

# Unit 1: The Information Age

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AS compulsory unit

Internally assessed

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## Introduction

We are living in an age in which an enormous amount of information – television broadcasts, text messages, photographs, news reports, emails, etc – is produced, communicated and stored in digital format every day. The pace of development is very fast.

In this unit you will learn about the information communication technologies that enable people to access and exchange information and to carry out transactions anytime, anywhere.

You will take a critical look at the impact that the internet has had on the way people conduct their personal and professional lives, explore the services it offers and gain ‘hands-on’ experience of using some of them.

As you will discover, the internet provides fantastic opportunities to those individuals and communities who are ‘technology enabled’. However, for one reason or another, not everyone is able to take full advantage of what is on offer. You will investigate the causes and effects of the digital divide which separates the ‘haves’ from the ‘have nots’ and evaluate measures being taken to bridge the gap.

Your investigation and evaluation of all these aspects of the age in which you live will be presented in the form of an e-book designed to be read on a computer screen.

You will probably already have some experience of using the ICT tools and techniques needed to produce an e-book. What you now need to learn is how to make the most of the medium in which you are working so as to make your e-book truly an artefact of the Information Age!

Throughout the unit you will acquire the tools and techniques you need to make effective use of the information available to you on the internet. The skills and knowledge you gain whilst studying this unit will be a useful foundation for the rest of the qualification.

This is a user-focused unit. The knowledge and skills developed in this unit are particularly relevant to those who use ICT on a daily basis at work or at school/college for personal, social and work-related purposes.

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## Recommended prior learning

This unit builds on the ICT knowledge and skills which you bring to the course. It assumes that you already have some experience of using ICT to combine and present information.

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## What you need to learn

### 1.1 The Information Age

This is the Information Age! Rapidly advancing computing power is resulting in ever-increasing volumes of information being created and stored. Much of this information can be accessed, copied and modified by anyone, anytime, anywhere. You, as an individual, can create and store information that can be accessed by anyone across the globe.

An increasingly wide range of digital technologies is affecting the way we lead our lives. You will need to be aware of key technologies used to convey information in various ways, including:

- internet
- multimedia
- broadband
- wireless
- digital television and video.

You will need to learn about some of the opportunities created by the Information Age, including:

- presenting information in different ways
- sharing information quickly
- greater interaction with others and organisations
- business opportunities, large and small
- virtual communities, where people are brought together via the internet
- mobile technologies that are blurring the distinction between home and work
- a self-service environment in which consumers carry out activities and transactions by themselves, including shopping, banking and learning.

You will need to develop an awareness of the issues and challenges arising from the Information Age, including:

- the need for us all to be lifelong learners in a world of change
- privacy rights
- copyright and legislation
- impact on employment
- the digital divide.

**1.2 Online services** The internet is a key player in the Information Age. Some people regard it as being an essential service on a par with water and electricity! You will need to find out about the types of online services available, including:

- communication, eg email, instant messaging, newsgroups, online conferencing, blogs
- real time information, eg train timetables, news services, traffic reports, weather
- commerce, eg shopping, banking, auctions
- government, eg online tax returns, e-voting, applications for services/grants, revenue collection
- education, eg online learning/training, VLEs
- business, eg videoconferencing, collaborative working, business networks
- entertainment, eg multi-user games, radio players
- download services, eg music, film, upgrades, software
- archiving, eg 'x drives'.

You will be expected to explore and evaluate a range of different types of services available online, considering factors such as target audience, benefits and drawbacks, fitness for purpose, possible enhancements, non-internet alternatives etc.

From your investigation of different types of online services, you will be able to assess the current scope and limitations of the internet as a whole.

**1.3 Life in the Information Age** You will need to understand how ICT is affecting the way people conduct their personal, social and professional lives, including its impact on:

- working styles
- communication
- education
- entertainment and leisure
- banking and shopping
- decision making
- employment opportunities
- crime and crime prevention
- civil rights
- legislation.

From your research you will be able to piece together a realistic picture of life in the Information Age taking account of both advantages and disadvantages.

## 1.4 The digital divide

Many people believe that everyone, regardless of circumstances, should be able to benefit from the Information Age and that technology-enabled information and services should be available to all. You will need to consider whether this is always the case.

A so-called 'digital divide' exists both in your local community and globally, separating those who have full access and those who do not. You will need to be able to define the meaning of the term 'digital divide' and explain:

- factors which create the digital divide
- technological
  - economic
  - social
  - geographical
  - fear of technology
  - lack of motivation
- the impact of the digital divide
  - economic
  - social
  - educational
  - cultural
- the extent of the divide
  - is it widening or narrowing?
  - how can the gap be reduced?
- measure being taken to narrow the gap
  - are they working?
  - what else could be done?
- the benefits and drawbacks of reducing the gap.

## 1.5 What is an e-book?

Digital technology potentially turns everyone into an e-author and opens up access to a worldwide readership on the web. You are going to produce an e-book to present your evidence for this unit.

E-books are digital and designed to be viewed on-screen. Although the pages can be read in sequence as with most traditional books, e-books enable the reader to easily view pages in any order. In addition to the normal text and static images found in paper-based books, e-books can have animated video clips and audio files, animated diagrams, 360 degree stills, photographs that can be zoomed into etc designed to immerse the reader in the subject-matter and provide a multi-sensory experience.

