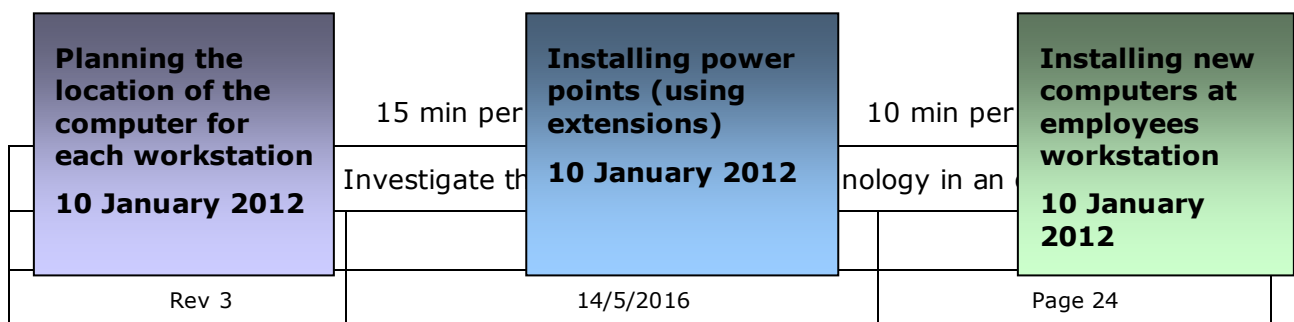
Each of the points you put down on the approval form will now become a milestone. A milestone is a major event in your project plan. There will be certain time limits between every milestone. The time limits will be the ones you set between your tasks.
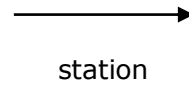
Example:

First milestone   Second milestone   Third milestone

Planning the location of the computer for each workstation **10 January 2012**	15 min per Investigate th	**Installing power points (using extensions)** **10 January 2012**	10 min per nology in an	**Installing new computers at employees workstation** **10 January 2012**

→ station   → station
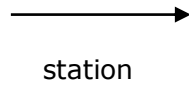
Since the time between all these milestones is so short you will complete them all on the same day. With a bigger project, the milestones will be further apart. The time between milestones has virtually no limit. It could even be your long-term life plan between when you are 25 and want to retire and buy a yacht when you turn 50.   Buying the yacht would be your last milestone in your long-term project or life plan.
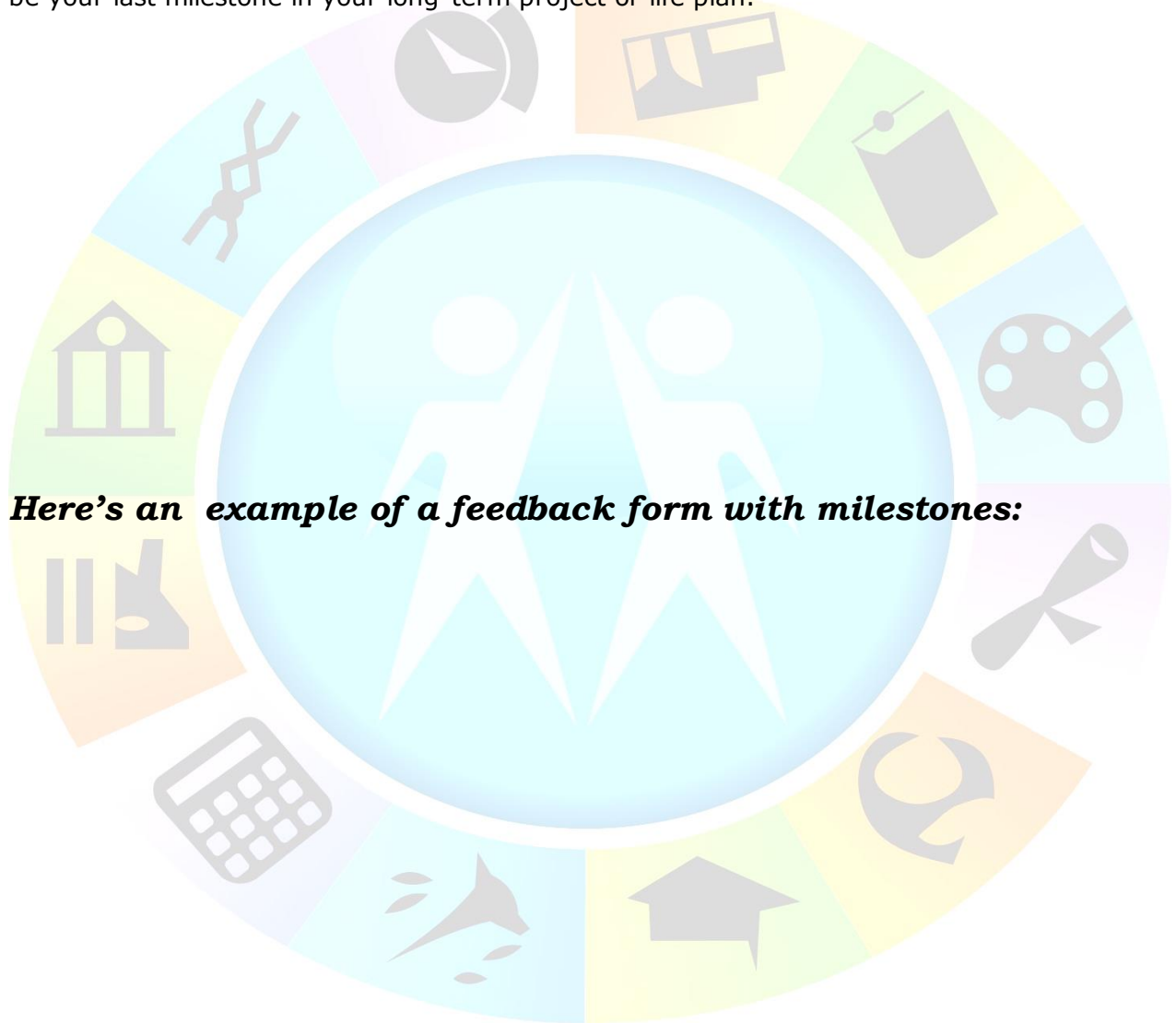
Here's an example of a feedback form with milestones:

