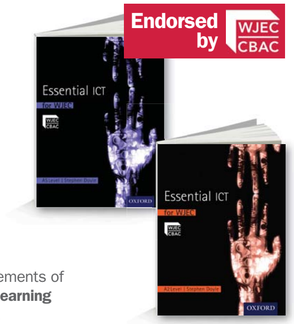
Post-16

Essential ICT for WJEC A Level



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- Enhance understanding with a glossary of **key terms** and **visual summary mind maps** for every topic
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- Prepare your students for the exam with integrated assessment support and plenty of **exam-style practice questions**
- Boost exam confidence using questions with **exemplar model answers**, mark schemes and **examiner commentary**
- A customizable **Teacher Support CD-ROM** is also available

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About the author...

Stephen Doyle is a well-known and highly regarded author for ICT at Secondary level in the UK, who has been teaching, examining and assessing ICT at all levels in schools and FE colleges for over 25 years.

Post-16

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All the knowledge students require, written to match the AQA specifications for A Level ICT

- Clearly explained, full-coloured double-page spreads
- Reinforce key points of learning with **engaging activities**
- Help your students prepare for the exam with **integrated assessment support**, questions with exemplar **model answers**, **mark schemes**, and **examiner commentary**
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- A customizable **Teacher Support CD-ROM** is also available

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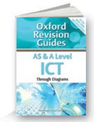

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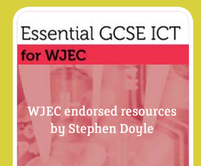

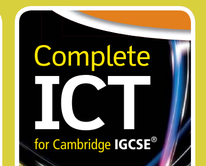

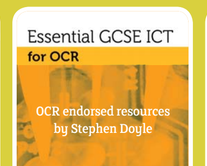

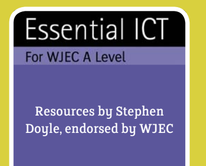

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for OCR

Approved publication OCR

Comprehensive resources matching the OCR specification – written by Stephen Doyle

Endorsed by OCR, this resource by **popular author Stephen Doyle** is written for the 2010 OCR GCSE ICT specification. It provides comprehensive resources for **exam preparation**.

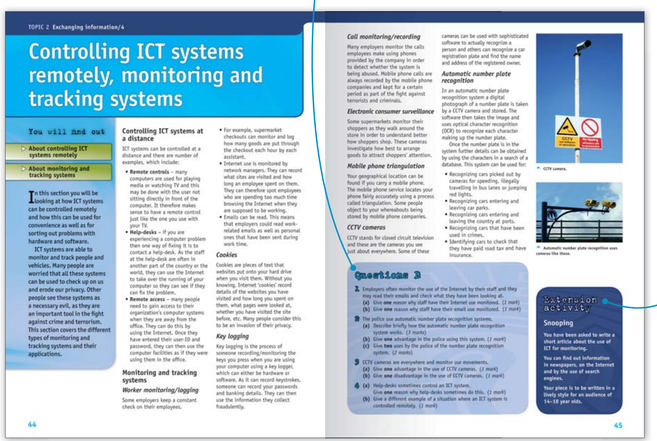
- **Motivate** and **engage** your students with colourful double-page spreads, and **dynamic case studies** that help students **link theory with practice**
- Enhance understanding with clearly defined **key terminology** and **summary mind maps** for every topic in the course

The accompanying **Teacher Guide and CD-ROM** offers **digital and print-based** teaching resources that provide all you need to deliver the course effectively. All digital material is **customizable** and can be uploaded to a VLE.

About the author...

Stephen Doyle is a well-known and highly regarded author for ICT at Secondary level in the UK, who has been teaching, examining and assessing ICT at all levels in schools and FE colleges for over 25 years.

Prepare your students for their exams with exam-style questions, integrated assessment support, and 'test-yourself' activities


TOPIC 2 Exchanging information/4

Controlling ICT systems remotely, monitoring and tracking systems

You will find out

- About controlling ICT systems remotely
- About monitoring and tracking systems

This section you will be looking at how ICT systems can be controlled remotely and how this can be used for convenience as well as for sorting out problems with hardware and software.

ICT systems are able to monitor and track people and vehicles. Many people are worried that all these systems can be used to check up on us and erode our privacy. Other people see these systems as a necessary evil, as they are an important tool in the fight against crime and terrorism. This section covers the different types of monitoring and tracking systems and their applications.