Most e-books have a hypertext structure consisting of a series of information nodes (pages). Users navigate from node to node using the navigation links provided on each page.

E-books are produced in a format which can be easily distributed, archived and is environmentally friendly.

There is a wide range of e-books available on the web. You need to find examples of e-books produced for different purposes, such as:

- creative writing
- reference materials eg encyclopaedias, historical manuscripts
- collaborative projects
- children's books.

When looking at e-books produced by others you should be evaluating aspects, such as:

- content
- structure and layout
- format and style
- use of multimedia components
- navigation
- ease of use/accessibility

fitness for purpose.

## **1.6 Developing an e-book**

Once you have evaluated a variety of e-books currently accessible on the web, you will learn how to create e-books of your own that convey information using an appropriate format and range of multimedia components.

Before sitting down to design an e-book you need to be clear about:

- the intended audience
- the purpose of the e-book
- any prescribed content that must be included
- the message you are trying to convey
- the technical specification you must adhere to
- the deadline for completion.

You will learn how to use:

- storyboards to map out the layout and content of each page
- structure charts to provide a graphical representation of the overall structure of the product.

You should get feedback on your initial designs to ensure that your final product will meet the needs of the target audience.

As soon as you are happy that your design meets the specified requirements you will be in a position to implement your design on the computer.

In addition to using ready-made multimedia components in your e-book, you will learn how to create multimedia components for yourself (see *Section 1.7*).

As you develop an e-book you should test it by:

- proofreading content
- checking layout
- checking all links and pathways
- trying it out on 'test users'.

E-books should be tested during development by as many people as possible. You should listen to what they have to say and – if necessary – rethink your design in the light of their comments.

You will learn how to evaluate your e-books by considering individual features, such as:

- content
- structure
- screen layout
- use of multimedia components
- presentation techniques
- ease of navigation
- consistency
- accessibility.

You should also assess their overall fitness for purpose and audience. No matter how good a multimedia product is, there is always room for improvement. You will need to be able to identify possible improvements/enhancements.

## 1.7 ICT skills

You must be able to use a range of ICT tools and techniques to:

- carry out internet research tasks, including:
  - understanding and applying the main features of browser software, eg forward and backward buttons, book marking and organising favourites
  - understanding and applying the main search principles of internet search engines eg string, key word searching
  - navigating large websites so as to be able to locate a specific information resource in a given site
  - using hyperlinks within sites to pursue investigations
  - making informed judgements about the accuracy, reliability and currency of the information you find
  - acknowledging sources and references correctly
- produce the multimedia content for your e-book, including:
  - using ready-made multimedia components
  - using a digital camera and scanner to capture images
  - capturing screen-based images
  - producing word processed documents
  - creating links
  - using appropriate file formats
  - combining and presenting information
  - adding information from one type of software to information produced using different software.

## 1.8 Standard ways of working

Whilst working on this unit, you will be expected to use ICT efficiently, legally and safely. You must adhere to standard ways of working, including:

- file management
  - saving work regularly
  - using sensible filenames
  - setting up directory/folder structures to organise files
  - making backups
  - choosing appropriate file formats
  - limiting access to confidential or sensitive files
  - using effective virus protection
  - using 'readme' files where appropriate to provide technical information, eg system requirements

- personal effectiveness
    - selecting appropriate ICT tools and techniques
    - customising settings
    - creating and using shortcuts
    - using available sources of help
    - using a plan to help you organise your work and meet deadlines
  - quality assurance
    - using spell check, grammar check and print preview
    - proofreading
    - seeking views of others
    - authenticating work
  - legislation and codes of practice
    - acknowledging sources
    - respecting copyright
    - avoiding plagiarism
    - protecting confidentiality
  - safe working
    - ensuring that hardware, cables, seating etc are positioned correctly
    - ensuring that lighting is appropriate
    - taking regular breaks
    - handling and storing media correctly
  - eportfolio
    - creating an appropriate structure for an eportfolio
    - collecting together all the required information, converting files to an appropriate format if necessary
    - authenticating your work
    - providing a table of contents, using hyperlinks to locate information easily
    - testing for size, compatibility and ease of use, making sure that the eportfolio conforms to the technical specification.
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## Assessment evidence

**For this unit you will:**

- investigate aspects of the Information Age in which you live (Assessment evidence a, b and c)
- design and create an e-book to present your evidence for a, b and c (Assessment evidence d and e) and provide a snapshot of life in today's Information Age
- evaluate your e-book and own performance (Assessment evidence f).

Imagine that your e-book will form part of a virtual time capsule on the internet which is programmed to open in 100 years time. The potential target audience for your e-book is enormous. Anyone with internet access in 100 years time will be able to read it.

The e-book should be designed as an on-screen publication. The technical specification for the e-book will be provided by your teacher.