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Milestones:	Was time limit met?	Notes:
1. Planning the location of the computer for each workstation	Yes/No 15 min per workstation	Here you can make notes. If the deadline was met, give details of your planning and progress. If the deadline was not met state the reasons why.
2. Installing power points if necessary.	Yes/No	Give progress reports as it goes along, depending on the method you and the client chose to implement.
3. Installing new computers at employees desks or workstation	Yes/No 15 min per workstation	Give the client a detailed report of why and how you placed the computers at each workstation.
4. Installing software	Yes/No 30 – 45 min per workstation	State in your report whether there was any complications with the installation on any of the new machines. Specify which machine it was.
5. Customising the personal settings	Yes/No 20 – 30 min per workstation.	Depending on the client's needs, give a detailed report on if the settings were implemented as discussed by you and the client and if you met the deadline.

Formative Assessment 1

Get a quote and time estimate from an electrician on the following points:

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- How much it would cost to install 10 power points in a brick wall, with an estimated distance of 3m between each plug.
- How much it would cost to install the same plugs in an office with dry walling.
- Also get a quote for a computer with the following: Packard Bell Model:G530 (or similar), Celeron dual core 2,4GHz processor or similar, 4GB RAM, Dual layer DVD writer, 1TB Hard Drive (with ADSL each computer won't need a modem, ADSL modems are external and you need only one for smaller networks.
- Get the same quote for 10 computers. See if you can get discount if you buy so many at the same time.
- Identify an organisation to be investigated. Draw up a checklist as per the example in the learner guide.
- Draw up an investigation checklist.
- Draw up an approval form
- Schedule a meeting with the organisation.
- Draw up a feedback form with milestones.

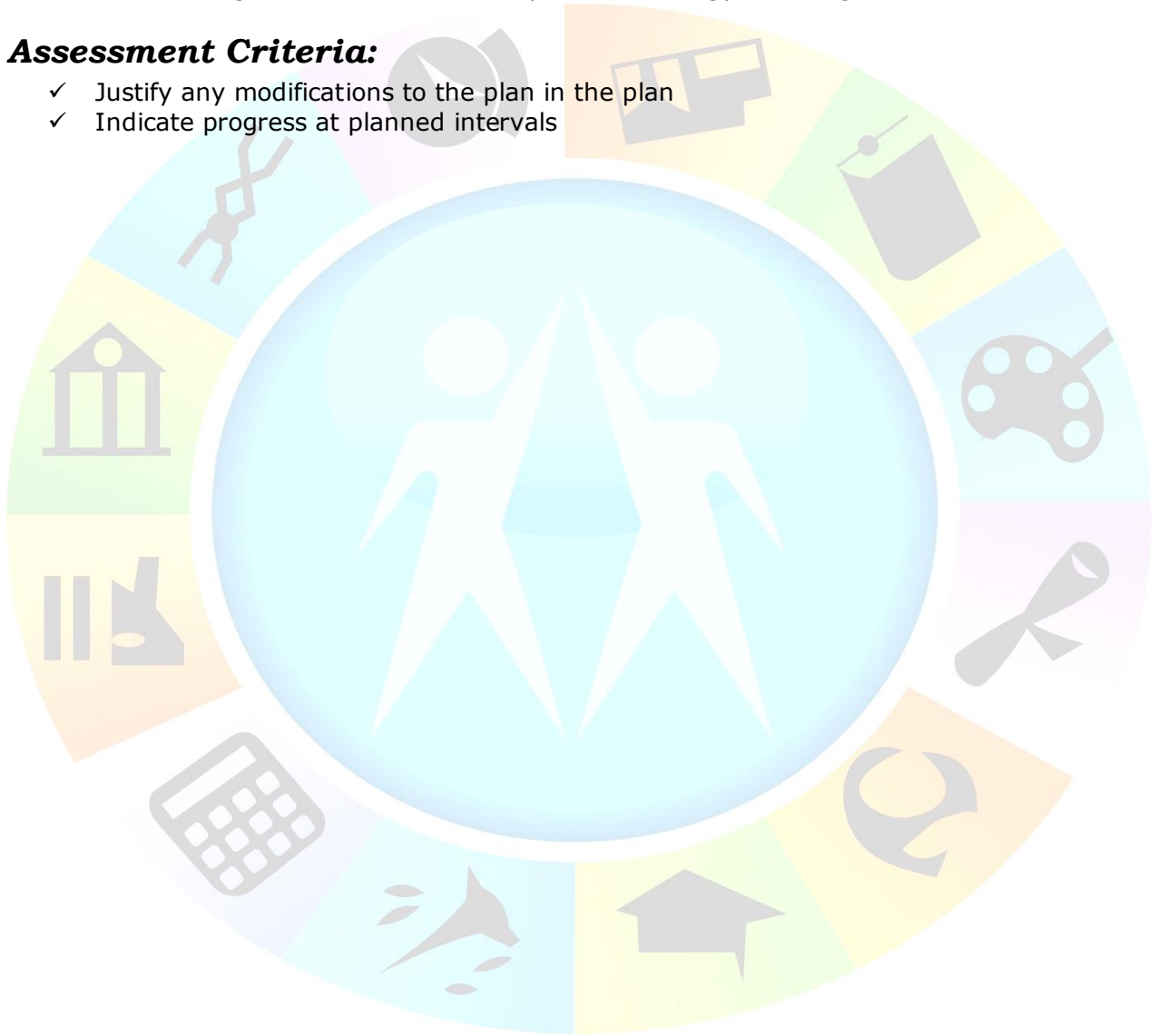| Unit Standard 14912: Investigate the use of computer technology in an organisation		
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CONDUCT AN INVESTIGATION

