ENGLESKI JEZIK

Softverske i informacione tehnologije

2. semestar

5 Information technology 1

A Information systems collect, organize, store, process, retrieve and display information in different formats (text, video, and voice). Information technology allows very fast, automated manipulation of digital data and their transformation from and to analogue.

Two basic technologies have been responsible for the development of the necessary hardware: integrated circuits and digital communications. Parallel advances have been made in software, particularly easy-to-use software products to create, maintain, manipulate, and query files and records. Many of these software programs are designed for use both by computer professionals and enthusiastic amateurs. Another important factor is the development of computer networks (➔ 6).

B As technology develops, new *models* and *types* of computer appear. At the heart of all computers is the *hardware*. However, without *software*, computers are just dumb boxes, unable to perform any calculations or operations.

Models and types of computer

desktop • laptop • mainframe • notebook • server • terminal • workstation

Computer hardware

CPU (central processing unit) • dot matrix printer • expansion card • inkjet printer
keyboard • laser printer • monitor • mouse • RAM (random access memory)
scanner • screen • storage devices

Software

applet • application software • browser • database software • email software
graphics software • operating system • search engine • spreadsheet
word processing

grafički softver obrada teksta operativni sistem pretraživač tabela

C Many words in the field of IT come from American English. So you may see the following spellings:

British English	American English
programme	program
analogue	analog

The area of IT is developing very quickly; and the language to describe hardware, software and applications is also evolving at a high speed. As a result new noun + noun combinations often change to single nouns

noun + noun	single noun
lap top	laptop
note book	notebook
work station	workstation
desk top	desktop

TASKS

1 Label the diagram.

2 Combine one word from A and one word from B and match it with the appropriate definition in C.

A	B	C
create	products	a monitor will do this on a computer screen
central	information	this describes the format of 0 and 1 in which information is stored
software	processing unit	these enable a computer to perform word processing, to create databases, and to manipulate numerical data
display	card	when two or more components are combined and then incorporated into a single package
digital	files	to make new programs, utilities or documents
expansion	network	a group of electronic machines connected by cables or other means which can exchange information and share equipment (such as printers and disk drives)
integrated	data	the principal microchip that the computer is built around
computer	circuits	you plug this into a slot to add features such as video, sound, modem and networking

3 Complete each gap in the following text with a phrase from the table above.

1 The computer monitor will display information so you can see it on screen.
2 Information is stored on a computer as digital data.
3 Spreadsheet and graphic software are examples of software. products
4 Digital communications and integrated circuits have allowed developments in hardware to be made.
5 In order to organise data you should digital data create files where you can store data.
6 When several computers are linked together you have a computer network.
7 The part of the computer which interprets and carries out instructions is the CPU.
8 An expansion card can be inserted in your computer to give your computer extra capabilities.

6 Information technology 2

inter - between
intra - within
tran - across
co/com/con with
up - up to net
down - down time

A A network includes:
- techniques
- physical connections
- computer programs

used to link two or more computers.
Network users can:
- share files, printers and other resources
- send electronic messages
- run programs on other computers

Each network operates according to a set of computer programs called network protocols for computers to talk to one another. Computer networks can now be interconnected efficiently through gateways. The biggest network is the World Wide Web. It consists of a large number of smaller interconnected networks called internets. These internets may connect tens, hundreds, or thousands of computers. They can share information with each other, such as databases of information. The internet allows people all over the world to communicate with each other effectively and inexpensively.

B Before a network can operate, it needs physical *connections* so that signals can be transmitted. After the network has been connected, it is ready for *operation*.

protocol referencia optical wiring

Network connections
bandwidth • baud • bits per second (bps) • optical fibre • packet
receive • signal • transmit • transmission speed • twisted pair

twisted pair

Network operation
configure • download • hack • hub • install • internet service provider (ISP)
local area network (LAN) • switch • transmit • upload • web page • website
wide area network (WAN) • wireless

C A prefix comes at the beginning of a word and usually has a specific meaning, for example inter = between.

Look at the following prefixes and their use in the above IT words/phrases:

combine
compatible
connect
configure

prefix	meaning of prefix	example of use
inter-	between	internet, interconnect, interactive, international
intra-	within	intranet, e.g. company intranet
trans-	across	transmit, transfer, transaction
co-/com-/con-	with	combine, compatible, connect, configure
up-	up (to internet)	upload
down-	down (from internet)	download, downtime, i.e. when the network is down (not working)

upload
dow
downtime

transmit
transfer,
transaction

internet, interconnect,
interactive, international

intranet

downtime
interconnected

TASKS

1 Choose the correct word in each of the following.

1 The speed with which a modem can process data is measured in _____.
a) bandwidth b) bits per second (bps) c) signal

2 Cables consisting of several copper wires each with a shield are known as _____ cables.
a) twisted pair b) optical fibre c) power cables

3 Computers that are connected together within one building form a _____.
a) WAN b) ISP c) LAN

4 If you transfer a file from a remote computer to your computer, you _____.
a) download b) upload c) run

5 To send out information is to _____.
a) signal b) packet c) transmit

6 A document containing information and graphics that can be accessed on the internet is _____.
a) a website b) a web page c) the World Wide Web

2 Complete the words in the following sentences by adding the prefix *inter-, intra-, trans-, com-, con-, up- or down-*.

1 Last month computer down time cost the company over €10,000 in lost production.
2 The computers in the production department have now been successfully inter connected with those in the planning department.
3 Once you have completed payment details the data will be trans mitted via a secure link.
4 We cannot network these computers because the systems are not com patible.
5 Many companies distribute internal documents on their own intra net.
6 Once the home page has been completed, we'll be ready to up load the site.
7 Cables are being laid throughout the building as the network requires physical con nections.
8 Using the network he was able to com bine the data from different reports.

3 Here is a list of instructions for someone wanting to set up a small network. Put the instructions in the correct order. a e j d f g b c h i

a Make wiring and layout plans for your network.
b Hook up the network cables by connecting everything to the hub.
c Check that each computer has an IP address and give it a name.
d If you're installing a small network, twisted pair will be adequate. However, in order to span greater distances and to minimize magnetic and electrical interference use fibre optic cable.
e Decide on the type of network you want to install. To enable you to transfer large amounts of data, choose Fast Ethernet (100BaseT).
f Install network adapters in the computers.
g Add an internet gateway to your network to set up a shared internet connection.
h Install driver software for the adapter driver and install client software to share printers and files.
i Check which protocols are installed and add any other protocols you require.
j Get the hardware you need: an Ethernet adapter card for each computer that doesn't have an Ethernet port, a hub if you've got more than two computers, cables and wall jacks.

17 Electronics 1

A Electronics is a branch of engineering and physics. It deals with the emission, behaviour, and effects of electrons for the generation, transmission, reception, and storage of information. This information can be audio signals in a radio, images (video signals) on a television screen, or numbers and other data in a computer. Electronic systems are important in communication, entertainment, and control systems.

Electronic circuits consist of interconnections of electronic components, at the heart of which are semiconductors. Transistors, which are made of silicon or germanium, are made from semiconductors. Commercial products range from cellular radiotelephone systems and video cassette recorders to high-performance supercomputers and sophisticated weapons systems. In industry, electronic devices have led to dramatic improvements in productivity and quality. For example, computer-aided design tools facilitate the design of complex parts, such as aircraft wings, or intricate structures, such as integrated circuits.

B The development of microelectronics has had a major *impact* on the electronics industry. *Electronic components* are expected to deliver ever higher performance, while electronic circuits continue to benefit from miniaturization.

Function of electronic circuits

amplification • demodulation • electronic processing • generation
information extraction • modulation • radio wave • recovery (of audio signal)

Electronic components

absorb • active • battery • capacitor • diode • energy • generator • inductor
passive • resistor • transducer • transistor • vacuum tube (AmE) • valve (BrE)

Impacts

device size • digitization • fidelity • high speed • increased reliability
manufacturing cost • storage capacity • storage system • ultrahigh image definition

C One way of increasing your vocabulary is to learn the associated words from a key word. Look at the word table below, which shows words related to the key words presented above:

Noun	Verb	Adjective
activation	activate	active
amplification	amplify	amplified
emission	emit	emitted
entertainment	entertain	entertaining
extraction	extract	extracted
generation	generate	generative
integration	integrate	integrated/integrative
reception	receive	receptive
recovery	recover	recovered
reliability	rely	reliable
storage	store	stored
transmission	transmit	transmittable/transmissible

TASKS

1 Choose the correct word in the following sentences.

1 Transistors/inductors are the key component in electronics.
2 They consist of three layers of silicon semiconductor/superconductor.
3 All electronic/electrical systems consist of input, a processor and output, and usually memory.
4 The input receives/resists and converts information while the output converts and supplies electronically processed information.
5 The memory may not be present in simple systems, but its function is the storage/transmission of information for the processor.
6 Continual developments in electronics give us increased reliability/recovery in electronic devices.
7 Electronic equipment controls microprocessors/microwaves in, for example, weapons systems, cellular radiotelephone systems and domestic appliances.
8 Electronic devices have improved our lives by providing high quality communication/combination and entertainment.

2 Use the word in brackets to form a word which fits in the sentence.

1 The weak audio signal entering a radio is amplify by the amplified thus making it audible. (amplify)
2 Computer games are just one example of electronic systems being used for entertaine. (entertain)
3 Due to developments in mobile telecommunications systems, a new generation of mobile phone is now available. (generate)
4 IC stands for integrated circuit. (integrate)
5 Computer software is reliable if it does what the manual says it should. (rely)
6 One area of electronics is concerned with the storage of information. (store)
7 The transmission of signals to satellites is made by microwaves. (transmit)
8 A computer chip is capable of holding vast amounts of stored information. (store)
9 Transmission of speech was first carried out through modulated the amplitude of a radio signal. (transmit, modulate)
10 In a laser, energy is released in the form of emitted light. (emit)

3 Complete the text about electronics by choosing a word from the box.

~~diodes~~ • ~~semiconductor~~ • ~~electrons~~ • ~~devices~~ • ~~germanium~~ • transistors
~~circuits~~ • ~~capacitors~~ • ~~silicon~~ • ~~integrated~~ • resistors

induktori

Electronic circuits are built from basic components. (a) transistors are the most important components. They can be used to amplify the strength of a signal by converting a weak signal into a stronger one or to switch other circuits on or off. (b) resistors reduce the flow of (c) electrons through the circuit, adding resistance to that circuit. (d) diodes function as electronic valves allowing current to flow in only one direction. (e) capacitors store electricity in order to smooth the flow. They can be charged and discharged. The two most common capacitors are ceramic and electrolytic.

Most electronic devices use (f) integrated circuits (IC) or microchips. Inside an IC is a very small piece of (g) semiconductor with circuits built in. Today, semiconductors are usually made of (h) silicon which is cheaper and easier to manufacture than (i) germanium.

Researchers are constantly trying to reduce the size of transistors in order to reduce the size of (j) devices.

18 Electronics 2

A The electronics industry creates, designs, produces, and sells devices such as radios, televisions, stereos, video games, and computers, and components such as semiconductors, transistors, and integrated circuits. In the second half of the 20th century, this industry had two major influences. Firstly it transformed our lives in factories, offices, and homes; secondly it emerged as a key economic sector. Specific advances include:

- the development of space technology and satellite communications
- the revolution in the computer industry that led to the personal computer
- the introduction of computer-guided robots in factories
- systems for storing and transmitting data electronically
- radio systems to automobiles, ships, and other vehicles
- navigation aids for aircraft, automatic pilots, altimeters, and radar for traffic control

B The *applications of electronic engineering* cover almost every aspect of modern life: the industry involves a wide range of *tasks*.