**Your eportfolio for this unit should include:**

An e-book that provides a snapshot of life in the Information Age. It must include:

- (a) A description and evaluation of at least five different types of online service, drawn together to give a picture of the current scope and limitations of the internet as a whole.
- (b) A description of how ICT is affecting at least five different aspects of people's lives, considering the benefits and drawbacks, drawn together to give a picture of life overall in the Information Age.
- (c) A description of at least three factors contributing to the digital divide and some of the measures being taken to bridge the gap, with an evaluation of the impact/extent of the digital divide, drawn together to give a picture of the current situation.
- (d) and (e) The e-book should:
  - contain your work for (a), (b) and (c)
  - demonstrate your understanding of multimedia design principles and your ability to use software tools appropriately
  - include some ready-made and some original multimedia components.

You must also include in your portfolio:

- (f) An evaluation of your e-book and your own performance on this unit.
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## Assessment criteria - Unit 1: The Information Age

	Mark Band 1	Mark Band 2	Mark Band 3	Mark awarded
(a) (AO 1, 2, 4)	<p>The learner:</p> <ul style="list-style-type: none"> <li>uses the internet to find <b>some</b> relevant information about different types of online services, but needs <b>extensive</b> prompting</li> <li>gives a <b>brief</b> description of at least five different types of online service</li> <li>makes <b>some evaluative comments</b> about each of the online services described, but <b>not sufficient to give a clear picture</b> of the current scope and limitations of the internet as a whole.</li> </ul> <p>(0 – 5)</p>	<p>The learner:</p> <ul style="list-style-type: none"> <li>uses the internet to find a <b>range of</b> relevant information about different types of online services, needing only <b>limited</b> prompting</li> <li>gives a <b>detailed</b> description – supported by <b>examples</b> – of at least five different types of online service</li> <li>makes <b>some relevant evaluative comments</b> about each of the online services described and gives an <b>indication</b> of the current scope and limitations of the internet as a whole.</li> </ul> <p>(6 – 8)</p>	<p>The learner:</p> <ul style="list-style-type: none"> <li>uses the internet to find a <b>wide range</b> of relevant information about different types of online services, <b>independently</b></li> <li>gives a <b>comprehensive</b> description – supported by a <b>range of well chosen examples</b> – of at least five different types of online service</li> <li>provides a <b>considered evaluation</b> of each of the online services described and gives a <b>clear and balanced picture</b> of the current scope and limitations of the internet as a whole.</li> </ul> <p>(9 – 11)</p>	11
(b) (AO 2, 4)	<p>The learner:</p> <ul style="list-style-type: none"> <li>uses a <b>limited</b> range of sources to gather <b>some</b> relevant information about how ICT affects different aspects of people’s lives, but needs <b>extensive</b> prompting</li> <li>gives a <b>brief</b> description of how ICT is affecting at least five different aspects of people’s lives</li> <li><b>identifies</b> some benefits and drawbacks, but <b>not sufficient to give a clear picture</b> of life overall in the Information Age.</li> </ul> <p>(0 – 5)</p>	<p>The learner:</p> <ul style="list-style-type: none"> <li>uses a <b>range of</b> sources to gather relevant information, needing only <b>limited</b> prompting</li> <li>gives a <b>detailed</b> description – supported by <b>examples</b> – of how ICT is affecting at least five different aspects of people’s lives</li> <li><b>describes</b> some benefits and drawbacks, giving an <b>indication</b> of life overall in the Information Age.</li> </ul> <p>(6 – 8)</p>	<p>The learner:</p> <ul style="list-style-type: none"> <li>uses a <b>wide range</b> of sources to gather relevant information, <b>independently</b></li> <li>gives a <b>comprehensive</b> description – supported by a <b>range of well chosen examples</b> – of how ICT is affecting at least five different aspects of people’s lives</li> <li><b>analyses</b> the benefits and drawbacks, giving a <b>clear and balanced picture</b> of life overall in the Information Age.</li> </ul> <p>(9 – 10)</p>	10