Specific Outcome:

Conduct an investigation of the use of computer technology in an organisation. .

Assessment Criteria:

✓ Justify any modifications to the plan in the plan
✓ Indicate progress at planned intervals

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Modifications To The Plan

As you go along with either the investigation or carrying out the solution you might come across some things you would like to change or sometimes have to change it. It could be from you side or the organisation. Here's an example:

In your task list number 5 is to change personal settings, one of which is to set up an Internet connection. In the initial agreement you and the organisation decided that they want an ISDN line. An ISDN line is a dialup connection. That means you are charged separately for every time you go on the Internet, and the time that you spend on the Internet.

Now, a week later the organisation has doubts about the decision and asks you to find out if it would be more cost effective to set up an ADSL line, give them a cost breakdown and if it is more effective to rather set up an ADSL line rather than an ISDN line. An ADSL line is a permanent Internet connection. You can disconnect, but you don't pay for the re-connection when you go online again. You pay a holistic amount each month for a permanently running Internet feed. Both these Internet lines are products of Telkom.

You will need to show the difference in time it will take to set up the two lines, the difference in cost and the benefits of both these lines.

 The breakdown below is just an estimate.

|	ISDN	ADSL
Time it will take	ISDN lines take more or less 2 weeks to install. It dials form your normal home line so it doest take so much time to install.	There is a waiting period of 6 weeks starting on the day you request Telkom to install the line.
Cost	You will pay a monthly fee to Telkom for a standard telephone line and then you will pay for each time you use the Internet. It is more or less R40 an hour. It will all depend on how much time the employees will spend on the Internet daily. An average of 3 hours per day works out to R120 per day, multiplied by an average of 22 working days in a month amounts to R2640 per month. You will also pay an additional fee to an Internet Service Provider (ISP) of round about R125 per month, depending on which service provider you use. There are a couple at the moment: Mweb, @lantic and some others. (these prices are all just estimates	An ADSL line has a monthly cost of about R740 per month. You also have to have a ISP. Their fees are normally included in the R740. The obvious choice would be the ADSL line. Especially if the organisation eventually decides to put all the computers on a network. You can give all those computers permanent Internet feed with one ADSL line. (these prices are all just estimates and are likely to change at least once a year)

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	and are likely to change at least once a year)	
Benefits	ISDN is cheaper if you don't spend a lot of time on the Internet and don't send and receive large mails. It is not really suited for business purposes.	ADSL can give permanent Internet feed to a small network instead of one computer at a time. It can handle larger mails or downloads. It is a significantly faster connection. If you spend allot of time on the Internet it works out allot cheaper to pay a once off amount.

Formative Assessment 2

- Phone Telkom and get a quote and time it will take to install an ISDN line.
- Phone Telkom and get a quote and time it will take to istall an ADSL line.
- Phone an ISP and find out how much they charge for an ISDN and ADSL connection.
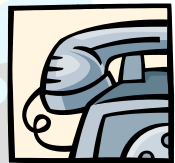
Indicate Progress At Planned Intervals

It is very important that you make sure that you are running according to schedule. No client will ever be happy with a job that takes longer than the time you promised initially. You can do this by keeping track of the milestones that you set. All you have to do is modify your milestone form. As you perform the steps, record any important information on the form. Why there was delays, if something went wrong, what went wrong, why it went wrong and so on.

| **Milestones:**	**Initial time that was set:**	**Was the task performed in time limit?**
1. Planning the location of the computer for each workstation	15 min per workstation	Yes/No If not, list the reasons why.
2. Installing power points if necessary.	2 days	No Electrician could not come on 10 January and arrived a day later.

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3. Installing new computers at employees desks or workstation	15 min per workstation	Yes/No If not, list reasons why.
4. Installing software	30 – 45 min per workstation	Yes/No If not, list reasons why.
5. Customizing the personal settings	20 – 30 min per workstation.	Yes/No If not, list reasons why.