Applications of electronic engineering

samohodni

kosmi prostor

aerospace • automotive • consumer goods • chemical → hemijska obrada

defence • energy/power • environmental • imaging equipment – oprema za snimanje

industrial automation • medical instrumentation • oil and gas • pharmaceutical

pulp and paper • semiconductor • telecommunications • transportation

poluprovodnik transport

Tasks in electronic engineering

design • develop • diagnose • evaluate

manufacture • repair • test

rastavit

C Electronic engineers are highly sought after, well rewarded and can be found in practically every branch of industry and commerce. Here is an extract from a job description for an electronic engineer:

Scope and responsibilities

Senior Electronics Design Engineer

The Senior Electronics Design Engineer will be responsible for enhancing and supporting the entire electronic design process, including, but not limited to:

- electronic product development from design to production release
- electronic design, analysis and testing of new products from product specification, producing electronic prototypes and preparation of all necessary design documentation
- firmware design for electronic devices
- electronic circuit design and board layout for very small devices and instruments
- accurate project and design documentation
- interfacing closely with marketing to create and develop products according to customer needs
- interacting with contract engineers that support product development
- developing and maintaining vendor selection and involvement to ensure the highest quality products
- obtaining necessary product approvals and communicating progress throughout the design process
- providing technical support for new and existing products in manufacturing and in the field
- producing design schedules
- staffing and operating an electronics lab

TASKS

1 Put these words and phrases into one of the three categories below.

develop solutions • transportation systems • robot • automotive industry
transmit data • diagnose problems • radio • pharmaceutical industry
evaluate results • television • provide support • chemical industry
altimeter • defence • computer

devices	functions	applications
computer	transmit data	automotive ind
robot	defence	chemical in
radio	provide support	pharmaceutical
television	develop solut.	transpo.
attimeter	diagnose, pro.	

2 Choose one word from A with one word from B to complete the sentences below.

A	B
space	computer
computer-guided	goods
satellite	robots
consumer	technology
navigation	communications
personal	aids

space technology

1 space technology has enabled people to survive in space.
2 Communications systems for aircraft and ships are dependent on satellite comm.
3 Many people today have their own personal computer at home.
4 Industrial processes have been made more efficient through the use of computer guided robots.
5 Ships and aircraft require navigation aids to find their way.
6 Costumer goods such as washing machines and dishwashers contain electronic circuits.

3 Here are two extracts from advertisements for jobs in electronics. Complete them with words from the box.

ispitano

architecture • repair • examined • technicians • instrumentation • medical

(a) Medical **Electronics Technician**

The Biomedical Engineering Department provides electronic and mechanical engineering as well as ITU support to different specialities within the hospital. We are looking for (b) technicians to join our team of engineers. You will be involved in the management, (c) repair and maintenance of the hospital's highly sophisticated medical electronic (d) instrum. You will be required to work unsupervised in maintaining complex systems and equipment.

There have been great changes in crime and in its detection over the past ten years as a result of technological advances. Computers and mobile phones have become more common and, as a result, criminal activity involving them has also risen. Computers and SIM cards are (e) examined in our department to recover data that is required in criminal investigations.

You will have knowledge of electronic (f) architecture of computers, PDAs or mobile phones and possibly an understanding of computer operating systems.

12

Virtual reality

Start-up

Task 1

Virtual reality is still seen as a toy by most people. Can you think of any potential applications of VR other than in computer games? Make a list.

Reading

Task 2

Read the text opposite. Note down any applications that are not in your list.

Fancy a fantasy spaceflight?

Make a wish and you can go anywhere. That is the reality for a new computer invention, **Chris Partridge** says.

Computers are about to take people to places they have never been able to visit before, including the surface of other planets. Such a trip will be an illusion, but one that comes closer to real life than anything on stage or screen. Artificial worlds are being built up in a computer memory so that people can walk through at will, look around, and even touch objects.

The system is called virtual reality, so called from the mathematical concept of an image that has the virtues of a real object without the substance.

Virtual reality systems are being developed throughout the world for a range of uses including enabling people to walk 'inside' nuclear power stations, while controlling a robot that actually goes into an area in which no human could live, and conducting architects through a computer-generated building before it is constructed.

British scientists have a world lead in virtual reality, despite the fortunes being poured into research by Japanese and American companies, which see it as a technology for the next century.

In Britain, Robert Stone, of the National Advanced Robotics Research Centre at Manchester University, is developing systems that could put men on Mars without shooting them into space and could plunge divers under the North Sea without taking them out of the office.

The problem with guiding a robot by looking at a picture from a video camera mounted on it and twiddling the controls is that it is not a natural system, Mr Stone says. The operator spends all his time controlling the robot and none solving the problem. The time lag between seeing the image and sending a corrective control signal is another difficulty.

A virtual reality system consists of a helmet with a colour display in front of each eye, and wide-angle lenses to cover the entire field of view and give a stereoscopic effect. The helmet contains sensors, rather like electronic compasses, to record where it is pointing. A computer calculates what the wearer should be seeing in that direction and displays it on the screen.

In more advanced systems, the operator wears an electronic glove that detects exactly what the fingers are doing and transmits the information to the computer. If the user tries to pick up something, the computer will make the object follow the hand to give the illusion of carrying it.

Pads in the latest type of gloves press into the insides of the fingers and palm when an object is encountered, to create the illusion of feeling it. Complete 'exoskeletons' covering the user and allowing the computer to simulate almost anything possible in real life are still in the laboratory.

A fire-fighter in a nuclear power plant, for example, would move through a computer model wearing an exoskeleton, while a robot would move through the real thing. The computer program will be derived from the data used to design the plant in the first place.

Mr Stone has developed a data glove with air pockets that are inflated to give a sensation of touch in collaboration with Airmuscle, the supplier of the pneumatic systems that made the *Spitting Image* puppets really spit.

The biggest initial market is likely to be for a new generation of video games. W Industries, of Leicester, recently launched a virtual reality system for video arcades. The system, called Virtuality, consists of a cockpit in which a player sits, wearing the helmet, at a set of controls that can mimic a bobsleigh, a spaceship, or whatever the imagination of the games programmer can devise.

The helmet has a pair of liquid-crystal displays with wide-angle lenses giving a stereoscopic image, and a set of magnetic sensors to tell the computer what the helmet is looking at as it moves.

The first game is a fighter simulation. Another is based on a sequence in the film, *Return of the Jedi*, in which flying motorcycles race through a forest. The computer can link and control several helmets at once for a group game.

▶ **Vocabulary**

time lag (l. 52) – time delay

Spitting Image (l. 103) – satirical British TV programme, using computer-controlled animated puppets

bobsleigh (l. 114) – large vehicle, moving on strips of wood, for travelling fast over ice and snow

Task 3

Answer the following questions about the text:

1 Where does the term 'virtual reality' come from?
2 Which country leads the field in VR research?
3 Why are robots controlled via mounted video cameras less effective than the VR solution?
4 How does Robert Stone's system allow the user to 'feel' objects?
5 What application of VR is expected to be the commonest to start with.

Task 4

Using the line reference given, look back in the text and find the reference for the words in *italics*.

1 *one* that comes closer to real life (line 6)
2 which see *it* as a technology for the next century (line 33)
3 without taking *them* out of the office (line 43)
4 *it* is not a natural system (line 48)
5 to record where *it* is pointing (line 64)
6 and displays *it* on the screen (line 67)
7 to give the illusion of carrying *it* (line 77)
8 while a robot would move through *the real thing* (line 92)

Task 5

Using the line references given, look back in the text and find words or phrases meaning:

1 whenever and however they like (lines 10–15)
2 qualities (lines 15–20)
3 large amounts of money (lines 30–35)
4 immerse (lines 40–45)
5 twisting (lines 45–50)
6 small pockets filled with air (lines 75–80)
7 filled with air (lines 95–100)
8 released on to the market (lines 105–110)
9 imitate (lines 110–115)
10 war plane (lines 125–130)

Task 6

Choose the appropriate form of the word to fit the meaning of the sentence. Make sure you understand the different forms of the word and their meanings. Use your dictionary to find this information.

1 *correct, correctly, correction, corrective, correctness*

a If an error occurs, it is important to take _____ action immediately.

b The 'spell check' facility checks the _____ of your spelling.

c The data was entered _____, so the result must be accurate.

2 *detect, detection, detectable, detective*

a There were _____ traces of radiation in the water sample.

b The analyst could not _____ any errors in the system.

c She tried to escape _____ by disguising herself.

3 *sense, sensor, sensation, sensitive*

a An infra-red _____ detects the presence of intruders in the building.

b The probe is _____ to heat and light.

c The new system caused a _____ when it was launched last month.

Writing

Task 7

These two paragraphs from the article contain similar information. Write one paragraph combining the information from them to give a short but complete description of the VR visual system.

> A virtual reality system consists of a helmet with a colour display in front of each eye, and wide-angle lenses to cover the entire field of view and give a stereoscopic effect. The helmet contains sensors, rather like electronic compasses, to record where it is pointing. A computer calculates what the wearer should be seeing in that direction and displays it on the screen.

> The helmet has a pair of liquid-crystal displays with wide-angle lenses giving a stereoscopic image, and a set of magnetic sensors to tell the computer what the helmet is looking at as it moves.

Speaking

Task 8

We asked a number of people to answer the following question:

Do you think the use of virtual reality in computer war games is going to affect young people's attitude to violence?

Here are some responses. Read them and decide which point of view (if any) most closely matches yours. Discuss your opinions.

Rita Harper
'Yes, I do. I think anything which portrays violence as fun is going to alter young people's perception of violence in a very dangerous way. Violent crime amongst young people is increasing. I think manufacturers of computer war games must take some of the responsibility.'

Susan Clark
'No, not really. Kids – particularly boys – have been playing with toy guns ever since guns were invented. Surely playing with toy guns in the real world is more dangerous than playing with imaginary guns in an imaginary world.'

Mark Watts
'It's difficult to say. Some of my friends get very aggressive when they play computer war games. But I don't really know if it makes them more violent when they're doing other things. I play a VR jet fighter game, and I don't think it has made me more violent.'

21 Languages

Tuning-in

Task 1 Study these sample sections of programs. Rank them from 1 (easiest to understand) to 5 (most difficult to understand).

a
```
TABLE FILE SALES
SUM UNITS BY MONTH BY CUSTOMER
ON CUSTOMER SUBTOTAL PAGE BREAK
END
```

b
```
10101001 01000010 00010100
11101110 11111111
```

c
```
REPORT THE BASE SALARIES
BROKEN DOWN BY REGION
FOR MANAGERS IN ENGLAND
```

d
```
mov ah, 3Dh
mov al, 0
push cs
pop ds
```

e
```
A=0
X=1
INPUT Y
FOR X=1 TO 3
A=Y**X
PRINT A
NEXT X
END
```

Task 2 Here is a list of language types used by programmers ranked from natural human language at the top to machine code at the bottom. Can you match any of the samples in Task 1 to this list?

1 Natural language
2 Very high-level language
3 High-level language
4 Assembly language
5 Machine code

Listening: A Basic program

Task 3 Study this fragment of a Basic program. What do you think this program is for?

```
 10  REM AVERAGES
 20
 30  PRINT 'TYPE 999 TO INDICATE END OF DATA'
 40
 50  SUM = 0
 60
 70  PRINT 'PLEASE ENTER A NUMBER'
 80
 90  DO WHILE NUMBER <>999
100
110  COUNTER = COUNTER + 1
120
130  INPUT NUMBER
140
150
160  PRINT 'THE AVERAGE OF THE NUMBERS IS:' ; AVERAGE
170
```

Task 4 Now listen to the recording to complete the missing lines in the program.

Task 5 Study the completed program. It contains three faults. Can you find them?