## Assessment criteria – Unit 1: The Information Age (continued)

	Mark Band 1	Mark Band 2	Mark Band 3	Mark awarded
(c) (AO 2, 4)	<p>The learner:</p> <ul style="list-style-type: none"> <li>gives a <b>brief</b> description of: <ul style="list-style-type: none"> <li>at least three factors contributing to the digital divide</li> <li>some of the measures being taken to bridge the gap</li> </ul> </li> <li>makes <b>some evaluative comments</b> about the impact/extent of the digital divide, but <b>not sufficient to give a clear picture</b> of the current situation.</li> </ul> <p>(0 – 4)</p>	<p>The learner</p> <ul style="list-style-type: none"> <li>gives a <b>detailed</b> description – supported by <b>examples</b> – of: <ul style="list-style-type: none"> <li>at least three factors contributing to the digital divide</li> <li>some of the measures being taken to bridge the gap</li> </ul> </li> <li>makes <b>some relevant evaluative comments</b> about the impact/extent of the digital divide which give an <b>indication</b> of the current situation.</li> </ul> <p>(5 – 6)</p>	<p>The learner:</p> <ul style="list-style-type: none"> <li>gives a <b>detailed</b> description – supported by a <b>range of well-chosen examples</b> (both global and local) – of: <ul style="list-style-type: none"> <li>at least three factors contributing to the digital divide</li> <li>some of the measures being taken to bridge the gap</li> </ul> </li> <li>provides a <b>considered assessment</b> of the impact/extent of the digital divide, giving a clear picture of the current situation <b>both globally and locally</b>.</li> </ul> <p>(7 – 8)</p>	<b>8</b>
(d) (AO 1, 2, 3)	<p>The e-book:</p> <ul style="list-style-type: none"> <li>demonstrates <b>limited</b> application of multimedia design principles for on-screen publications</li> <li>shows <b>limited</b> awareness of audience and purpose.</li> </ul> <p>Whilst working on the e-book the learner adheres to relevant standard ways of working, but needs <b>frequent</b> prompting.</p> <p>(0 – 9)</p>	<p>The e-book:</p> <ul style="list-style-type: none"> <li>demonstrates <b>sound</b> application of multimedia design principles for on-screen publications</li> <li>shows <b>some</b> awareness of audience and purpose.</li> </ul> <p>Whilst working on the e-book, the learner adheres to relevant standard ways of working, with only <b>occasional</b> prompting.</p> <p>(10 – 13)</p>	<p>The e-book:</p> <ul style="list-style-type: none"> <li>demonstrates <b>sophisticated</b> application of multimedia design principles for on-screen publications</li> <li>shows <b>full</b> awareness of audience and purpose.</li> </ul> <p>Whilst working on the e-book the learner adheres to relevant standard ways of working, <b>independently</b>.</p> <p>(14 – 17)</p>	<b>17</b>

## Assessment criteria - Unit 1: The Information Age (continued)

	Mark Band 1	Mark Band 2	Mark Band 3	Mark awarded
(e) (AO 1, 3)	<p>In creating the e-book, the learner</p> <ul style="list-style-type: none"> <li>selects and uses some suitable ready-made multimedia components, although not always appropriately</li> <li>creates and uses some suitable original multimedia components, although not always appropriately</li> <li>selects and uses software tools, although not always appropriately</li> <li>carries out <b>some limited</b> testing and quality control, but not sufficient to guarantee that it <b>functions correctly</b>.</li> </ul> <p>(0 – 5)</p>	<p>In creating the e-book, the learner:</p> <ul style="list-style-type: none"> <li>selects and uses <b>suitable</b> ready-made multimedia components <b>appropriately</b></li> <li>creates and uses <b>suitable</b> original multimedia components <b>appropriately</b></li> <li>selects and uses software tools <b>appropriately</b></li> <li>carries out <b>adequate</b> testing and quality control of the e-book to ensure that it <b>functions correctly</b>.</li> </ul> <p>(6 – 8)</p>	<p>In creating the e-book, the learner</p> <ul style="list-style-type: none"> <li>selects and uses a <b>range of suitable</b> ready-made multimedia components <b>effectively</b></li> <li>creates and uses a <b>range of suitable</b> original multimedia components <b>effectively</b></li> <li>selects and uses appropriate software tools <b>competently</b></li> <li>carries out <b>extensive</b> testing and quality control of the e-book to ensure that it <b>functions correctly</b> and is <b>fully fit for purpose</b>.</li> </ul> <p>(9 – 10)</p>	10
(f) (AO 4)	<p>The learner makes <b>some</b> relevant evaluative comments about key features of:</p> <ul style="list-style-type: none"> <li>the e-book</li> <li>their own performance.</li> </ul> <p>(0 – 1)</p>	<p>The learner makes <b>some relevant</b> evaluative comments about key features of:</p> <ul style="list-style-type: none"> <li>the e-book</li> <li>their own performance,</li> </ul> <p><b>incorporating feedback</b> from others.</p> <p>(2)</p>	<p>The learner <b>evaluates</b> key features of:</p> <ul style="list-style-type: none"> <li>the e-book</li> <li>their own performance,</li> </ul> <p><b>incorporating feedback</b> from others and <b>suggesting at least one sensible improvement</b>.</p> <p>(3 – 4)</p>	4
<b>Total marks</b>				<b>60</b>

(For description of AOs see page 247)

## Assessment guidance

### Assessment evidence (a)

#### Mark Band 1 (0 – 5 marks)

To be eligible for Mark Band 1, learners must have carried out some internet-based research. However, they will have used only a **limited range** of sources and will have needed extensive prompting to decide what to research and how to go about it. Not all the information collected will be relevant.

Learners must have described five different types of online service (see *What you need to learn* section 1.2). It is not sufficient to describe fewer than five – no matter how well. However, some of the descriptions are likely to be brief and have gaps and/or inaccuracies. Learners must also have made an evaluative comment about one of the services described.

For full marks in this band, learners must have made at least one evaluative comment about each of the services described, but will not have drawn from this any general conclusions about the current scope and limitations of the internet as a whole.

#### Mark Band 2 (6 – 8 marks)

To be eligible for Mark Band 2, learners must have used the internet to find a **range** of relevant information. (In this context, a range should be taken to mean at least four different sorts of information, eg extracts from websites, screenshots, journal articles, sound clips, quotes from discussion groups etc.) They will have needed some prompting to choose which types of service to investigate ie those that collectively will give a good overview of the current scope and limitations of the internet as a whole.