Formative Assessment 3

Write a report per milestone that you set for yourself during the planning for installations at an organisation. Put down three things that could go wrong with each milestone.
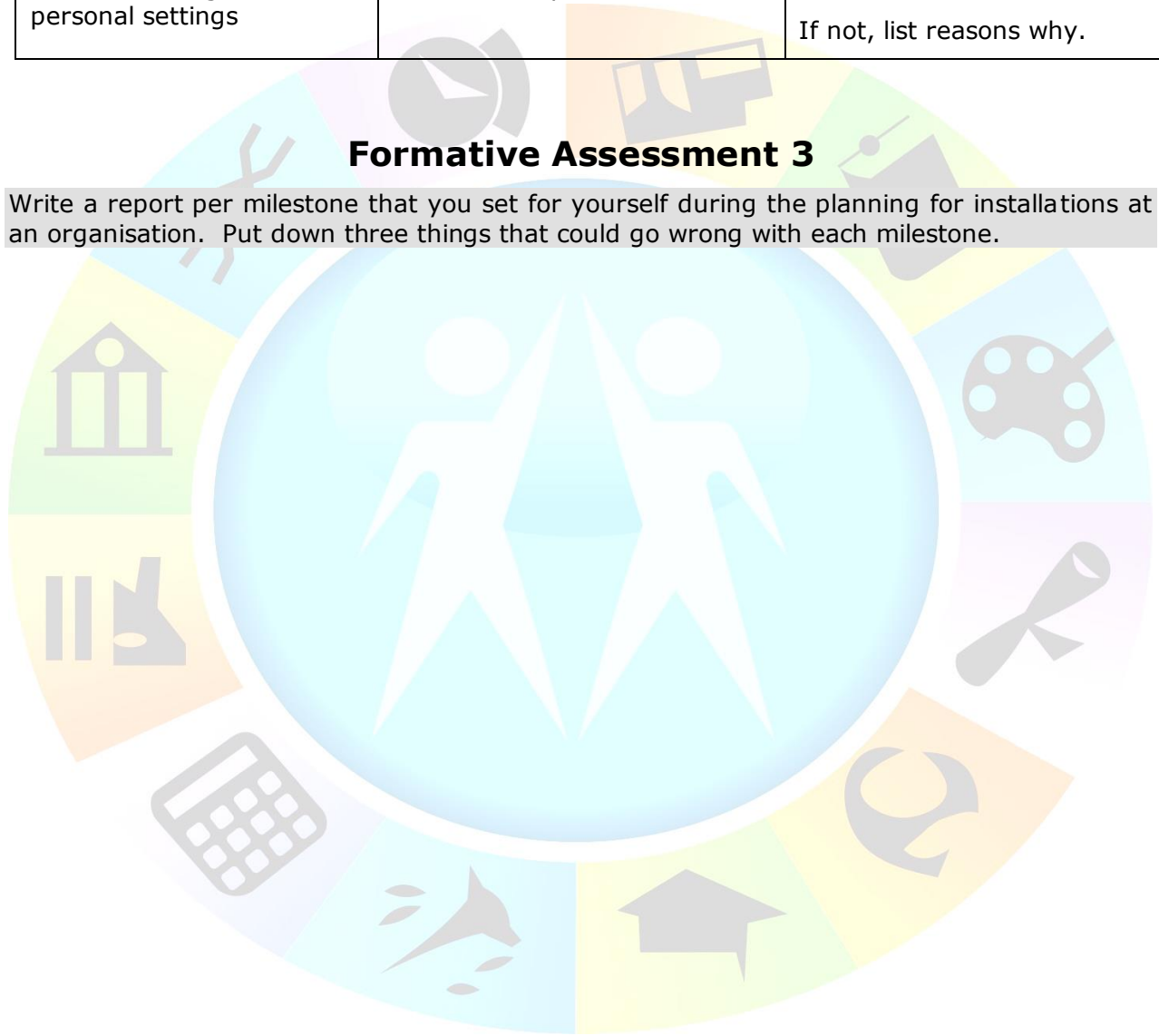
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DESCRIBE THE USE OF COMPUTER TECHNOLOGY

Specific Outcome:

Describe the use of computer technology in the chosen organisation.

Assessment Criteria:

✓ Describe and identify the planning procedures used for implementation of computer technology.
✓ Identify the computer systems in use within the organisation.
✓ Outline the personnel involved in the provision of computer systems.

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The Planning Procedures Used

When you started this investigation, there were a couple of things to consider in order for your investigation and plan to work. Let's take a look at how everything came together:

- ✓ First you found an organisation willing to participate in the investigation
- ✓ Second you sheduled meetings with relevant persons
- ✓ Then you planned your investigation according to the needs of the organisation
- ✓ Then you conducted the investigation,
- ✓ You also looked at the design of the office space, type of work that needs to be done on the computers and had a small interview with each user, and
- ✓ Made suggested improvements and discussed the feasibility of the changes with the relevant person in the organisation,
- ✓ At the end of the day you got the business and signed a contract to actualy implement the suggested improvements.

Computer Systems In Use

You have to be able to identify a couple of things when doing an investigation.

- ✓ You have to know what a CPU looks like and what type it is,
- ✓ The different peripherals the organization is using like printers,
- ✓ The networks and configuration that already exists and
- ✓ The current software they are using.

CPU:

The CPU is the Central Processing Unit.