Reading: Computing languages

Task 6

Work in groups of three. Read two of the texts about computing languages and make notes in the table on page 88. Then exchange information about the other texts with other students in your group.

C++ was developed from the C language. It was designed as a systems programming language with features that make it easy to control the computer hardware efficiently. It was used to produce the Microsoft Windows operating system. It is portable, i.e. programs written in C++ can be easily adapted for use on many different types of computer systems.

HTML stands for HyperText Markup Language. It is a page description language used for creating webpages. HTML uses a system of tags to mark page links and formatting. For example, the tag <u> tells the program to start underlining a text. Although programs cannot be created using HTML, small programs can be embedded in HTML code using a scripting language like JavaScript.

Java is a programming language originally designed for programming small electronic devices such as mobile phones. It can run unchanged on any operating system that has a Java Interpreter program. Java is used for writing programs for the World Wide Web.

JavaScript is a scripting language. It is powerful and easy to use. Scripts are small programs that can be used to perform simple tasks or tie other programs together. JavaScript is designed for use inside webpages. It can enable a webpage to respond to a mouse click or input on a form. It can also provide a way of moving through webpages and produce simple animation.

Visual Basic is a programming environment, not simply a language. It uses the language BASIC, a simple language developed to make it easy for people to learn how to program. Visual Basic has predefined objects such as dialog boxes, buttons, and text boxes which can be chosen from a toolbox and dragged across the screen using the mouse and dropped into the required position. BASIC programming code is attached to form a complete program. Visual Basic is used to write general purpose applications for the Windows operating system.

Delphi is similar to Visual Basic. It is also a programming environment for developing programs for the Windows operating system. It has predefined objects that can be chosen from a toolbox. In Delphi, however, the code attached to the objects is written in a form of Pascal. You can think of Delphi as a kind of 'Visual Pascal'. Like Visual Basic, it is often used for general purpose programs.

Language	Associated language	Type of language	Use
C++	_____	_____	_____
HTML	_____	_____	_____
Java	_____	_____	_____
JavaScript	_____	_____	_____
Visual Basic	_____	_____	_____
Delphi	_____	_____	_____

Task 7 Now read the texts again and answer these questions about special features of the languages.

1 Which language uses a system of tags?
2 Which languages are designed to be used inside webpages?
3 Which language was used to write the Windows operating system?
4 What is a 'portable' language?
5 Which language can have small programs embedded in it using JavaScript?
6 What does HTML stand for?
7 Which languages can only be used in the Windows operating system?
8 Which language cannot be used for writing programs?

Language work: Reporting screen messages

Study these examples of screen messages. Note how we report them.

Please enter a number.	***It requests you to enter a number.***
Type 999 to indicate end of data.	***It tells you to type 999 to indicate the end of the data.***
Do not attempt to log on.	***It tells you not to attempt to log on.***
Printer out of paper.	***It informs you that the printer is out of paper.***

Study these examples of screen messages. Note how we report them.

Do you want to exit (Y/N)?	***It asks you if you want to exit.***
What is your password?	***It asks you what your password is.***
How many copies do you want to print?	***It asks you how many copies you want to print.***

Task 8 Report each of these screen messages.

1 Make sure printer is switched on before continuing.
2 System halted.
3 Press any key to continue.
4 Please type next number.
5 Do not proceed.
6 Please choose from menu below.
7 Non-system disk in drive a.
8 Paper jam.

Task 9 Report each of these screen messages.

1 Continue (Y/N)?
2 What is the drive letter of your hard disk?
3 Are you sure you want to copy the selected files?
4 Do you want to virus check another disk?
5 Is the printer ready?
6 In which directory do you want to install the program?
7 Delete files (Y/N)?
8 Are you sure you want to shut down the computer?

Problem-solving

Task 10 Using the information in the reading texts and the table in Task 6, decide which languages would be best for these users and tasks.

1 A language for school pupils learning to program for the first time.
2 A language for professional programmers who want their software to run on any type of computer system.
3 A language for a student who wants to create her own webpage.
4 A language for a website designer who wants to include simple animation in a site.
5 A language for computing students who want to write a general purpose program as a college project.

Writing

Task 11 Look back at the notes you made in the table in Task 6. Write a brief summary of the reading texts based on your notes.

Language	Associated Language	Type of Language	Use
C++	C	Programming	General and systems programming

Example *C++ is a programming language. It is used for general and systems programming.*

Retro Tech: The IBM 5150 Personal Computer - the computer that changed the world

The IBM 5150 PC was released 34 years ago. This is the story of the machine that pioneered the personal computing revolution.

The IBM 5150 Personal Computer, unveiled on August 12, 1981, was not the first personal computer to be invented, neither was it the most powerful. However, it is widely heralded as the machine that ignited a home computing revolution.

IBM develops the Personal Computer

Once it had decided to take the plunge, the key was to break from tradition and build a machine with off-the-shelf components, like the 4.77Mhz Intel 8088 processor. As such IBM was able to develop the 5150 within a year from its HQ in Boca Raton, Florida. That's about as far away from Silicon Valley as it's possible to be.

Crucially, the IBM 5150 contained a brand new operating system called MS-DOS (Intel called it PC-DOS).

It was built, at Intel's behest, by a programming start-up called Microsoft. Of course MS-DOS would become Windows once a graphical user interface (GUI) was placed on top in years to come.

"This is the computer for just about everyone who has ever wanted a personal system at the office, on the university campus or at home," Intel claimed upon launch.

"We believe its performance, reliability and ease of use make it the most advanced, affordable personal computer in the marketplace."

The floppy disk-based 5150, priced at $1565 (just over £1,000), was a huge success and sold 200,000 within the first year.

IBM's pitching of the 5150 as machine that anyone could use, rather than something to be pieced together and mastered by gadgeteer, was crucial, as you can see in the advert below. It had created an appetite for computers in the office and the home.

Also, while Apple computers were still considered toys for hobbyists, IBM had almost half a century's experience in creating trusted machines for businesses. As thus, the 5150 was a revelation.

"The speed and extent to which IBM has been successful has surprised many people, including IBM itself," wrote the **New York Times.**

The legacy of the IBM Personal Computer

Amid its success, the IBM 5150 shaped the modern computing industry in many different ways.

The decision to use components from other manufacturers, rather than build everything in house, remains the pervading model in the computing industry. A phone might feature a camera sensor built by Sony, a processor manufactured by Samsung and a screen made by LG, among others.

Back then the thinking was foreign, but it allowed the strongest innovations from a myriad of different companies to be pieced together to build a much more effective machine.

This also gave rise to other manufacturers who could now assemble as system from existing parts, rather than build everything from scratch.

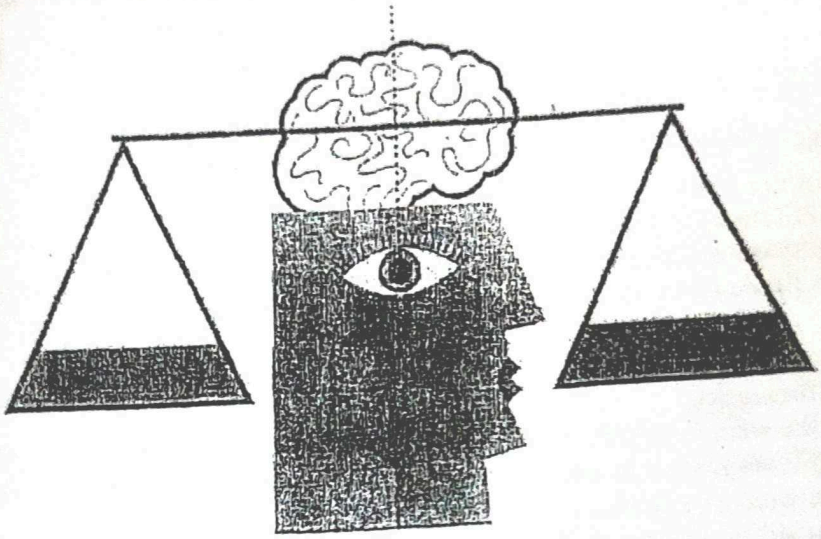
IBMs choice to eschew an all-in-one solution for cable-connected monitors and keyboards created the design framework for the desktop PC, which would endure unchallenged until the all-in-one iMacs of the late-90s.

Perhaps most importantly, it helped to establish Microsoft as an important player in those early days of personal computing. We all know how that panned out.

For a couple of years, IBM would own the burgeoning home PC market and would not have any competition until Apple launched the **first Macintosh** in January 1984. Such was IBM's dominance at the time, Apple's advertising campaign pitched IBM as Big Brother, a brainwashing overlord that would be smashed by a fresh-faced, beautiful and athletic woman.

The Mac vs PC era was born.

10 PROS AND CONS OF SOCIAL MEDIA



Because of the way the internet has changed the way we communicate and interact with one another on so many levels; it's become necessary to explore the pros and cons of social media and its effects on our society.

The Pros

1-Increased criminal prosecution because of social media
The NYC police department began using Twitter back in 2011 to track criminals foolish enough to brag about their crimes online. When the Vancouver Canucks lost the Stanley Cup in 2011, their Vancouver fans took to the streets and rioted, but local authorities used social media to track and tag the people involved, and they caught people who were stealing during the riot.

2-Social networking creates new social connections
Statistics show that 70% of adults have used social media sites to connect with relatives in other states, and 57% of teens have reported making new friendships on social media sites.

3-Students are doing better in school
This is an interesting statistic about the pros and cons of social media and its effect on students doing well in school. Students with internet access at a rate of 50% have reported using social networking sites to discuss school work, and another 59% talk about instructive topics.

4-Better quality of life
If you want to talk about the pros and cons of social media, take a close look at all the support groups on Facebook. Members of these groups discuss their health conditions, share important information, and resources relevant to their conditions while creating strong support networks.

5-Social media as a source of employment
Job sourcing has gone modern thanks to social media. Sites such as LinkedIn are a major resource that 89% of job recruiters take advantage of when looking to hire potential employees.

Now let's take a look at the Cons of social media.

1-Social media and the news
Much of the news information that people read about comes from social media websites, and that figure estimate is around 27.8 %. This figure ranks just under print newspapers at 28.8%, greater than radio's figure of 18.8% and far outpaces the figure for other print publications at just 6%.

2-Too much misinformation
With the advent of the web, people started to create their own websites and blogs. While many of those blogs were just basic diaries, a few of them were about topics like health and politics while others were *how to* blogs.
Many blogs have turned into rumor mills, spreading misinformation that people tend to believe just because it's on the web.

Rumors about hurricane Sandy and gunfights in other countries like Mexico have been picked up by reliable news services, and this misinformation has been shared without the proper vetting of the sources providing the information.

3-Pupils spending too much time on social media sites have lower academic grades
Here is another argument about the pros and cons of social media as it pertains to students. Statistics show that pupils using social media too often tend to have GPA's of 3.06 compared to GPA's of 3.82 for pupils who don't use social media.

An even scarier fact is that students who use social media tend to score 20 % lower on their test scores then their counterparts.

4-Social media sites to blame for lost productivity
Social media platforms like Facebook and Twitter are a direct cause for lost productivity at the workplace. In a survey 36 % of people said that social networking was the biggest waste of time in comparison to activities like fantasy football, shopping, and watching television.

5-Social media is the cause for less face to face communication
One last discussion about the pros and cons of social media is a lack of one on one communication. In a 2012 study families who reported spending less time with one another *rose* from a level of 8% in 2000 to 32% in 2011.
The study also reported that 32 % of the people in the survey either were texting or were on social media sites instead of communicating with each other during family gatherings.

Why are Windows XP users still clinging to the past?

It may be 14 years old and buggier than the front of Lewis Hamilton's Mercedes, but Windows XP is still the world's third most popular operating system. Why hasn't it been abandoned?