Learners must have described five different types of online service. The descriptions will be detailed and contain few – if any – omissions/inaccuracies. They will be illustrated with some appropriate examples. They must also have made some relevant evaluative comments about each of the services described.

For full marks in this band, learners must have gone beyond evaluating individual online services, to give some indication of the current scope and limitations of the internet as a whole.

#### Mark Band 3 (9 – 11 marks)

To be eligible for Mark Band 3, learners must have used the internet to find a **wide range** of relevant information without needing any prompting. (In this context, a wide range should be taken to mean at least six different sorts of information, eg extracts from websites, screenshots, journal articles, sound clips, quotes from discussion groups etc.) The services researched will have been carefully chosen so as to give a balanced picture of the current scope and limitations of the internet as a whole.

Learners must have described five different types of online service. The descriptions will be comprehensive – possibly considering examples of the same service supplied by different providers – and will really give a feel for what that service has to offer, as well as its limitations. They will be illustrated with a range of well chosen examples.

In addition to evaluating each of the five services individually, learners will have drawn from this some general conclusions about the current scope and limitations of the internet as a whole.

For full marks in this band, learners must have given a clear and balanced picture of the current scope and limitations of the internet as a whole.

## Assessment evidence (b)

### Mark Band 1 (0 – 5 marks)

To be eligible for Mark Band 1, learners must have carried out some research. However, they will have used only a **limited range** of sources and will have needed extensive prompting to decide what to research and how to go about it. Not all the information collected will be relevant.

Learners must have described how ICT affects five different aspects of people's lives (see *What you need to learn* section 1.3). It is not sufficient to describe fewer than five – no matter how well. However, some of the descriptions are likely to be superficial and/or sketchy.

Learners must have identified a benefit and a drawback.

For full marks in this band, learners must have identified more than one benefit and drawback, but will not have gone beyond this to draw any general conclusions about the benefits and drawbacks of life in the Information Age.

### Mark Band 2 (6 – 8 marks)

To be eligible for Mark Band 2, learners must have used a **range** of different sources to find relevant information. (In this context, a range should be taken to mean at least three different types of sources, eg newspaper or magazine articles, textbooks, interviews, personal experience, broadcasts etc.)

Learners will have needed some prompting to choose appropriate aspects to investigate ie those that collectively will give a good overview of life in the Information Age.

Learners must have described how ICT affects five different aspects of people's lives. The descriptions will be detailed and illustrated with some relevant examples.

Learners must have described some benefits and drawbacks.

For full marks in this band, learners must have gone beyond descriptions of benefits and drawbacks of individual aspects to give an indication of the benefits and drawbacks of life overall in the Information Age.

### Mark Band 3 (9 – 10 marks)

To be eligible for Mark Band 3 learners must have found and used a **wide range** of sources to find relevant information without needing any prompting. (In this context, a wide range should be taken to mean at least five different types of sources, eg newspaper or magazine articles, textbooks, interviews, personal experience, broadcasts etc.) The aspects researched will have been carefully chosen so as to give a balanced picture of life overall in the Information Age.

Learners must have described how ICT affects five different aspects of people's lives. Each description will be comprehensive and give a real feel for how ICT is affecting that aspect of life. Descriptions will be illustrated with a range of well-chosen examples.

Learners must have weighed-up the benefits and drawbacks and drawn some general conclusions.

For full marks in this band, learners must have given a clear and balanced picture of the benefits and drawbacks of life overall in the Information Age.

### Assessment evidence (c)

#### Mark Band 1 (0 – 4 marks)

To be eligible for Mark Band 1, learners must have described three factors contributing to the digital divide and one measure being taken to bridge the gap (see *What you need to learn* 1.4). It is not sufficient to describe fewer than this – no matter how well. However, some of the descriptions are likely to be brief and/or sketchy.

Learners must also have made an appropriate evaluative comment about one aspect – social, economic, educational or cultural – of the impact of the digital divide.

For full marks in this band, learners must have made more than one evaluative comment about the impact of the digital divide.

#### Mark Band 2 (5 – 6 marks)

To be eligible for Mark Band 2, learners must have described in detail three factors contributing to the digital divide and some of the measures being taken to bridge the gap. The descriptions will be illustrated with some appropriate examples.

Learners must also have made some relevant evaluative comments about the impact of the digital divide.

For full marks in this band, learners must have made at least one evaluative comment about the extent of the digital divide, either globally or locally.

#### Mark Band 3 (7 – 8 marks)

To be eligible for Mark Band 3, learners must have described in detail three factors contributing to the digital divide and some of the measures being taken to bridge the gap. The descriptions will be illustrated with carefully-chosen examples – both local and global.

Learners must also have produced a considered assessment of the impact and extent of the digital divide.

For full marks in this band, learners must have given a clear and accurate picture of the current situation both globally and locally.

### Assessment evidence (d)

#### Mark Band 1 (0 – 9 marks)

To be eligible for Mark Band 1, learners must have designed and produced an e-book which includes all the work produced for (a), (b) and (c) and can be viewed on-screen. However, it is likely that learners will not have fully taken into account the constraints and opportunities of the medium, eg the e-book may have too much information on each screen requiring the user to scroll down, an essentially linear rather than hypertext structure, mostly textual content etc.