- ✓ The CPU is an advanced microprocessor. A microprocessor performs calculations on data and determines what to do with the results of those calculations (logic control)
- ✓ The CPU is sent instructions by the computer's software. The CPU processes many instructions per second and passes the results to other components of the computer. The speed at which the CPU works is the main factor influencing the performance of the computer.
- ✓ To process an instruction, the CPU retrieves data from storage. Data that is required urgently by the CPU is usually stored in memory storage. When the CPU has completed the instruction, the data is written back to storage and the CPU moves on to the next instruction. Following on from some instructions, the CPU may update other components (for example, to change the computer's display)
- ✓ The CPU's activities are coordinated by a clock, which is used to synchronize all the internal processes within the CPU. The unit of time for each movement of data within the CPU is called a cycle. Clock speed is measured in megahertz (MHz) or in the latest CPU is called a cycle. One megahertz equals one million cycles per second.

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✓ The best known manufacturers of CPU's are Intel (Pentium and Celeron CPU's). This manufacturers often release faster CPU's. At the time of writing, CPU's on sale range from 2.6GHz to over 4.8GHz. Most Office software applications require a CPU of at least 2.6GHz to run efficiently. Newer software requires much greater processing power.

✓ Special design features in some processors enable them to perform certain tasks more quickly. Given two different processors running at the same clock speed, one may be faster when searching a database, while the other may be faster when displaying complex graphics.

✓ Because the CPU runs much more quickly than other components, the performance of the system can be affected if it cannot get instructions to and from the CPU efficiently. Immediate access memory (or cache) is often incorporated into the CPU or motherboard to maintain a consistent flow of data to and from the CPU.

✓ The CPU is assisted by many other microprocessors in other components. For example, an advanced microprocessor is often used on the graphics card, enabling the computer to display complex and realistic 3D graphics. These can also have a large impact on the system's performance of certain tasks.

The Definition for CPU is: a programmable logic device that performs all the instruction, logic and mathematical processing in a computer.
(www.ontrack.com/glossary)

Peripherals

Peripherals range from a printer, copy machine, scanner, modem, plug and play devices like a joystick, to digital cameras. Almost anything you **plug** into a computer. Most of these devices need drivers that you have to install. Usually you get a driver CD with the device when you purchase it. Windows also has some drivers already built into the operating system. If you don't have either you can search for drivers on the Internet. There devices need to be set up if you want more than one user to be able to use it on a network.
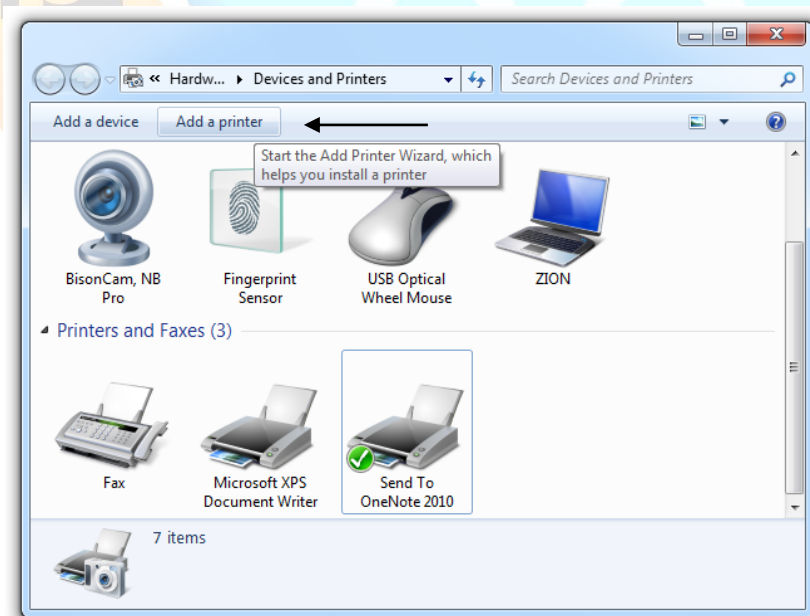
Setting up a printer:

In Windows XP you would go to the start menu and click on printers and faxes, in Windows 2000, click on the Start button – Settings – Printers – Add printer, in Windows 7, click on Start, Devices and Printers, Add Printer.

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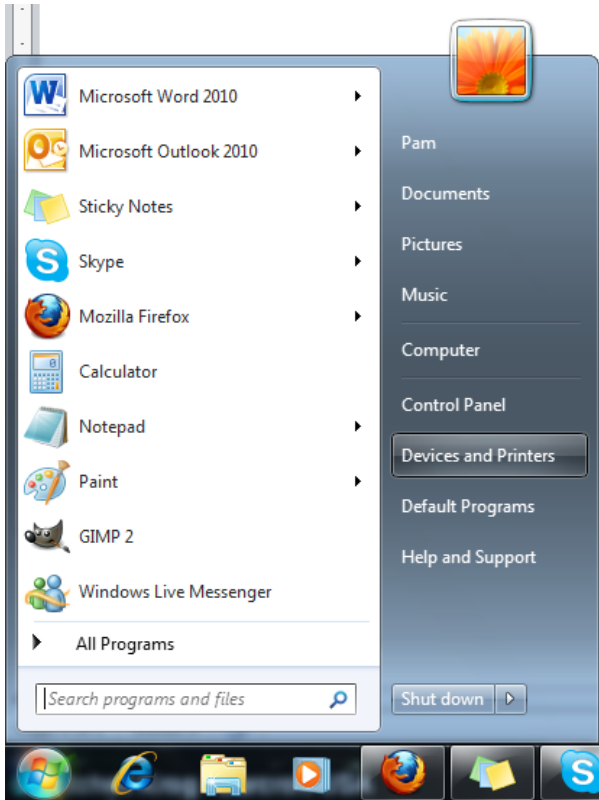
- Click Add a printer.