Windows 10 is now one month old and, according to Microsoft, it's been installed on around 75 million computers so far

With some 1.5 billion Windows PCs in the world, according to Microsoft, Windows 10 still has a long way to go before it could be described as a success'. More importantly, many, many more people need to install it before it surpasses the 14-year old Windows XP in popularity.

It's well known that Windows XP was a smash hit, but that doesn't fully explain why so many people are still using it when Microsoft has abandoned it. That makes it a sitting duck for hackers and cyber criminals looking to steal your personal data, and there's not a great deal **you can do about it** — other than upgrade. So, Windows XP users, why haven't you yet?

Windows 10 won't run my software

Admittedly, some people's hands are tied because they rely on software that's only compatible with Windows XP or its ancient version of Internet Explorer. Even so, that doesn't prevent them simply transferring their antiquated set-up to a 'virtual PC' within a more recent version of the operating system.

We've covered this approach before and **it's incredibly easy** (it works as well for Windows XP as it does for Windows 10). Once set up, Windows XP and its software all run in a window just like any other Windows 10 application.

It needs a reasonably powerful PC to run another 'PC' as an application in this way, but Windows XP is none the wiser — it's blissfully unaware in its Windows version of The Matrix. Better still this can be set up for nothing using free software like**VirtualBox**.

This won't fix hardware compatibilities, of course, since a printer, scanner or other device needs to work in the 'host' operating system before it will work in a virtual PC. Annoyingly, even some relatively new hardware doesn't have a Windows 10 driver yet, although drivers for Windows 7 and 8 should also work — and only the very oldest hardware won't be covered by those.

I don't like the look of Windows 10

Of course the other main reason many people cite for not moving from Windows XP to Windows 10 is simply that the operating system is different — and anything different to what they're used to is bad by default.

It's true that Windows 10 does look very different to Windows XP, but that's because Windows XP is practically an antique in computer terms. It was launched just before the original iPod, for example, and there can't be many people wishing they still used one of those, rather than a slimmer, lighter iPod Touch with ten times the features and three times the capacity, all for half the price.

Windows 10 doesn't look dramatically different to Windows XP, either. The slick interface still features a Start menu that even a Windows 95 user would recognise and the same conventions apply throughout.

In short, if you're worrying about Windows 10 being confusing, you're missing out. Yes, it will take some time to get used to and it's not without its problems (it's only one month old, after all), but it's light years ahead of Windows XP.

The clock is ticking

And finally, there are always complaints that any attempt to encourage people to move to Microsoft's latest operating system is simply a scam of some sort. It's true that no one (possibly not even Microsoft) knows will happen with the 'versionless' Windows 10 in a few years' time, but that doesn't mean you won't be better off by using it. Or even Windows 7 or 8, for that matter.

The most important thing to do is to upgrade to something more recent than the mouldering Windows XP, even if you think it's still the bee's knees. You're living on borrowed time if you don't.

So, Windows XP users — are you still hanging onto your technological antique, or have our arguments finally persuaded you to upgrade?

6

13 Amazing Facts About Smartphone Use Around The World

- **Android is the most popular in Japan**, with 55% of respondents using it, versus 39% for iOS. Android is also number one in a few other countries, including New Zealand (41%), the US (40%), and China (38%), but it does not dominate in any other surveyed country except Argentina (33%, vs 18% for number-two Blackberry).

- **iOS is farthest ahead in Switzerland**, with 52% usage vs. 23% for Android. Other countries where iOS is way ahead include Australia (49% vs 25% Android), Canada (45% vs 23% Android and 23% Blackberry), and France (43% vs 25% Android).

- **In Egypt, Windows Mobile is way more popular than the iPhone.** 13% of survey respondents use the Microsoft smartphone platform, behind Symbian (19%) and Android (14%). iOS was way down at 4%.

- **In the United Arab Emirates, the Blackberry rules** with 42%. iOS was a distant second at 25%.

- **More than half (52%) Chinese respondents said they use a smartphone because they can use it "without being seen easily."** That was also a big driver in Egypt (43%), Mexico (41%) and Brazil (39%).

- **Japanese users had the most apps on average, with 41.** Saudi Arabia was second with 36.

- **Mobile social networking is biggest in Mexico and Argentina**, where 74% and 73% of users visit a social network daily.

- **But mobile-social is weak in Japan** where 34% of users never visit a social network on their phone.

- **Watching video is most popular in Saudi Arabia,** with 59% of respondents doing it daily. Number-two is Egypt, with 41%.

- **They're really good at ignoring ads in the U.K.** 50% of respondents said they noticed ads "never" (16%) or "rarely" (34%).
- **Chinese users shop from their phones.** 59% of Chinese users did this, compared with only 41% in second-place Egypt.
- **Chinese users also love to write reviews.** 41% of them wrote a review of a local business after looking it up on their smartphone. Number two, Japan, was way behind, with only 24% of respondents doing this.
- **North Americans use their phones to search for restaurants and bars.** Exactly 50% of respondents in both the U.S. and Canadian respondents said they used their phone to search for grub or drinks.

Code Breaking

During World War II, Germany believed that its secret codes for radio messages were indecipherable to the Allies. However, the meticulous work of code breakers based at Britain's Bletchley Park cracked the secrets of German wartime communication, and played a crucial role in the final defeat of Germany.

The Enigma story began in the 1920s, when the German military - using an 'Enigma' machine developed for the business market – began to communicate in unintelligible coded messages. The Enigma machine enabled its operator to type a message, then 'scramble' it using a letter substitution system, generated by variable rotors and an electric circuit. To decode the message, the recipient needed to know the exact settings of the wheels. German code experts added new plugs, circuits and features to the machine during the pre-war years, but its basic principle remained the same.

The first people who came close to cracking the Enigma code were the Polish. Close links between the German and Polish engineering industries allowed the Polish Cipher Bureau to reconstruct an Enigma machine and read the Wehrmacht's messages between 1933 and 1938. In 1939, with German invasion looming, the Poles shared their information with the British, who in turn established the Government Code and Cipher School at Bletchley Park in Buckinghamshire. Mathematicians and intelligence experts, with the help of primitive early computers, began the complex and urgent task of cracking the Enigma code.

The Germans, convinced their Enigma messages were unbreakable, used the machine for battlefield, naval, and diplomatic communications. Although the experts at Bletchley first succeeded in reading German code during the 1940 Norwegian campaign, their work only began to pay off meaningfully in 1941, when they were able to gather evidence of the planned invasion of Greece, and learn Italian naval plans for the Battle of Cape Matapan. In the autumn, the Allies gained advantage in North Africa from deciphering coded messages used by Rommel's Panzer Army. Information obtained from such high-level German sources was codenamed ULTRA.

The Germans also enjoyed some noteworthy code breaking successes. The B-Dienst (surveillance service) broke British Naval code as early as 1935, which allowed them to pinpoint Allied convoys during the early stages of the Battle of the Atlantic. Although the US altered its naval code in April 1942, the change came too late to prevent the havoc wreaked by Operation Paukenschlag, the German U-boat campaign off America's east coast early that year. The Germans also managed to crack Soviet and Danish code systems. But their efforts – fragmented and divided between rival cryptology departments - lacked the consistent success achieved at Bletchley Park.

From 1941 onwards, Bletchley's experts focused upon breaking the codes used by German U-boats in the Atlantic. In March 1941, when the German armed trawler 'Krebs' was captured off Norway complete with Enigma machines and codebooks,

the German naval Enigma code could finally be read. The Allies could now discover where U-boats were hunting and direct their own ships away from danger.

The German Navy, rightly suspicious that their code had been cracked, introduced a fourth wheel into the device, multiplying the possible settings by twenty six. The British finally broke this code that they called 'Shark' in December 1942. Using ULTRA always presented problems to the Allies, because any too blatant response to it would cause the Germans to suspect their messages were being read. But neverthless Bletchley Park and its staff made a crucial and groundbreaking contribution to the defeat of the Axis.

How did the Enigma machine work?

Like all the best cryptography, the Enigma machine is simple to describe, but infuriating to break.

Straddling the border between mechanical and electrical, Enigma looked from the outside like an oversize typewriter. Enter the first letter of your message on the keyboard and a letter lights up showing what it has replaced within the encrypted message. At the other end, the process is the same: type in the "ciphertext" and the letters which light are the decoded missive.

Inside the box, the system is built around three physical rotors. Each takes in a letter and outputs it as a different one. That letter passes through all three rotors, bounces off a "reflector" at the end, and passes back through all three rotors in the other direction.

The board lights up to show the encrypted output, and the first of the three rotors clicks round one position – changing the output even if the second letter input is the same as the first one.

When the first rotor has turned through all 26 positions, the second rotor clicks round, and when that's made it round all the way, the third does the same, leading to more than 17,000 different combinations before the encryption process repeats itself. Adding to the scrambling was a plugboard, sitting between the main rotors and the input and output, which swapped pairs of letters. In the earliest machines, up to six pairs could be swapped in that way; later models pushed it to 10, and added a fourth rotor.

Despite the complexity, all the operators needed was information about the starting position, and order, of the three rotors, plus the positions of the plugs in the board. From there, decoding is as simple as typing the cyphertext back into the machine. Thanks to the reflector, decoding was the same as encoding the text, but in reverse.

But that reflector also led to the flaw in Enigma, and the basis on which all codebreaking efforts were founded: no letter would ever be encoded as itself. With that knowledge, as well as an educated guess at what might be encrypted in some of the messages (common phrases included "Keine besonderen Ereignisse", or "nothing to report" and "An die Gruppe", or "to

the group"), it was possible to eliminate thousands of potential rotor positions.

Eventually, the team at Bletchley Park built a machine, the Bombe, which could handle that logical analysis. But the final steps were always performed manually: the job of the Bombe was merely to reduce the number of combinations that the cryptanalysts had to examine.

Even as the Allied code-breaking team were working on Enigma, the Axis was improving its machines, adding more and different rotors, and minimising operator error. Eventually, the Enigma was superseded by the Lorenz. These required yet more codebreaking in Britain, and more automation to do it – leading to the production of Colossus, the world's first digital programmable computer.

How a Smart House Works

Whether you think of futuristic cartoons from the 60s with nostalgia or chuckle at their cartoon vision of the future, some of their gadgetry forms the real backdrop of life in the 21st century. You may not have a robot maid, but you can live in a smart house that watches over your family, adjusting living conditions to keep you safe and comfortable. Behind the scenes, that smart house shares its automation technologies with factories and high-rise office buildings.

Networked Control

Along with traditional electrical wiring, smart houses include network setups that can rival the technology behind the scenes in public and commercial buildings. At their most complex, these systems prove easier to integrate into new construction than to add on to an existing house. In full setups, you'll find a computer control system alongside the traditional breaker box, sometimes powered by solar panels instead of the municipal electric grid. Extending smart-house control to every room makes it possible to tie comfort systems and thermostats in to computer programs that automatically reset air conditioning as outdoor temperatures rise and fall.

Remote Access

Smart-home automation can provide integrated remote access to everything from security cameras and lighting to temperature control and appliances. Some systems provide a unified remote control as well as a central touchpad. Commanding the devices in your home can rely on networked control of electric outlets or, if the devices you plug in include remote technology, you can tap in to individual appliances through a cell phone. For example, smartphone apps can enable you to control a washer through Wi-Fi and track the age of perishable foods in a smart refrigerator.

Security

Smart-house technology can extend home security to include features that track children, pets and household employees. From cameras that watch over entrances and driveways to motion sensors that activate lighting, these security features can make life easier for your family, lighting the path to the bathroom or kitchen at night. At the same time, they can thwart attempts to gain unauthorized access. Radio-frequency Identification (RFID) tags in key fobs can identify individual members of the household as they enter the house. If a would-be burglar tries to break in, sensors note the attempt and the home control system notifies the authorities.