The e-book must also offer the user some means of moving from page to page. However, there is likely to be limited choice, eg it may only be possible to go from page to page sequentially rather than being able to jump to any page in any order.

Whilst working on the e-book, learners will have needed frequent reminders to adhere to relevant standard ways of working, eg file management, copyright, acknowledgement of sources etc.

For full marks in this band, learners must have demonstrated some awareness of purpose by, for example, adding a title page and introduction to the e-book, as well as some application of basic multimedia design principles relating to structure, layout and presentation.

#### Mark Band 2 (10 - 13 marks)

To be eligible for Mark Band 2, learners must have designed and produced an e-book which includes all the work produced for (a), (b) and (c) and is designed to be read on-screen, eg has a hypertext structure, takes into account the dimensions of the screen, the amount of text that can comfortably be accommodated, font size, colour etc.

The e-book must also offer the user a means of navigating from page to page, sequential and non-sequential.

Whilst working on the e-book, learners will have needed only occasional reminders to adhere to relevant standard ways of working.

For full marks in this band, learners must have demonstrated some awareness of both purpose and audience. In addition, the e-book must present a coherent/consistent whole rather than a 'hotch potch' of different styles and content.

**Mark Band 3  
(14 – 17 marks)**

To be eligible for Mark Band 3, learners must design and produce an e-book which includes all the work produced for (a), (b) and (c), is easy to use and makes effective/creative use of the medium, eg by using rich media content as well as text to convey information. It must also demonstrate awareness of accessibility issues.

Whilst working on the e-book, learners will have demonstrated that they are fully conversant with standard ways of working and understand their relevance. Learners will have adhered to them without being reminded.

For full marks in this band, learners must have created an e-book that effectively conveys a picture of life in the Information Age and is fully fit for purpose and audience, eg by setting the scene – produced when, where and by whom and – giving some background information/context for an audience not familiar with the 'here and now'.

**Assessment evidence (e)**

**Mark Band 1  
(0 – 5 marks)**

To be eligible for Mark Band 1, learners must have selected and used some ready-made multimedia components and at least one component (other than text) that they have created themselves in their e-book. However, the range of components used is likely to be limited to just text and graphics and some of the components may be inappropriate, eg a graphic that has nothing to do with the topic it is meant to illustrate. Furthermore, the positioning and/or size of some of the components may be inappropriate.

Learners must also have selected and used appropriate software tools to produce the e-book, although they may not always have chosen the best tool for the job or used it in the most effective way.

Learners must also have carried out some testing, although this will not be enough to guarantee that the e-book functions correctly in all anticipated circumstances.

For full marks in this band, the e-book must be largely functional and include more than one suitable original multimedia components.

**Mark Band 2  
(6 – 8 marks)**

To be eligible for Mark Band 2, learners must have used more than one multimedia component (other than text) which they created themselves. All the components used – both ready-made and original – must be suitable and positioned/sized appropriately.

Learners must also have selected and used appropriate software tools to produce the e-book and have carried out some testing.

For full marks in this band, learners must have carried out sufficient testing, to ensure that the e-book functions correctly in all anticipated circumstances.

**Mark Band 3  
(9 – 10 marks)**

To be eligible for Mark Band 3, learners must have used a **range** of suitable ready-made and original components, eg graphics, text, animation, video, sound etc. The choice, positioning, size and mix of components is both effective and eye-catching.

Learners must have used appropriate software competently and carried out enough testing to ensure that the e-book functions correctly in all circumstances.

For full marks in this band, learners must have gone beyond simply testing for functionality to assess factors such as ease of use and fitness for purpose.

### Assessment evidence (f)

#### Mark Band 1 (0 - 1 mark)

To be eligible for Mark Band 1, learners must have made some relevant evaluative comments about key features of their e-book, such as content, structure, screen layout, use of multimedia components, presentation techniques, ease of navigation, consistency, accessibility, fitness for purpose/audience etc.

Learners must also have commented on their own performance.

#### Mark Band 2 (2 marks)

To be eligible for Mark Band 2, learners must have taken account of feedback from others when evaluating key features of their e-book.

Learners must also have commented on their own performance.

#### Mark Band 3 (3 – 4 marks)

To be eligible for Mark Band 3, learners must have taken account of feedback from others when evaluating key features of their e-book and suggested one sensible improvement.

For full marks in this band, learners must have given a well-rounded evaluation of both the e-book and own performance.

(See the section *Applying the mark bands* for further guidance.)

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## Delivering this unit

### General information

#### Assessment requirements

The *Assessment evidence* section is addressed to the learner and gives precise details of what they must do.

The *Assessment criteria* grid, on the other hand, is addressed to the assessor and defines the quality of output required for each mark band. Whilst the requirements remain the same across the mark bands, performance is differentiated by the quality of the learner's response, eg level of detail provided, quality of output, mastery of software tools, depth of analysis/evaluation etc.

The *Assessment guidance* section provides further information to help assessors determine which mark band a piece of work falls into and how to award marks within that band.

#### Balance of theory and practical work

Half the marks available for this unit are for practical, hands-on activities, much of it to do with the development of multimedia content and the creation of the e-book – Assessment evidence (d) and (e).