- In the Add Printer wizard, click Add a local printer.

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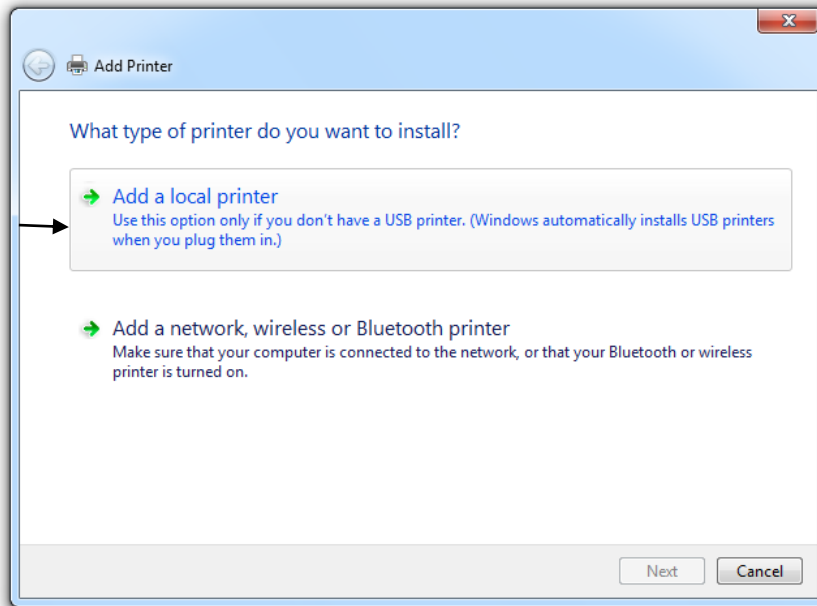
- On the Choose a printer port page, make sure that the Use an existing port button and the recommended printer port are selected, and then click Next.

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- On the Install the printer driver page, select the printer manufacturer and model, and then click Next.
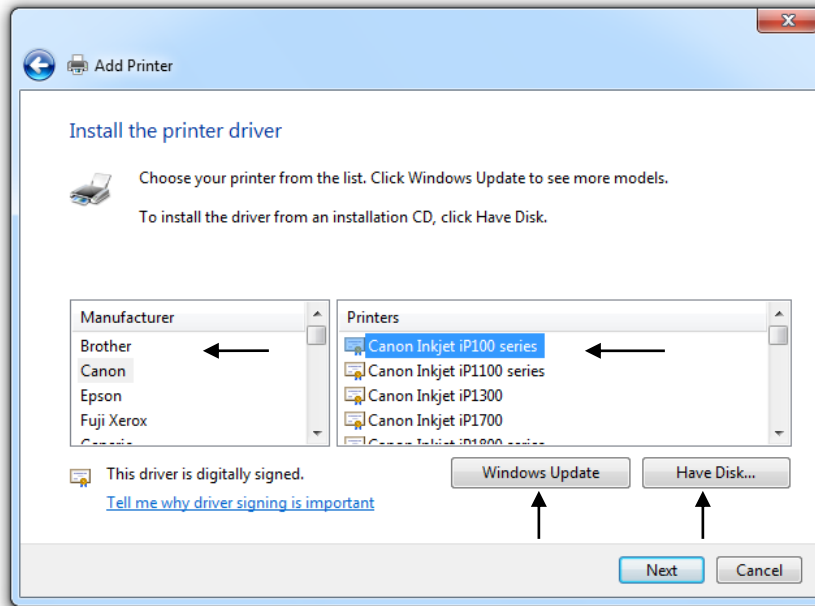
- If your printer isn't listed, click Windows Update, and then wait while Windows checks for additional drivers.

- If none are available and you have the installation CD, click Have Disk, and then browse to the folder where the printer driver is located. (For additional help, consult the printer manual.)

- Complete the additional steps in the wizard, and then click Finish.

Network and configuration

If you are looking for some sort of network connection between the computers you will have to look at the back of the PC box for a plug that looks similar to a telephone plug except that it is larger. If there are more that two computers connected to each other they will have a switch and probably a server controlling the connection between computers.

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(The server will be the computer that the switch is connected to)

Personnel Involved

IT Managers

The IT Manager will know the office equipment or network the best. It is important to get his or her opinion before you get any merchandise from the vendor. The IT Manager might have some preferences in certain brands. He or she is after all the one who is going to do the maintenance of the computer system when you have installed it.

Vendors

The vendors would be your supplier where you buy all your supplies like modems, keyboards, mouse, screens and so on. As you get more familiar with the field you will get to know the different suppliers and what they have available.