Other Considerations

How extensively you set up smart-house technology determines the functionality you get out of the system--and the money you put into it. These systems can cost as much as you want to spend and automate as much as you want to control. If you're building a new home and want to plan ahead for household integration, you can pre-wire for future use and save yourself the disruption and expense of a retrofit. On a modest budget, you can start with temperature control and basic security, reserving whole-house entertainment integration or lighting automation for later.

The perfect password? You've put your finger on it

It is a common occurrence. I grab my iPad, place my thumb on the home key and wait for the main screen to pop up.

And nothing happens.

I often forget my 3-year-old iPad came out before Apple embraced the fingerprint sensor. But it's a testament to how conditioned I am to unlocking my iPhone 6 with my finger that I expect the same convenience from my tablet. It's only after a moment that I -- slightly embarrassed and annoyed -- tap in my passcode.

I doubt I'm alone. Thanks to newer smartphones and tablets from Apple and Samsung, fingerprint sensors have gone mainstream. And in May, Google said it will also support sensors in its Android mobile operating system. It's easy to see why. These sensors are more convenient than a numeric passcode. They're also a lot more secure.

A fingerprint is difficult (but not impossible) to steal. And because verification happens right on the tablet or smartphone, your fingerprint information doesn't travel online, where it could get nicked. Passwords, on the other hand, are the weakest link in almost any security system. Their vulnerability lies, in part, on password overload -- a symptom of our logging in to dozens of websites, each requiring a user ID and password.

"Your fingerprint is one of the best passwords in the world. It's always with you, and no two are exactly alike. So it made perfect sense to create a simple, seamless way to use it as a password."
Dan Riccio, Apple's head of hardware engineering

Experts say each password should be unique. Raise your hand if you use the same password for almost every website you visit. That's a big problem, because some of those sites have strong security safeguards, others not so much. Hackers who steal passwords from one site can, with a little time and patience, get into the online equivalent of Fort Knox.

But they can't easily steal your body's unique biometrics. (Emphasis on "easily," since skilled hackers can replicate fingerprints from a photo.)

That's why fingerprint sensors serve as the crux of all new mobile-payment systems.

"Your fingerprint is one of the best passwords in the world," Dan Riccio, Apple's head of hardware engineering, says in a 2013 promotional video for the iPhone 5S. "It's always with you, and no two are exactly alike. So it made perfect sense to create a simple, seamless way to use it as a password."

Mobile-app makers have been quick to capitalize on Apple's Touch ID. These include developers of financial apps, like Mint and American Express; shopping apps, such as Rent the Runway and Amazon; and file-sharing apps like Dropbox. By 2019, people will be downloading fingerprint-enabled apps more than 770 million times a year, according to Juniper Research.

How stupid is your password?

These are the top 10 most commonly used passwords from 2014. Do you recognize any of them?

1. 123456

2. password

3. 12345

4. 12345678

5. qwerty

6. 123456789

7. 1234

8. baseball

9. dragon

10. football

What is the Difference Between Black, White and Grey Hat Hackers?

Not all hackers are inherently bad. When used in mainstream media, the word, "hacker," is usually used in relation to cyber criminals, but a hacker can actually be anyone, regardless of their intentions, who utilizes their knowledge of computer software and hardware to break down and bypass security measures on a computer, device or network. Hacking itself is not an illegal activity unless the hacker is compromising a system without the owner's permission. Many companies and government agencies actually employ hackers to help them secure their systems.

Hackers are generally categorized by type of metaphorical "hat" they don: "white hat", "grey hat", and "black hat". The terms come from old spaghetti westerns, where the bad guy wears a black cowboy hat, and the good guy wears a white hat. There are two main factors that determine the type of hacker you're dealing with: their motivations, and whether or not they are breaking the law.

Black Hat Hackers

Like all hackers, black hat hackers usually have extensive knowledge about breaking into computer networks and bypassing security protocols. They are also responsible for writing malware, which is a method used to gain access to these systems.

Their primary motivation is usually for personal or financial gain, but they can also be involved in cyber espionage, protest or perhaps are just addicted to the thrill of cybercrime. Black hat hackers can range from amateurs getting their feet wet by spreading malware, to experienced hackers that aim to steal data, specifically financial information, personal information and login credentials. Not only do black hat hackers seek to steal data, they also seek to modify or destroy data as well.

White Hat Hackers

White hat hackers choose to use their powers for good rather than evil. Also known as "ethical hackers," white hat hackers can sometimes be paid employees or contractors working for companies as security specialists that attempt to find security holes via hacking.

White hat hackers employ the same methods of hacking as black hats, with one exception- they do it with permission from the owner of the system first, which makes the process completely legal. White hat hackers perform penetration testing, test in-place security systems and perform vulnerability assessments for companies. There are even courses, training, conferences and certifications for ethical hacking.

Grey Hat Hackers

As in life, there are grey areas that are neither black nor white. Grey hat hackers are a blend of both black hat and white hat activities. Often, grey hat hackers will look for vulnerabilities in a system without the owner's permission or knowledge. If issues are found, they will report them to the owner, sometimes requesting a small fee to fix the issue. If the owner does not respond or comply, then sometimes the hackers will post the newly found exploit online for the world to see.

These types of hackers are not inherently malicious with their intentions; they're just looking to get something out of their discoveries for themselves. Usually, grey hat hackers will not exploit the found vulnerabilities. However, this type of hacking is still considered illegal because the hacker did not receive permission from the owner prior to attempting to attack the system.

Although the word hacker tends to evoke negative connotations when referred to, it is important to remember that all hackers are not created equal. If we didn't have white hat hackers diligently seeking out threats and vulnerabilities before the black hats can find them, then there would probably be a lot more activity involving cybercriminals exploiting vulnerabilities and collecting sensitive data than there is now.

15 Interesting Facts about Video Games

- Mario was actually named after the landlord of Nintendo's first warehouse Mr. Mario Segale. The original name of Mario was actually Mr. Video Game which ended up becoming Mr. Segale's nickname speaking of Mario he is actually appearing in over a hundred and twenty video games.
- Pac Man was invented by the designer Toru Iwatani while he was eating pizza.
- The PlayStation was originally designed as a Nintendo Console with Sony to make the inside components when Nintendo console changed their minds about making the console Sony decided to go ahead make the PlayStation.
- The video game industry is valued at 70 Billion Dollars worldwide.
- Two-thirds of American households play games 60% are male, 40% are female.
- In 1990 game Golden Axe from SEGA was voiced entirely by prisoners on death row.
- Due to the popularity of the Nintendo game Mario Brothers in 1983 there was an explosion of name Mario given to children around that time.
- In the original Legend of Zelda game, why you could only hold 255 Rupees (gold coins)? Because the maximum value of an unsigned 8bit integer and to hold more would have required more memory which wasn't just doable for the technology at that time.
- The most famous G code for video games of all time **up up down down left right left right B A** this was made popular by the game Contra which give the player a full set of power-ups and it's called Konami code or Gamers code.
- The first gaming console to ever ship with an internal memory was the SEGA Saturn and it shipped with about one megabyte of memory.
- In the original arcade version of Donkey Kong, Mario was called jump man and he was carpenter not plumber.
- MegaMan is known as RockMan in Japan the name was changed from RockMan to MegaMan when he came to America.
- The best-selling consoles of all time are the PlayStation 2 and Nintendo DS both tied with an about 155 million units sold.

- The highest grossing game of all time is actually World of WarCraft bringing in whopping ten billion dollars over its lifetime.
- Atari is a Japanese word that actually means success.

1
Letters, faxes, and emails

1 Letters: true or false?

Read the following statements and decide which are true and which are false. Mark the true ones 'T' and the false ones 'F' in the spaces provided.

1 ☐ If a letter begins with the *recipient's* name, e.g. *Dear Mr Ross*, it will close with *Yours faithfully*.

2 ☐ The abbreviation *c.c.* stands for *correct carbons*.

3 ☐ If you were writing a letter to Mr Peter Smith, the salutation would be *Dear Mr Peter Smith*.

4 ☐ The head of a company in the UK is known as the *president*.

5 ☐ In *the USA*, it is correct to open a letter with the salutation *Gentlemen*.

6 ☐ In *the UK*, a date written *2.6.05* means *6 February 2005*.

7 ☐ If a secretary signs a letter and the signature is followed by *p.p. Daniel Harris*, it means that the secretary is signing on behalf of Daniel Harris.

8 ☐ The term *plc* after a UK company's name, e.g. *Hathaway plc*, stands for *Public Limited Corporation*.

9 ☐ The term *Ltd* after a UK company's name means *limited liability*.

10 ☐ If you do not know whether a female correspondent is married or not, it is correct to use the courtesy title *Ms* instead of *Miss* or *Mrs*, e.g. *Ms Tessa Groves*.

11 ☐ This address is an example of blocked style.

```
Peter Voss
Oberlweinfeldweg 33
5207 Therwil
Switzerland
```

12 ☐ It is always impolite to close a letter *Best wishes*.

2 Order of addresses

Write out the following names and addresses in the correct order. Use the blocked style.

EXAMPLE Search Studios Ltd / Leeds / LS4 8QM / Mr L. Scott / 150 Royal Avenue

```
Mr L. Scott
Search Studios Ltd
150 Royal Avenue
Leeds
LS4 8QM
```

1 Warwick House / Soundsonic Ltd / London / 57–59 Warwick Street / SE23 1JF

2 Piazza Leonardo da Vinci 254 / Managing Director / I-20133 / Milano / Sig. D. Fregoni / Fregoni S.p.A. /

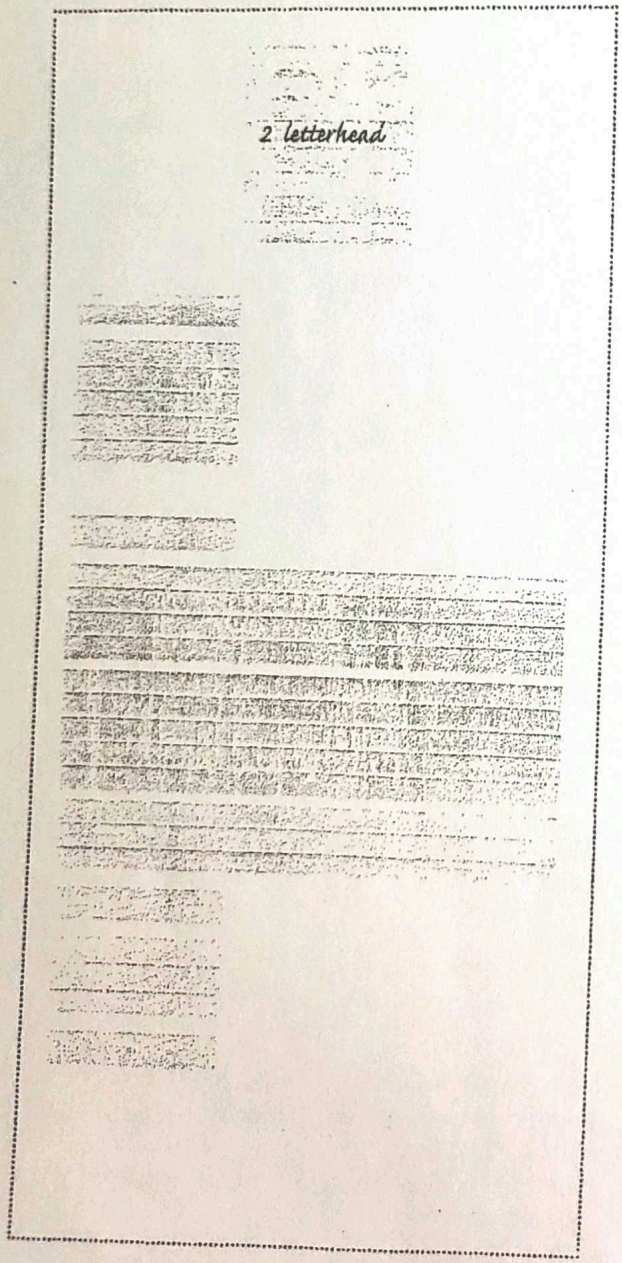
3 Bente Spedition GmbH / Herr Heinz Bente / D-6000 Frankfurt 1 / Feldbergstr. 30 / Chairman