Learners will need to be aware of the key digital technologies and services available today. Learners should ideally be given the opportunity to gain hands-on experience of some of these. They must have access to the internet in order to be able to carry out the necessary research.

The research tasks that are required – Assessment evidence (a), (b) and (c) – are all about aspects of life in the Information Age which are relevant to learners. These are real, current issues which learners should find interesting and have no difficulty finding information about.

### **Vocational context**

This unit has a user focus. It does not require learners to undertake work experience. However, learners will benefit from learning about industry practices in relation to the design and production of digital publications such as e-books, websites, e-learning packages. A number of software producers such as Macromedia run online design workshops and seminars which learners might find useful.

### **Standard ways of working**

To be eligible for Mark Band 1, learners must work safely and adhere to relevant legislation and codes of practice. To be eligible for higher mark bands, learners must use standard ways of working to manage files, enhance personal effectiveness and quality assure their work.

### **Eportfolio**

Learners will be expected to present their evidence for this unit in an eportfolio. The eportfolio must be constructed so that its contents can be accessed using 5<sup>th</sup> generation, or equivalent, web browsers, such as Microsoft internet Explorer version 5 or Netscape Navigator version 5 and be in a format appropriate for viewing at a resolution of 1024 x 768 pixels.

Learners must be clear about the distinction between file formats appropriate for product creation and read-only file formats appropriate for viewing. Acceptable file formats for eportfolio content are likely to be PDF for paper-based publications, jpg or png for images, html for on-screen publications and swf (Flash movie) for presentations, but may be revised to take account of future developments.

A detailed technical specification for eportfolios for this qualification will be published on the Edexcel website.

The following evidence should appear in the eportfolio for this unit:

- the e-book
- an evaluation of the e-book and own performance.

### **Teaching and learning strategies**

#### **Personal audit**

One way of introducing learners to this unit would be to ask them to keep a log over a given period of time - possibly a week – of all the instances when they need information/carry out transactions/communicate with others. This should include all exchanges of information/transactions etc irrespective of whether not ICT is involved.

As a group, learners should pull together their experiences. They should consider how many of the interactions that did not involve ICT could have done so.

From their combined experiences, each learner should identify five areas for further consideration. They should then carry out individual research into these topics; this will involve the use and evaluation of online services.

Learners should be encouraged to consider how much of daily living can be conducted over the internet – what it has to offer and its limitations, how internet-versions of services compare with non-internet alternatives and the implications for health and well-being of over-dependence on the internet.

Learners will need to carefully select which online services to select in order to give a true flavour of the current scope and limitations of the internet. They could, perhaps, choose one from each of retail, finance, healthcare, education and entertainment.

### **Aspects of living in the Information Age**

In this unit, learners investigate the impact of ICT on the way people lead their lives. Learners should draw upon their personal audit to reflect upon the impact that ICT has on their personal, social and school/college lives. Learners should also consider how ICT impacts on other people.

From these reflections learners could prepare individual multimedia presentations focusing on specific benefits and disadvantages of ICT. Each learner could present their findings to the group. The presentations should be followed by group discussion to allow learners to develop their opinions.

### **The digital divide**

Learners should consider the negative aspects of the so called 'digital divide' from a local and global perspective. Local, in this case, can mean own community, region or country. Since learners are unlikely to have any personal experience to draw upon, it may be necessary for the work on this section of the unit to be introduced initially as a teacher-led activity. Once the issues have been raised, learners could break into groups to investigate

- the factors that create the digital divide
- the impact of the digital divide
- the extent of the divide
- measures being taken to overcome it
- the benefits and drawbacks of a reduction in the gap.

Each group could be asked to prepare a discussion document to be presented to the other groups.

Learners should be encouraged to look at the work of organisations such as ComputerAid International which provide developing countries with refurbished computers. Learners can find out more at [www.computer-aid.org/home.htm](http://www.computer-aid.org/home.htm). Is it right that people in developing countries should get our cast-offs? Can they actually do anything with them? Is the electricity supply reliable enough? What is the telecommunications infrastructure like? Lots of potential discussion here!

### **The e-book**

The research and the conclusions learners reach whilst working on Assessment evidence requirements (a), (b) and (c) should be presented in the form of an e-book. E-books themselves are a product of the digital world we live in. This unit gives learners an opportunity to explore the benefits and limitations of e-books.

The production of an e-book will enable learners to demonstrate their ICT competence and presentation skills. In addition, an e-book is a practical, innovative and appropriate mechanism for presenting assessment evidence for an ICT qualification.

Learners should carry out research into the range and scope of e-books currently available. Learners should compile a list of the different features used to create e-books and should evaluate the effectiveness of the facilities and techniques used.

Learners should reflect on their findings during the design and development of their own solutions and should evaluate their product accordingly.

Some of the e-books learners may come across use specialist software to emulate features of traditional books such as the turning of pages. Learners are not expected to do anything as complicated as this. Their e-book needs to be no more than a variation on a website. The most important thing is to get away from the linear approach associated with writing a report and to explore the potential of hypertext structures and multimedia content.