Controlling ICT systems at a distance

ICT systems can be controlled at a distance and there are number of examples, which include:

- **Remote controls** – many computers are used for playing media or watching TV and this may be done with the user not sitting directly in front of the computer. It therefore makes sense to have a remote control just like the one you use with your TV.
- **Help-desks** – if you are experiencing a computer problem then one way of doing it is to contact a help-desk. As the staff at the help-desk are often in another part of the country or the world, they can use the Internet to take over the running of your computer so they can see if they can fix the problem.
- **Remote access** – many people need to gain access to their organization's computer systems when they are away from the office. They can do this by using the Internet. Once they have entered their user-ID and password, they can then use the computer facilities as if they were using them in the office.
- For example, supermarket checkouts can monitor and log how many goods are put through the checkout each hour by each assistant.
- Internet use is monitored by network managers. They can record what sites are visited and how long an employee spent on them. They can therefore spot employees who are spending too much time browsing the Internet when they should be working.
- Emails can be read. This means that employers could read work-related emails as well as personal ones that have been sent during work time.

Monitoring and tracking systems

Worker monitoring/logging

Some employers keep a constant check on their employees.

Cookies

Cookies are pieces of text that websites put onto your hard drive when you visit them. Without you knowing, Internet 'cookies' record details of the websites you have visited and how long you spent on them, what pages were looked at, whether you have visited the site before, etc. Many people consider this to be an invasion of their privacy.

Key logging

Key logging is the process of someone recording/monitoring the keys you press when you are using your computer using a key logger, which can either be hardware or software. As it can record keystrokes, someone can record your passwords and banking details. They can then use the information they collect fraudulently.

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Call monitoring/recording

Many employees monitor the calls employees make using phones provided by the company in order to detect whether the system is being abused. Mobile phone calls are always recorded by the mobile phone companies and kept for a certain period as part of the fight against terrorists and criminals.

Electronic consumer surveillance

Some supermarkets monitor their shoppers as they walk around the store in order to understand better how shoppers shop. These cameras investigate how best to arrange goods to attract shoppers' attention.

Mobile phone triangulation

Your geographical location can be found if you have your mobile phone switched on. The mobile phone service locates your phone fairly accurately using a process called triangulation. Some people object to your whereabouts being stored by mobile phone companies.

CCTV cameras

CCTV stands for closed circuit television and these are the cameras you see just about everywhere. Some of these cameras can be used with sophisticated software to actually recognize a person and others can recognize a car registration plate and find the name and address of the registered owner.

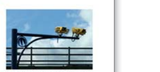
Automatic number plate recognition

In an automatic number plate recognition system a digital photograph of a number plate is taken by a CCTV camera and stored. The software then takes the image and uses optical character recognition (OCR) to recognize each character making up the number plate.

Once the number plate is in the system further details can be obtained by using the characters in a search of a database. This system can be used for:

- Recognizing cars picked out by cameras for speeding, illegally travelling in bus lanes or jumping red lights.
- Recognizing cars entering and leaving car parks.
- Recognizing cars entering and leaving the country at ports.
- Recognizing cars that have been used in crimes.
- Identifying cars to check that they have paid road tax and have insurance.

CCTV camera.


Automatic number plate recognition uses cameras like these.

Question 2

1 Employers often monitor the use of the Internet by their staff and they may read their emails and check what sites have been looking at.
(a) Give **one** reason why staff how their Internet use monitored. (1 mark)
(b) Give **one** reason why staff have their email use monitored. (1 mark)

2 The police use automatic number plate recognition systems.
(a) Describe briefly how the automatic number plate recognition system works. (3 marks)
(b) Give **one** advantage in the police using this system. (1 mark)
(c) Give **two** cons by the police of the number plate recognition system. (2 marks)

3 CCTV cameras are everywhere and monitor our movements.
(a) Give **one** advantage in the use of CCTV cameras. (1 mark)
(b) Give **one** disadvantage in the use of CCTV cameras. (1 mark)

4 (a) Help-desks sometimes contact an ICT system.
Give **one** reason why help-desks sometimes do this. (1 mark)
(b) Give a different example of a situation where an ICT system is controlled remotely. (1 mark)

Extension activity

Snooping

You have been asked to write a short article about the use of ICT for monitoring.