4 Sportique et Cie / 201 rue Sambin / The Sales Manager / F–21000 Dijon
5 Intercom / E-41006 Sevilla / 351 Avda Luis de Morales / Chief Accountant / Mrs S. Moreno
6 Ms Maria Nikolakaki / 85100 Rhodes / Greece / Nikitara 541
7 Excel Heights 501 / Edogawa-ku 139 / 7–3–8 Nakakasai / Japan / Tokyo / Mrs Junko Shiratori
8 301 Leighton Road / VHF Vehicles Ltd / London NW5 2QE / The Transport Director / Kentish Town

3 Letters: parts and layout

The parts of the letter below are in jumbled order. Write the numbers of the parts in the correct boxes in the letter plan, and label them with the terms in the box. The first one has been done for you.

letterhead	date	inside address	salutation
body	complimentary close	signature block	enclosure



1 20 May 20—

2 **HALL & CO. LIMITED**
BUILDERS' MERCHANTS
Albert Road
Peterborough
PE2 7EK
Tel: 01733 564231
Fax: 01733 341865
Email: mlongley@hallbuild.co.uk

3 Dear Mr Freeland

4 Mike Longley
Sales Manager
Hall & Co. Ltd

5 Yours sincerely

6 Enc.

7 Mr M. Freeland
57 Coniston Crescent
Dunstable
Bedfordshire
LU14 3RW

8 We note that you have made a planning application to extend your property, and I am writing to tell you about the building products and services which Hall & Co. provide.

Our products start at the foundations with sand, cement, and bricks and we supply a full range of timber and plasterboard at unbeatable prices. We also offer a FREE ESTIMATING SERVICE with orders over £50.00.

We feel sure you will find a lot to interest you in the enclosed brochure, and look forward to hearing from you.

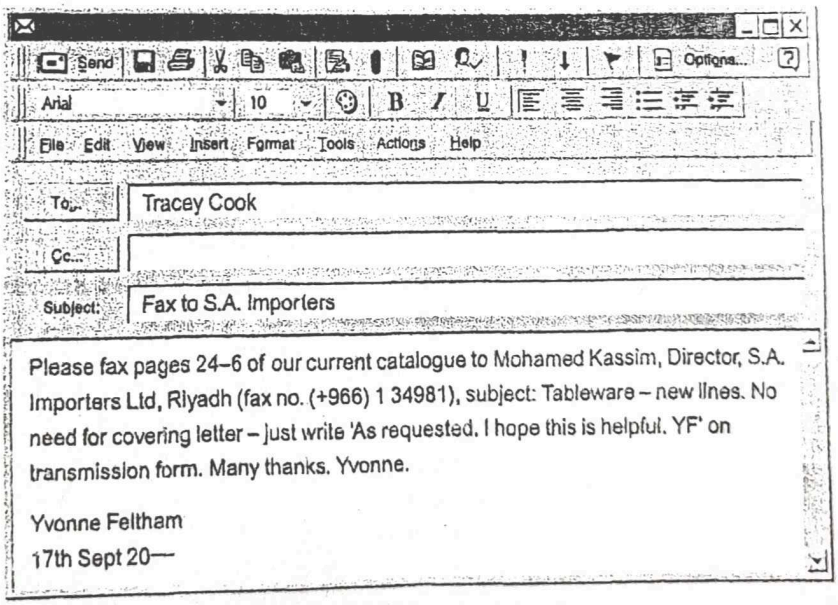
4 Faxes and emails: true or false?

Read the following statements and decide which are true and which are false. Mark the true ones 'T' and the false ones 'F' in the spaces provided.

1 ☐ Confidential information should not be sent by fax and email.
2 ☐ If necessary, faxes can be used as substitutes for original documents.
3 ☐ *Fax* is a short form of the word *facts*.
4 ☐ Emails must end with *Yours faithfully* or *Yours sincerely*.
5 ☐ Emoticons can be added to business emails to make them look friendlier.
6 ☐ Using capital letters to write an email is the same as shouting.
7 ☐ @ in an email address means *automatic*.
8 ☐ A letter or card is usually more suitable than an email for a personal message.
9 ☐ In email header information, *c.c.* stands for *confidential copies*.
10 ☐ Emails are usually less formal than letters.
11 ☐ It is not as important to use correct grammar and spelling in a business email as it is in a letter.
12 ☐ The addressee's name comes after the @ sign in an email address.

5 Fax transmission form

Read this internal email from Yvonne Feltham, British Crystal's Export Manager, to her PA. Then complete the fax transmission form.



Fax

BRITISH CRYSTAL Ltd
Glazier House, Green Lane, Derby DE1 1RT

To: _____

From: _____

Fax no.: _____ Subject: _____

Date: _____ Page/s: _____

6 Email: request for further information

Mohamed Kassim has received Yvonne Feltham's fax. While he was reading the faxed catalogue he made notes about further information he needs. Read his notes and compose his email to Yvonne Feltham.

'York' range be available before end Oct?
Approx. sales figures for 'Cambridge' range in other markets?
'Bristol' range available in green? (can't read fax)
'Durham' range – dishwasher-proof? (can't read fax)

Send | Options...
Arial | 10 | B I U
File Edit View Insert Format Tools Actions Help

To... Yvonne Feltham
Cc...
Subject: Your fax, further info.

Dear Yvonne

Many thanks for your fax. Just a few further questions:

Mohamed Kassim
Director, S.A. Importers Ltd
Al Manni Way, Riyadh
SAUDI ARABIA
Tel: (+966) 1 35669
Fax: (+966) 1 34981
m.kassim@saimp.co.sa

18 Sept 20—

Letters

LAYOUT 1 ▸

The letter opposite is from a private individual in Denmark to a company in the UK. It shows the basic features of a simple business letter.

Sender's address

In correspondence that does not have a LETTERHEAD, the sender's address is placed in the top right-hand corner of the page. It is also acceptable, but less common, to place it in the top left-hand corner. Punctuation is rarely used in addresses these days.

The BLOCKED STYLE is the most widely used, i.e. each line starts directly below the one above.

In contrast with practice in some other countries, in the UK it is not usual to write the sender's name before his or her address.

Date

The date is written directly below the sender's address, separated from it by a space. In the case of correspondence with a letterhead ▸**see page 12**, it is usually written on the right-hand side of the page.

The month in the date should not be written in figures as this can be confusing; for example *11.3.03* means *11 March 2003* in British English, where the sequence is day–month–year, but *3 November 2003* in American English, where the sequence is month–day–year.

It is acceptable to write the date with or without the abbreviations *-th* and *-nd*, e.g. *24th October* or *24 October*, and to transpose the date and the month, e.g. *October 24* or *24 October*. These are matters of personal preference, but whatever you choose you should be consistent throughout your correspondence.

Inside address

The INSIDE ADDRESS is written below the sender's address and on the left-hand side of the page.

Surname known

If you know the name of the person you are writing to, write it as the first line of the address. Include either the person's initial/s or his or her first given name, e.g. *Mr J.E. Smith* or *Mr John Smith*, NOT *Mr Smith*.

COURTESY TITLES used in addresses are as follows:

- *Mr* (pronounced /ˈmɪstə/) is the usual courtesy title for a man. The unabbreviated form *Mister* should not be used.
- *Mrs* (pronounced /ˈmɪsɪz/, no unabbreviated form) is used for a married woman.
- *Miss* (pronounced/ˈmɪs/, not an abbreviation) is used for an unmarried woman.
- *Ms* (pronounced /mɪz/ or /məs/, no unabbreviated form) is used for both married and unmarried women. It is advisable to use this form of address when you are unsure whether the woman you are writing to is married or not, or do not know which title she prefers.
- *Messrs* (pronounced /ˈmesəz/, abbreviation for French '*Messieurs*', which is never used) is used occasionally for two or more men, e.g. *Messrs P. Jones and B.L. Parker*, but more commonly forms part of the name of a company, e.g. *Messrs Collier, Clark & Co.* It is rather old-fashioned.

Other courtesy titles include academic or medical titles, e.g. *Doctor* (*Dr*), *Professor* (*Prof.*); military titles, e.g. *Captain* (*Capt.*), *Major* (*Maj.*), *Colonel* (*Col.*), *General* (*Gen.*); and aristocratic titles, e.g. *Sir, Dame, Lord, Lady*. *Sir* means that the addressee is a knight, and is always followed by a first name, e.g. *Sir John Brown*, never *Sir J. Brown* or *Sir Brown*. It should not be confused with the SALUTATION *Dear Sir*.

Esq., abbreviation for *Esquire*, is seldom used now. It can only be used instead of *Mr*, and is placed after the name. Do not use *Esq.* and *Mr* at the same time, e.g. *Bruce Hill Esq.*, NOT *Mr Bruce Hill Esq.*

All these courtesy titles, except *Esq.*, are also used in salutations ▸**see page 10**.

1 Sender's address

1 Bredgade 51
DK 1260
Copenhagen K
DENMARK

2 Date

2 6 May 20—

3 Inside address

3 Compuvision Ltd
Warwick House
Warwick Street
Forest Hill
London SE23 1JF
UK

4 Attention line

4 For the attention of the Sales Manager

5 Salutation

5 Dear Sir or Madam

6 Body of the letter

6 Please would you send me details of your DVD video systems.
I am particularly interested in the Omega range.

7 Complimentary close

7 Yours faithfully

8 Signature

8 B. Kaasen

(Ms) B. Kaasen

Note that a full stop is often used at the end of the abbreviation if it takes the form of the first few letters of the word, e.g. *Prof.* (*Professor*), but is not necessary if it takes the form of the first and last letter of the word, e.g. *Dr* (*Doctor*). However, some people prefer to write, e.g. *Mr.*, *Mrs.*, with a full stop. Again, whatever you choose to do, you should be consistent throughout your correspondence.

Job title known

If you do not know the name of the person you are writing to, but know their job title, you can use that, e.g. *The Sales Manager*, *The Finance Director*, in the inside address.

Department known

Alternatively, you can address your letter to a particular department of the company, e.g. *The Sales Department*, *The Accounts Department*. ▸ **see letter on page 43.**

Company known

Finally, if you know nothing about the company and do not know which person or department your letter should go to, you can simply address the letter to the company itself, e.g. *Compuvision Ltd*, *Messrs Collier, Clark & Co.*

Order of inside address

After the name of the person and / or company receiving the letter, the recommended order and style of addresses in the UK is as follows:

— Name of house or building
— Number of building and name of street, road, avenue, etc.
— Name of town or city and postcode
— Name of country

Industrial House
34–41 Craig Road
Bolton
BL4 8TF
UK

In other European countries, the number of the building may be placed after the name of the street. It is also common to substitute the name of the country with an initial before the district code number. These two examples are from Italy and Germany ('*Deutschland*') respectively.