Formative Assessment 4

- Describe the computer systems in use at the organisation with specific reference to the: CPU, peripherals, software loaded.
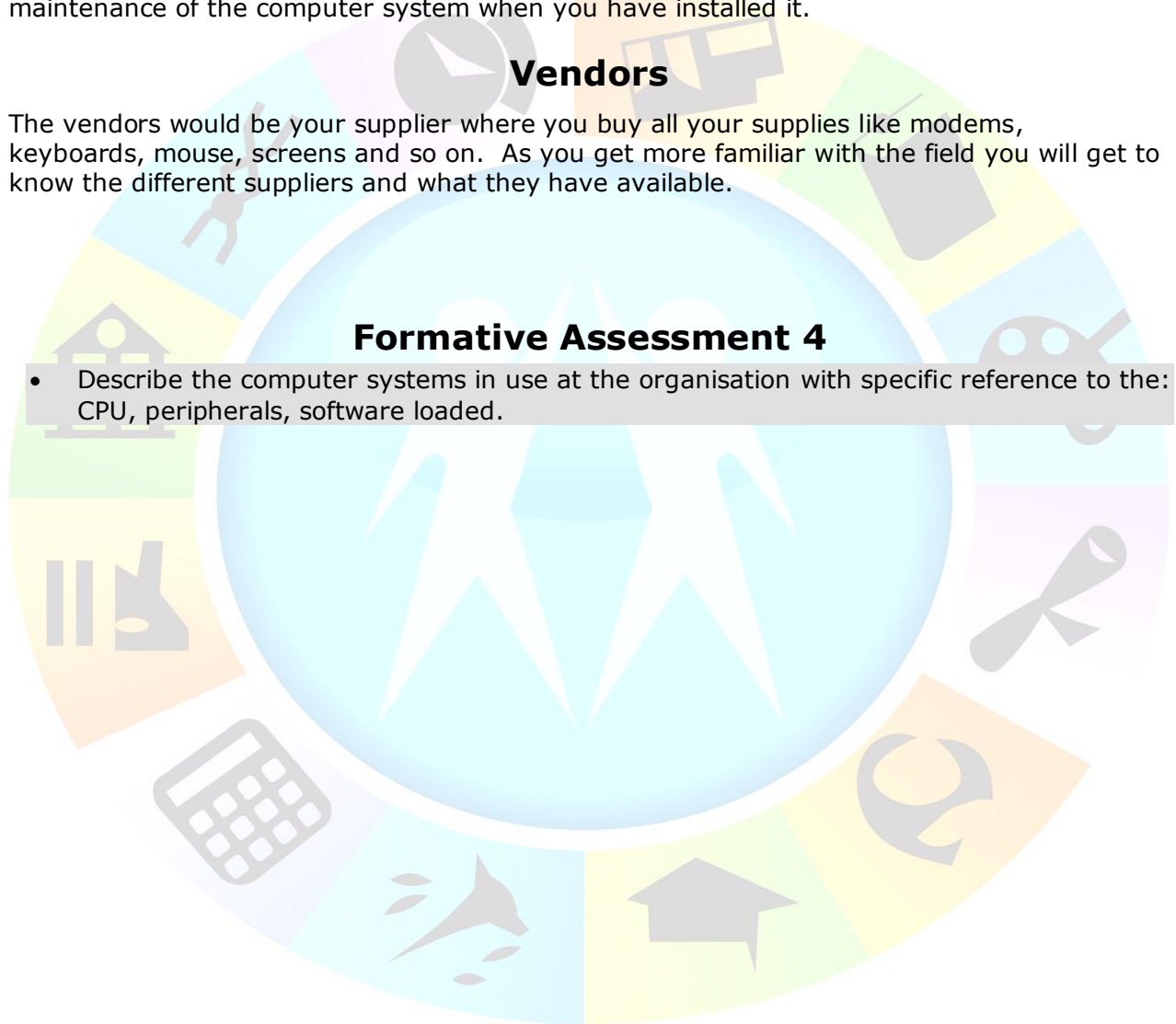
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EVALUATE THE USE OF COMPUTER TECHNOLOGY

Specific Outcome:

Evaluate the use of computer technology in the chosen organisation.

Assessment Criteria:

- ✓ Evaluate and identify the strengths of the computer systems in use.
- ✓ Evaluate and identify areas of future developments based on weakness and anticipated future needs.

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Strengths And Identify Areas Of Future Developments

Let's set an example of a system that is being used by an organization that you are going to work with:

At the moment they have:

6 Workstations each with a computer containing

- ✓ 200GB hard drive
- ✓ Pentium 4 Motherboard
- ✓ Intel Celeron Processor
- ✓ 1 GB RAM
- ✓ CD Rom
- ✓ A screen
- ✓ Keyboard
- ✓ Mouse
- ✓ Category 5 e network cables

They are all connected to each other on a network through a server using Fiber Optic cables.

If we analyse what the organisation already has in terms of strengths and weaknesses I would make the following conclusions:

- ✓ The hard drives are fine; depending on the amount of programmes and information you load or save on the computer. If you need to load more than usual programmes on the computer rather order computers with 400GB – 1TB hard drives for future reference.

- ✓ The motherboard is fine for now as well. Pentium will bring out new motherboards and the Pentium 4 will be outdated eventually, so it's good to keep that in mind.

- ✓ The processor could certainly be replaced by a Intel Pentium Dual Core Processor, although it will be a lot more costly, but will increase the speed sufficiently. However it is a good idea to tell the client about the difference it would make. It is after all their choice whether they want to spend more money or not.