You can find out information in newspapers, on the Internet and by the use of search engines.

Your piece is to be written in a lively style for an audience of 14–18 year olds.

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Challenge more able students with extension activities

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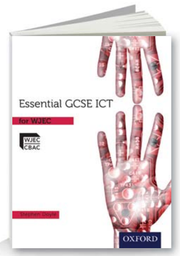

Engaging resources written by Stephen Doyle to match the WJEC specification

This resource covers the 2010 specification for WJEC. It is designed to give students all they need to transfer their understanding of the subject into their very **best exam performance**.

- Help your students link theory with practice using **dynamic case studies**
- Engage your students with **highly illustrated double-page spreads**, providing information in an attractive and appealing style
- A Teacher Guide and customizable **CD-ROM** is also available

About the author...

Stephen Doyle is a well-known and highly regarded author for ICT at Secondary level in the UK, who has been teaching, examining and assessing ICT at all levels in schools and FE colleges for over 25 years.

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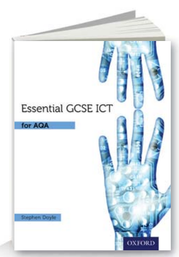

Complete resources written by Stephen Doyle to match the AQA specification

This resource covers the 2010 specification for AQA. It delivers all your students need to achieve their potential, understand subject content and **improve exam performance**.

- Help your students **link theory with practice** using **case studies** on engaging and appealing double-page spreads
- Reinforce understanding with **definitions** and summaries of **key terminology** and **mind maps** summarizing every main topic
- A **Teacher Guide** and customizable **CD-ROM** is also available

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Cambridge IGCSE

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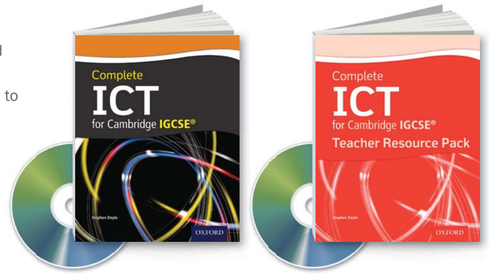
Student Book recommended by **Cambridge International Examinations** in the resource list for Parts 1–8 of the Cambridge IGCSE syllabus

Keep ahead of the **latest technologies** and ensure your teaching strengthens practical skills. **Written by Stephen Doyle**, it supports strong performance – with revision support, model answers and more on the free CD.

A **Teacher Resource Pack** helps you to stretch and support your students, including dynamic case studies to help link theory to practice.



Links between the subject material and students' lives ensure they **will be able to apply skills in real-life**

Exam questions included, to help students prepare

Ensure students **apply theory in practical situations**, to prepare them for assessment

10 Document production

Nearly everyone has a use for word-processing software for the production of documents such as letters, CVs, notes, simple leaflets, etc. You must build your skills in the use of word-processing software for the examination. This use goes beyond what you probably already know, so make sure you complete all the activities in this chapter.

The key concepts covered in this chapter are:
- Entering and editing data from different sources
- Organizing the page layout
- Formatting the text
- Ensuring the accuracy of the text

Enter and edit data from different sources

Create and open documents

Locating stored files

You will need to be able to locate stored files for the examination. You will also need to create folders for the various files you create. When saving files for the first time it is always best to use 'Save As' because you can see where it is that the computer intends to save the file. If the location is not suitable then you can change it.

Before you start working through the activities, ensure you know where the files you need can be found. You will also need to decide where you will save any of the files amended or produced during the activities.

Using different file types

Not everyone uses the same piece of software and this means that data can be saved in different file formats. The good news is that despite them being in different file formats, we can usually open them using the software we are using to view and edit the information. Importing means bringing a file created using different software into the software you are currently using. For example, you might have a text file created using Windows Notepad and want to edit the file using word-processing software such as Microsoft Word.

Here are the file types you will need to know about for the examination.

CSV (comma separated value) file format

This is a list of data items that are separated from each other using commas. Comma separated value files use the file extension '.csv' after the filename. CSV files are mainly used for saving data from a table, spreadsheet or database where there are rows and columns of data.