Facoltà di Medicina
Via Gentile 182
I–70100 Bari

Lehrschule für Bodenkunde
Amalienstrasse
D–80000 München 40

It is simplest to follow the above order and style, though variations are possible: for example the name of the county, e.g. *Lancashire*, may, if known, be included on the line below the name of the town or city; the postcode may be written on a separate line; the name of the town, as well as the country, may be in capital letters ▸ **see also page 14.**

Attention line

An alternative to including the recipient's name or job title in the address is to use an ATTENTION LINE ▸ **see letter on page 9.**

Salutation

Dear Sir opens a letter written to a man whose name you do not know.

Dear Sirs is used to address a company. (In American English a letter to a company usually opens with *Gentlemen*.)

Dear Madam is used to address a woman, whether single or married, whose name you do not know.

Dear Sir or Madam (or *Dear Sir / Madam*) is used to address a person when you do not know their name or sex. Notice that Ms Kaasen in the letter on page 9 uses this form, i.e. she does not assume that the sales manager of Compuvision Ltd is a man ▸ **see also page 36.**

When you know the name of the person you are writing to, but do not know them well, the salutation takes the form of *Dear* followed by a courtesy title and the person's surname. Initials or first names are not used with courtesy titles, e.g. *Dear Mr Smith*, NOT *Dear Mr J. Smith* or *Dear Mr John Smith*. Business associates who you know well can be addressed using just their first name, e.g. *Dear John*.

A comma after the salutation is optional, i.e. *Dear Mr Smith*, or *Dear Mr Smith*. (In American English a colon is usually used after the salutation, e.g. *Dear Mr Smith:*, *Gentlemen:*).

Body of the letter

The blocked style is the one most often used for the body of the letter. It is usual to leave a line space between paragraphs.

Complimentary close

If the letter begins *Dear Sir*, *Dear Sirs*, *Dear Madam*, or *Dear Sir or Madam*, the COMPLIMENTARY CLOSE should be *Yours faithfully*.

If the letter begins with a personal name, e.g. *Dear Mr James*, *Dear Mrs Robinson*, or *Dear Ms Jasmin*, it should be *Yours sincerely*.

A letter to someone you know well may close with the more informal *Best wishes*. Note that Americans tend to close even formal letters with *Yours truly* or *Truly yours*, which is unusual in the UK in commercial correspondence.

Avoid closing with old-fashioned phrases, e.g. *We remain yours faithfully*, *Respectfully yours*.

A comma after the complimentary close is optional, i.e. *Yours faithfully*, or *Yours faithfully*.

The complimentary close is usually placed on the left, aligned under the rest of the letter.

TITLE	STATUS	COMPLIMENTARY CLOSE
Mr	married or umarried male	Yours sincerely
Mrs	married female	Yours sincerely
Miss	unmarried female	Yours sincerely
Ms	married or unmarried female	Yours sincerely
Sir	male – name not known	Yours faithfully
Madam	female – name not known	Yours faithfully
Sir/Madam	when unsure whether you are addressing male or female	Yours faithfully
medical/academic/military e.g. Dr/Professor/General	these titles do not change whether addressing a male or female	Yours sincerely

Signature

Always type your name and, if relevant, your job title, below your handwritten signature. This is known as the SIGNATURE BLOCK. Even though you may think your handwriting is easy to read, letters such as *a*, *e*, *o*, *r*, and *v* can easily be confused.

It is, to some extent, a matter of choice whether you sign with your initial/s, e.g. *D. Jenkins*, or your full given name, e.g. *David Jenkins*, and whether you include your courtesy title in your signature block as in the letter on page 9. But if you include neither your given name nor your title, your correspondent will not be able to identify your sex and may give you the wrong title when he or she replies.

LAYOUT 2 ▸

Opposite is the company's reply to the letter from the prospective customer in Denmark. It shows some more features of a typical business letter.

Letterhead

The printed letterhead of a company gives a great deal of information about it.

Type of company
The abbreviation *Ltd* after a company's name indicates that it has LIMITED LIABILITY. This means that the individuals who own the company, or part of it, i.e. the shareholders, are only responsible for their holding (i.e. the capital they have contributed) if the company goes bankrupt. In other words, it indicates to people giving the company credit that in bankruptcy they can only be paid back from what the company owns, and not from the personal funds of its shareholders.

The abbreviation PLC (*PUBLIC LIMITED COMPANY*) is used to show that a company's shares can be bought and sold by the public, unlike the shares of private limited liability companies. In the USA the term *INC.* (*INCORPORATED*) is used.

Compuvision Ltd
SP Wholesalers plc
Hartley–Mason Inc.

The abbreviation *AND (&) CO.* indicates that a company is a partnership between two or more people. (*And* is usually written as an ampersand (&) in English company names.) If the company is a family concern, *Son/s*, *Bros* (*Brothers*), or *Daughter/s* may be added. Partnerships may have limited liability or unlimited liability.

F. Lynch & Co. Ltd
R. Hughes & Son

If neither *Ltd* nor *& Co.* appear after a company's name, then it may be a SOLE TRADER, i.e. a person who owns and runs a business on their own.

Board of Directors
The name of the chairman (in the USA, the *president*), who runs the concern, may be given, as well as the names of the directors, who decide the overall policy of the company. The managing director (in the USA, and increasingly in the UK, termed the *chief executive officer* or CEO), who takes an active role in the day-to-day running of the company, may be mentioned if he or she is not the same person as the chairman. In the UK, the chairman runs the Board of Directors while the Chief Executive Officer runs the company.

Address
In addition to the address of the office from which the letter is being sent, the letterhead may also give the address of the head office or registered office, if different, and the addresses of any branches or other offices the company owns.

Telephone and fax numbers will also be included and, if relevant, email and website addresses. A cable (telegram) address may also be included. It is important to remember that although the majority of companies are connected to the Internet, there are many countries where fax and cable are still important ways of transmitting information or, where banks are concerned, money.

Registered number
This usually appears in small print, sometimes with the country or city in which the company is registered.

In the UK, the VAT (VALUE ADDED TAX) number may also be given ▸ **see, for example, the letter on page 56.**

References

REFERENCES are often quoted to indicate what the letter refers to (*Your ref.*) and the correspondence to refer to when replying (*Our ref.*).

References may either appear in figures, e.g. *661/17*, where *661* may refer to the number of the letter and *17* to the number of the department, or in letters, e.g. *DS/MR*, as in the letter on page 13, where *DS* stands for Donald Sampson, the writer, and *MR* for his assistant, Mary Raynor.

12

❶ Letterhead

❶ Compuvision Ltd

Warwick House
Warwick Street
Forest Hill
London
SE23 1JF

Telephone +44 (0)20 8566 1861
Facsimile +44 (0)20 8566 1385
Email staff@comvis.co.uk
www.comvis.co.uk

❷ References

Your ref. 6 May 20—
❷ *Your ref.* DS/MR
Date 11 May 20—

Ms B. Kaasen
Bredgade 51
DK 1260
Copenhagen K
DENMARK

Dear Ms Kaasen,

Thank you for your enquiry.

I enclose our catalogue and price-list for DVD video equipment. You will find full details of the Omega range on pages 31–35.

Please contact us if you have any further questions or would like to place an order.

We look forward to hearing from you.

Yours sincerely,

Mary Raynor

❸ Per pro
❹ Job title

❸ p.p. Donald Sampson
❹ Sales Manager

❺ Enclosure

❺ Enc.

Chairman John Franks O.B.E.
Directors S.B. Allen M.Sc. N. Ignot R. Lichens B.A.

RESERVATIONS

Reservations can be made by letter, fax, or email, as appropriate. It is important to check that you have given the correct details.

Air travel

Dear Mr Wood

This is to confirm our phone conversation this morning.

Please would you make two Business Class reservations, London–Kobe return, in the names of Mr P.R. Dell and Ms B. Newsome. Outward flight DA164, departing Heathrow at 10.05 on Wednesday 12 June, return flight DA165, departing Kobe at 20.30 on Tuesday 18 June.

Please send the tickets for my attention and charge to our account.

Yours sincerely

Beth Cowan

Beth Cowan

Train travel

Dear Ms Meek

To confirm the arrangements we discussed this morning, would you please book a return ticket, with couchette, in the name of Ms Jean Miles for London–Paris–Zagreb, depart Thursday 18 July, and returning Zagreb–Paris–London, depart Saturday 3 August?

The reservation should be in a non-smoking compartment.

Please send your invoice to Jane Lewis in our Finance Department.

Yours sincerely

S. Mehta

S. Mehta (Mr)

Hotel reservation

Dear Ms Okada

Please could you reserve two Executive Grade rooms from 3 June to 18 June inclusive for Mr P.R. Dell and Ms B. Newsome?

I would be grateful if you could confirm these reservations by return.

With best regards

Beth Cowan

Beth Cowan

APPOINTMENTS

Email offers speed and flexibility when arranging appointments.

Conference facilities

Dear Sir / Madam

We are holding our annual conference this year in Kyoto and are looking for a hotel which can offer us accommodation and conference facilities from Thursday 14 November to about 4.00 p.m. on Sunday 17 November.

We require accommodation and full board for 60 delegates, 15 of whom will be accompanied by their spouses. Therefore, we will need 45 single and 15 double rooms for three nights. We would also like coffee and tea to be served to the delegates mid-morning and mid-afternoon on each day of the conference.

For the sessions we will need a room with full conference facilities (including PowerPoint), that can accommodate 60 to 70 people.

Please would you send us a list of your tariffs and let us know what discounts you allow for block bookings?

Yours faithfully

W. Herron

W. Herron (Ms)

Making an appointment

Dear Mr Gomez

Could you contact our Production Director, Mr Norman Luman, to discuss the possibility of setting up a contract for you to supply us with steel over the next year?

He will be in his office all next week, and if you could email or telephone him he would be glad to arrange a meeting with you.

Best wishes

Pat Nash

Pat Nash (Ms)
PA to Production Director

Confirming an appointment

Dear Mr Gomez

Mr Luman has asked me to confirm the appointment you made to see him at our Head Office, 25 City Road, London W1 at 11.30 a.m. on Tuesday 2 August.

He looks forward to meeting you.

Best wishes

Pat Nash

Pat Nash (Ms)
PA to Production Director

Cancelling an appointment

Dear Ms Nash

Unfortunately, Mr Gomez will not be able to keep his appointment with Mr Luman on Tuesday 2 August. An urgent matter has come up in our Lisbon office which needs his immediate attention.

He offers his sincere apologies for the inconvenience, and will contact you as soon as he returns to London.

Best wishes

Maria Ventura

Maria Ventura
Assistant to Diego Gomez

Follow-up after an appointment

Dear Mr Luman

Just a line to say that I was glad we were finally able to meet yesterday.

I am also pleased we were able to work out the main points of our contract so quickly and come to a mutually acceptable agreement.

I will call you in a few weeks to review progress.

With best wishes

Diego Gomez

Diego Gomez

Dear Mr Deksen

Thank you for your last consignment. You will receive our next order in a few weeks.

I am writing to ask if you could offer assistance to our Overseas Sales Manager, Mr Michael Hobbs, who will be visiting Oslo from 1 to 17 May?

You may remember that when you were here a few months ago I mentioned that we intended to expand our export sales. We are now looking at market potential in Scandinavia, and Michael Hobbs's trip is part of this research. It would help us a great deal if you could introduce him to wholesalers and retailers who may be able to advise him about the types of product that we would need to offer in your market. He would also be interested in finding out more about marketing methods and importing procedures.

I understand that you are very busy, but I would much appreciate any assistance you can offer and will, of course, reciprocate as and when the opportunity arises.

Yours sincerely

Frank Welford

Frank Welford
Managing Director

HOSPITALITY

Letter, fax, or email can be used. Letters are more appropriate for more personal invitations and replies.