Learners should ensure their e-book content fulfils the requirements of Assessment evidence (a) to (d). Assessment evidence (e) asks learners to reflect on their e-book product and produce evaluative comments.

Learners should use software with appropriate multimedia and publishing features to produce their e-books (see the *Resources* section). However, it is not necessary for them to use sophisticated multimedia authoring software for this activity. Standard applications software which allows hyper-linking is adequate.

Please note that learners are not expected to write about standard ways of working, but to demonstrate their knowledge of them by adhering to them, ideally without having to be reminded!

### Evaluation

Learners must review both the quality of their e-book and their own performance in terms of what they set out to achieve compared with what they actually produced and the effectiveness of the process they went through to achieve it. Learners should be encouraged to view this review process as something more than a mere 'bolt-on' that will help them to become more effective and maximise their achievement on the rest of the course.

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## Links

### Other units

This unit has close links to *Unit 2: The Digital Economy* and *Unit 3: The Knowledge Worker*.

Many of the ICT skills covered here are developed further in *Unit 5: Web Development* and *Unit 10: Using Multimedia Software*.

### National Occupational Standards (NOS) for IT Users, e-skills UK, November 2003

The IT knowledge and skills covered in this unit map to NOS for Using IT, Areas of Competence:

- Make selective use of IT
- Operate a computer
- IT troubleshooting for users
- IT security for users
- Internets and intranets
- Word processing software
- Evaluate the impact of IT

- Website software
- Artwork and imaging software.

The standards specify what users of IT working at Levels 1-3 are expected to know, understand and be able to do. They include examples of tasks that users operating at a specific level might be expected to perform. The ICT skills listed in *What you need to learn* section 1.7, and some of the standard ways of working listed in *What you need to learn* section 1.8, cover aspects of several NOS Areas of Competence (AOCs).

## Resources

### Equipment

Learners should have access to:

- desktop/laptop computers ideally with the following minimum specification (based on the Becta workstation specification 2/10/03)
  - 256MB memory
  - 1.7Ghz Intel processor or equivalent
  - 40GB hard drive
  - video card with 32MB memory
  - CD/DVD
  - some form of rewritable media
  - UK keyboard and pointing device
  - colour, high resolution monitor, capable of supporting 1024x768
  - sound output (16 bit soundcard, output through speakers/headphones)
  - sound input (microphone)
- printing facilities
- digital camera, scanner, tape recorder
- sufficient individual storage space
- internet access (broadband)
- Windows XP operating system or equivalent
- software
  - word processing eg Microsoft Word, OpenOffice Writer
  - presentation eg Microsoft PowerPoint, OpenOffice Impress
  - web authoring eg FrontPage 2003, Quanta+, Mozilla Composer, Publisher 2003
  - graphics eg CorelDraw, Adobe Photoshop Elements.

## Books

Bessant A— *Learning to Use PowerPoint* (Heinemann, 2001) ISBN 0 435 454110

Evans P— *Web Publishing with FrontPage Express* (Payne-Gallway, 2004) ISBN 1904467385

Garrand T— *Writing for Multimedia and the Web* (Focal Press, 2002) ISBN 0240803817

Geer S— *Essential Internet* (The Economist in association with Profile Books Ltd, 2003) ISBN 1861975406

Heathcote O H U— *Basic Internet (Third Edition)* (Payne-Gallway Publishers Limited, 2002) ISBN 1903112893

Heathcote R S U— *Basic PowerPoint 2002* (Payne-Gallway, 2003) ISBN 1904467105

Richards A A— *Basic Web Pages Using Publisher 2002* (Payne-Gallway, 2001) ISBN 1903112702

Richards A A— *Basic Web Page Creation Using Word 2000-2002* (Payne-Gallway, 2003) ISBN 1904467091

## Websites

**World Summit on the Information Society, Geneva 2003 – Tunis 2005**, [www.itu.int/wsis](http://www.itu.int/wsis)

**Bridging the Digital Divide**, BBC News Special Report, October 1999  
[http://news.bbc.co.uk/1/hi/special\\_report/1999/10/99/information\\_rich\\_information\\_poor/466651.stm](http://news.bbc.co.uk/1/hi/special_report/1999/10/99/information_rich_information_poor/466651.stm)

## Multimedia

**Salvation is Cheap** (example of a multimedia e-book), Guardian Unlimited, <http://www.guardian.co.uk/flash/mendel.swf>

Examples of e-zines

<http://www.jameshuggins.com/h/awd1/awards.htm>

<http://www.ezine-dir.com/cgi-bin/site.cgi?ID=7009&Title=CATLINES>

<http://www.ezine-dir.com/cgi-bin/site.cgi?ID=3812&Title=Flock20Talk20e-zine>

<http://www.ezine-dir.com/cgi-bin/site.cgi?ID=560&Title=Organic%20Living>

<http://www.ezine-dir.com/cgi-bin/site.cgi?ID=4425&Title=Sierra%20Activist>

## Other reading

Learners should be encouraged to keep up to date by reading some of the many computer/web magazines available, such as *Web User* published by IPC Media and *Internet & Broadband Advisor*, published by Future Publishing. In addition to topical information, most of these magazines provide handy hints and tips, ideas for projects, free software and inspection copies etc.