- ✓ 1GB ram is probably not sufficient but because they are using Celeron Processors it will bring up the speed of the computer if you install 4GB ram.

- ✓ A huge advantage would be Fiber Optic cables instead of cat 5e cables. Fiber optic cables transmit data a lot faster than normal cables. They are definitely more expensive but definitely worth while!

According to your analysis you can make suggestions for improvements in certain areas.

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Note: At this stage the three most popular cables that are available on the market are **cat 5e**, **cat 6** (category 5e,6) and **fiber optic** cables. Cat 5e cables can transmit more or less 100 megabytes per second where cat 6 cables, under good circumstances can transmit up to 1gigabite per second.

A fiber optic cable doesn't break data up into packages like cat cables. A fiber optic cable transmits whole packages at a time. Inside the cable you will find peaces of glass that reflects the data.

Formative Assessment 5

When you conduct the investigation, make notes of the strengths and weaknesses of their computer systems. Also make notes of possible improvements and possible future needs.

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PRESENT RESULTS

Specific Outcome:

Present results of an investigation of the use of computer technology in the chosen organisation.

Assessment Criteria:

- ✓ The presentation meets the objectives of the investigation plan
- ✓ The results of the investigation are reviewed for accuracy with the organisation.
- ✓ The presentation communicates the results of the investigation to peers.

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The Objectives Of The Investigation Plan

When you started with the unit standard, certain objectives were set as you went on. These objectives built on each other as you made progress with the client or organisation.

The first objectives were:

✓ Get an organisation to agree to a meeting

✓ Get the organisation to agree to being investigated.

Once they agreed the following objectives were set:

✓ Do an investigation according to your investigation plan

✓ Give feedback to the organisation

✓ Sell them a sollution.

If they agreed to implement your solution your objectives were:

✓ To implement your solution

✓ To implement your sollution as time efficiently as possible.

✓ To deliver the best quility work and service so that the organisation will use your services again.

Once you finished each of these groups of objectives you have to go back and look at whether you met each of these objectives. If you did, you have to look at the quality of the work or suggestions that you gave to the organisation. You also need to look at the manner in which you handled yourself in each meeting so that you can improve on your business communication skills.

You can see whether you have reached all the investigation objectives by going over your investigation checklist again.

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Objective	Test question	Motivation
1. What type of organisation are you working with?	ABC Parts Centre	
2. How big or small is the organisation?	The organisation has 23 employees	
3. Relevant contact person:	Mrs. B. Otto Tel: (012) 529 6000	
4. Have you made an appointment?	Yes, 20 January 2012 11:30 225 Earl street, Roslyn.	
5. How much time can you spend doing the investigation without disturbing the employer and employees too much?	15 min per workstation. Was that time limit met? Yes/No	
6. How many potential users does the organisation have?	Did you find out? Yes/No	
7. Are all the existing users (if any) aware of your visit?	Were all the users aware of the visit when you arrived? Yes/No If no, why?	
8. What are the needs of the users?	Were the needs of all the users taken into consideration? Are they satisfied? Yes/No Give a motivation	
9. Find out what the building layout	Is the organisations current layout practical?	

looks like and where all the workstations are.	Yes/No. Is your suggestion for a new layout practical? Yes/No Give motivations for both answers.	
10. Set certain points of importance to investigate at each workstation	Did you investigate each of the important points set at each workstation? Yes/No What did you find?	
11. Set time limits for each workstation.	Each workstation should take more or less 15 min. To get the relevant information, right click on My Computer - scroll down to Properties – click on the General tab. There you will find what model and type of computer it is, who the computer is registered to and what operating system is loaded on the computer.	
12. Determine how much the organisation is willing to pay for your services.	Did you give a good quote or did you under or over quote? Why? Note: This is a very important learning experience in terms of your quote and how the client reacted. Pay close attention to this!	

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Review The Results With The Organisation.

Once you have evaluated yourself, it is a very good idea to go back to the organization and find out how their experience was.

You can give them more or less the same form to fill in. You can just make a couple of slight changes. This could really help in the future in terms of the service you render and your communication skills.

Objective	Yes/No	Why?
1. Was the way in which I made the appointment professional?	Yes/No	
2. Did I allow sufficient time to perform the investigation of each workstation without disturbing the employees too much?	Yes/No	
3. Did I attend to all the employees with workstations?	Yes/No	
4 Were all the employees aware of my visit?	Yes/No	
5. Were the needs of every employee met?	Yes/No	
6. Are you satisfied with the points that were investigated and the improvement suggestions that were made?	Yes/No	
7. Were you satisfied with the quote that I gave? (Although the solution will not be implemented)	Yes/No	
Date: 2012/___/____	_____ **Full Name**	_____ **Signature**

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Hint: It's always a good idea to let the person who fills in the form sign it in any instance. This way they cannot deny what they wrote down or committed to.

Once the organization gives you feedback on their experience, the areas that you should work on will be clear. Don't take it as bad news if they have some negative feedback, but rather as good news so you can work on your mistakes an not make the same ones again.

Formative Assessment 6

- Review the results with the organisation.
- Once you have all your feedback, do a group assignment. In your groups, discuss the feedback that you got with your fellow learners. This should give you a wider look at things and it's a perfect opportunity to learn about their mistakes and also learn from their mistakes. Make notes of what you have learnt. With this exercise we will conclude this unitstandard.

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