Text files

As the name suggests, these files contain just text without any formatting. When these files are imported into the package you are using, you will have to edit the data in order to add the formatting. Text files use the file extension '.txt'.

RTF (rich text format) files

This file format saves the text with a limited amount of formatting. Rich text format files use the file extension '.rtf'.

Entering and editing text and numbers

Text and numbers can be entered into the word-processing software in a number of ways:

- using keyboard entry
- loading a file created using the same word-processing software or created by another package
- copy and pasting from another document, web site, file, etc.

Using keyboard entry

If the text is not available to load or copy, then it is necessary to key it in using the keyboard. Keyboard entry needs to be done carefully in order not to introduce errors. Checking your work after typing is extremely important in the examination as key text and numbers you type in must exactly match the text you are instructed to type in.

Copy, cut and paste

To cut text in a document, select it (the selected text will be highlighted) then right click on the mouse. A menu will apear with a number of options including the following:

- Cut
- Copy
- Paste.

If you click on Cut, the text will now be placed in a temporary storage (called the clipboard) by the computer. You can now move

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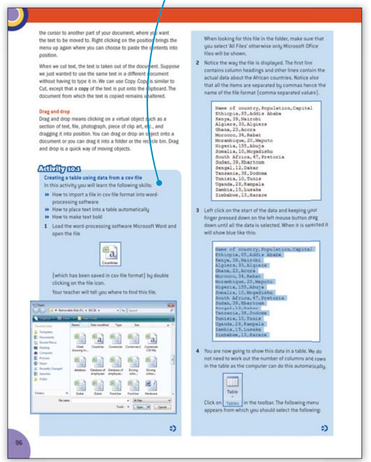
the cursor to another part of your document, where you want the text to be moved to. Right clicking on the position brings the menu up again where you can choose to paste the contents into position.

When we cut text, the text is taken out of the document. Suppose we just wanted to use the same text in a different document without having to type it in. We can use Copy. Copy is similar to Cut, except that a copy of the text is put onto the clipboard. The document from which the text is copied remains unaltered.

Drag and drop

Drag and drop means clicking on a virtual object such as a section of text, file, photograph, piece of clip art, etc., and dragging it into position. You can drag or drop an object into a document or you can drag it into a folder or the recycle bin. Drag and drop is a quick way of moving objects.

Activity 10.1

Creating a table using data from a csv file

In this activity you will learn the following skills:
- How to import a file in csv file format into word-processing software
- How to place text into a table automatically
- How to make text bold

1 Load the word-processing software Microsoft Word and open the file

[which has been saved in csv file format] by double clicking on the file icon.

Your teacher will tell you where to find this file.

When looking for this file in the folder, make sure that you select 'All Files' otherwise only Microsoft Office files will be shown.

2 Notice the way the file is displayed. The first line contains column headings and other lines contain the actual data about the African countries. Notice also that all the items are separated by commas hence the name of the file format (comma separated values).

Name of country,Population,Capital
Ethiopia,67,Addis Ababa
Kenya,34,Nairobi
Algeria,33,Algiers
Ghana,23,Accra
Morocco,29,Rabat
Mozambique,22,Maputo
Nigeria,129,Abuja
Somalia,10,Mogadishu
South Africa,47,Pretoria
Sudan,39,Khartoum
Senegal,12,Dakar
Tanzania,38,Dodoma
Zambia,13,Lusaka
Uganda,29,Kampala
Zaire,51,Kinshasa
Zimbabwe,13,Harare

3 Left click on the start of the data and keeping your finger pressed down on the left mouse button drag down until all the data is selected. When it is selected it will show blue like this:

Name of country,Population,Capital
Ethiopia,67,Addis Ababa
Kenya,34,Nairobi
Algeria,33,Algiers
Ghana,23,Accra
Morocco,29,Rabat
Mozambique,22,Maputo
Nigeria,129,Abuja
Somalia,10,Mogadishu
South Africa,47,Pretoria
Sudan,39,Khartoum
Senegal,12,Dakar
Tanzania,38,Dodoma
Zambia,13,Lusaka
Uganda,29,Kampala
Zaire,51,Kinshasa
Zimbabwe,13,Harare

4 You are now going to show this data in a table. We do not need to work out the number of columns and rows in the table as the computer can do this automatically.

Click on [illegible] in the toolbar. The following menu appears from which you should select the following:

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