Request for hospitality

A British company, which wants to expand its sales to Scandinavian countries, asks a Norwegian business associate to provide help and hospitality during a visit to Norway by the company's sales manager. Notice that the letter does not open with the request, but with a reminder of the companies' association.

Dear Mr Deksen

Thank you very much for assisting Michael Hobbs while he was in Oslo. I know he has already written to you expressing his gratitude, but I would like to add a word of appreciation myself. The introductions you made for him and information he gained will be extremely useful in our Scandinavian export programme.

If we can return the favour on some future occasion, please let me know.

Yours sincerely

Frank Welford

Frank Welford
Managing Director

Letter of thanks

Invitation

Dear Mr Okada

I have pleasure in enclosing an invitation for our annual award ceremony, which will take place on 14 December. As one of our distinguished ex-students, we wondered if you would be willing to distribute the awards, and give a short address beforehand on a subject of your choice?

We would also like to invite you to a formal dinner after the ceremony. This will be held in the Principal's Lodgings, at 6.30 for 7.00 p.m.

We would be delighted if you are able to accept our invitation. I look forward to hearing from you.

Yours sincerely

David Hope

David Hope
Principal

Enc.

Accepting an invitation

Dear Mr Hope

Mr Okada has asked me to write saying he is honoured to accept your invitation to distribute the prizes and speak at your annual award ceremony on 14 December. He also has much pleasure in accepting your kind invitation to the formal dinner afterwards.

He has fond memories of the college and welcomes the chance to visit it again.

He suggests speaking on the topic 'Changing technology in the next decade'. He would appreciate it if you could let him know whether this would be an acceptable theme.

Yours sincerely

Yuko Ito

Yuko Ito
PA to Mr Okada

Declining an invitation

Dear Ms Lee

Mr van Ek would like to thank you very much for your kind invitation to attend the reception being held next month at your embassy.

Unfortunately he will be in the United States at that time. However, he sends his apologies, and hopes to be able to attend on another occasion.

Yours sincerely

Els Spruit

Els Spruit
PA to Mr van Ek

Dear Mr Corney

I would like to offer my congratulations on your election as Chairman of our Trade Association.

No one has done more to deserve the honour, or has worked harder to promote our interests. You can count on my full support, and that of my colleagues, during your term of office.

I wish you every success for the future.

Yours sincerely

Mike Benson

Mike Benson
Chief Executive Officer

SPECIAL OCCASIONS

Notice that this correspondence is often quite brief. When expressing wishes on special occasions, it is better to write simple, sincere messages, and avoid exaggeration. For personal messages, a letter or card is often more appropriate than an email.

Congratulations on an appointment

Congratulations are also best given directly, not by someone on your behalf.

Dear Jack

I'd like to congratulate you on being appointed Department Manager. I know you've worked very hard to achieve this well-deserved promotion. I wish you the very best in a job where I'm sure you will be successful.

Sandra

Sandra

Congratulations on a promotion

The tone you use will depend on how well you know the person. In this note, the people know each other quite well and are on first-name terms.

Dear Rob

I am writing to congratulate you on your new appointment and to thank you for your contribution to making this department so successful.

Your future employers are very lucky to have you joining them, and I am sure you will carry your success here over to the challenges of your new position.

With very best wishes

Damien

Damien

Leaving

Illness or accident

Dear Yuko

We were very sorry to hear about your illness. Take care of yourself. We all send our best wishes for a swift recovery, and look forward to seeing you back again soon.

With very best wishes from everyone in the Sales Department.

Sue

Sue

Retiring

Dear Jack

I'd like to take this opportunity to thank you for all your dedication and commitment to the work of the Production Department. It will be extremely difficult to replace you.

May I offer you my best wishes for a long and happy retirement.

Martin Shannon

Martin Shannon

Message of condolence

Messages of condolence should never be written by someone else on your behalf. In these circumstances, it is more appropriate to write a letter rather than send an email message.

Dear Mr Watanabe

I was saddened to hear about the death of your partner, Mr Hiroshi Tanaka, and would like to offer my condolences. He was a fine person and a well-liked man who will be greatly missed by all who knew him.

Please pass my sincerest sympathies to his family.

Yours sincerely

Bernard Fell

Bernard Fell

Seasonal greetings

Seasonal greetings often come in the form of greetings cards and messages. Be aware that people in different countries or from different religious or cultural backgrounds may not share your festivals and holidays.

Dear Mr Peters

May I offer my very best wishes for the New Year to you and your staff? I hope you enjoy the holiday and look forward to working with you again next year.

Paul Davies

Paul Davies

Points to remember

1 The conventions of social correspondence are much the same as those for business correspondence. You should consider the relationship between the writer and receiver and choose not only the most appropriate language but also the most suitable medium, e.g. letter, card, or email.

2 Letters of invitation should state clearly where and when the event will take place, and give some indication of its formality so that guests can dress appropriately.

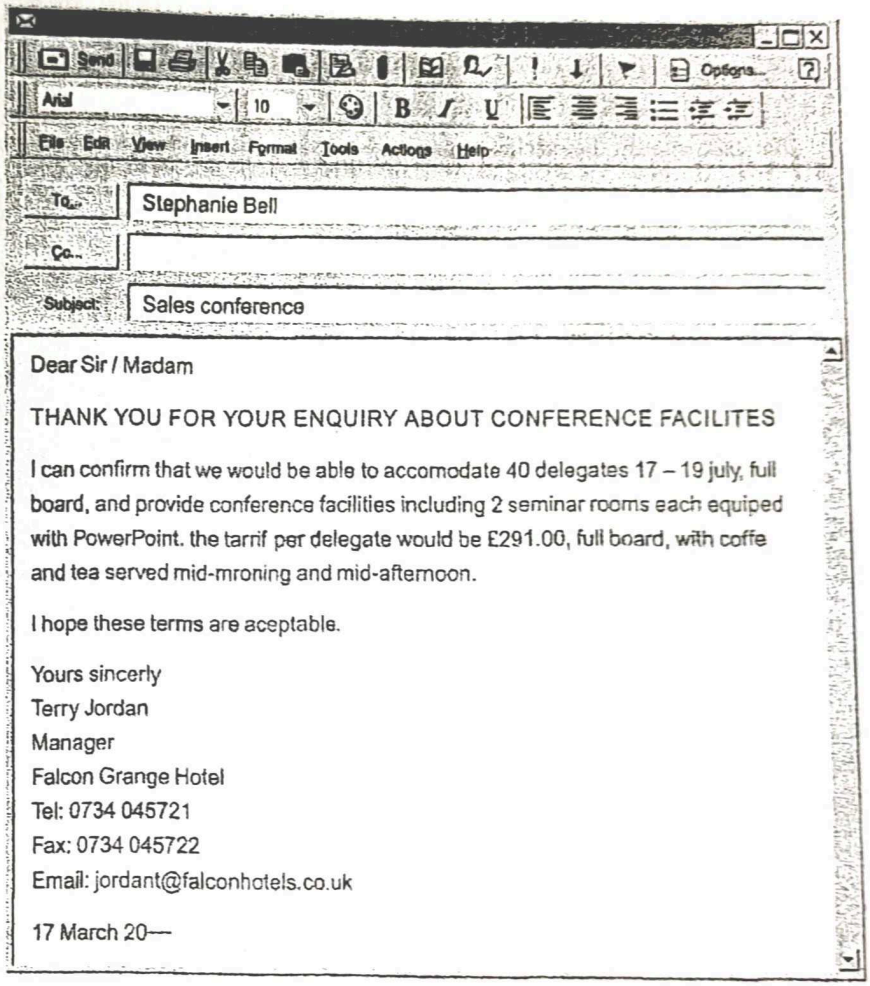
3 When cancelling an appointment, you should say why you are unable to keep it and offer an alternative day / time if possible.

4 Letters of condolence or congratulation should never be written on someone else's behalf.

5 Personal correspondence on special occasions should be short, simple, and sincere.

7 Email: checking

In this email, Terry Jordan, Manager of the Falcon Grange Hotel, is responding to an enquiry about conference facilities. If he sends it like this, he is in danger of losing a valuable customer – there are fourteen mistakes in it. Check the email, and correct the mistakes.



Send | Options...

Arial | 10 | B I U

File Edit View Insert Format Tools Actions Help

To... Stephanie Bell

Cc...

Subject: Sales conference

Dear Sir / Madam

THANK YOU FOR YOUR ENQUIRY ABOUT CONFERENCE FACILITES

I can confirm that we would be able to accomodate 40 delegates 17 – 19 july, full board, and provide conference facilities including 2 seminar rooms each equiped with PowerPoint. the tarrif per delegate would be £291.00, full board, with coffe and tea served mid-mroning and mid-afternoon.

I hope these terms are aceptable.

Yours sincerly
Terry Jordan
Manager
Falcon Grange Hotel
Tel: 0734 045721
Fax: 0734 045722
Email: jordant@falconhotels.co.uk

17 March 20—

8 Words and definitions

Make words from the jumbled letters and match them with the definitions below.

a LBCDEOK YSETL
b TERSGUANI CLOKB
c ERFCNEREE
d CSRULEENO
e EPITVAR NAD FIDNAILTCOEN
f BOJ TELTI
g SURYO ELERCISNY
h TTCMTHAEAN

1 Document enclosed with a letter.
2 Figures and / or letters written at the top of a letter to identify it.
3 Style of writing in which each line starts directly below the one above.
4 Complimentary close used at the end of a letter when the addressee's name is known.
5 Phrase written on a letter intended only to be read by the addressee.
6 Name and job title typed below a signature.
7 Separate document attached to an email message.
8 The name of someone's job, e.g. *Sales Manager, Chief Buyer.*

2

Content and style

1 Typical sentences

Sort out the jumbled words below to make six sentences typical of business correspondence. Add capital letters and punctuation as necessary.

1 grateful / soon / a / as / we / for / would / possible / reply / as / be
2 for / find / please / cheque / £49.50 / a / enclosed
3 further / please / if / us / information / you / any / contact / need
4 april / your / you / letter / thank / 5 / of / for
5 you / we / forward / to / from / look / hearing
6 pleasure / price list / enclosing / have / a / catalogue / our / I / spring / and / in

2 Courtesy

Rewrite the following request for payment in a more polite form.

Dear Sir

You have owed us £567.00 since February, which means you haven t paid us for three months.

We have written to you twice and you haven t bothered to answer us, yet you ve been a customer for years. Anyway, we re not going to put up with this, so if you don t tell us why you haven t paid, or send the money you owe us in ten days, we ll sue you. After all, we ve got bills to pay too, and besides we explained our rules for giving credit, i.e. payment on due dates, some time ago.

Yours, etc.

R. Lancaster (Mr)

13
Miscellaneous correspondence

1 Prepositions

Make eight complete sentences used in general and social correspondence by joining phrases from column A and phrases from column B with one of the prepositions. You will need to use some of the prepositions more than once, but each phrase should be used only once. The first sentence has been done for you.

Column A		*Column B*
I would like to congratulate you	by	Eid Al-Fittr.
Please send the tickets	for	your promotion.
May I offer my best wishes	with	full conference facilities.
She offers her apologies	on	effective website design.
I would like to speak		the inconvenience.
I hope to return the favour		my attention.
Please confirm these reservations		some future occasion.
We will need a room		return.

2 Formal and informal English

Complete the following sentences so that they have a similar meaning to the one above, but are more suitable for formal business correspondence.

1 He's sorry he can't come, but hopes he can come another time.
He sends his _____.

2 It's such a shame that your brother is ill. I'm really sorry.
I was sorry _____.

3 So you've been elected Chairman of the company! Well done!
I would like _____.

4 Mr Norman wants to drop in on you next week about the contract.
Mr Norman would _____.

5 Mr Chung can't see you on Friday for your appointment after all.
Unfortunately, _____.

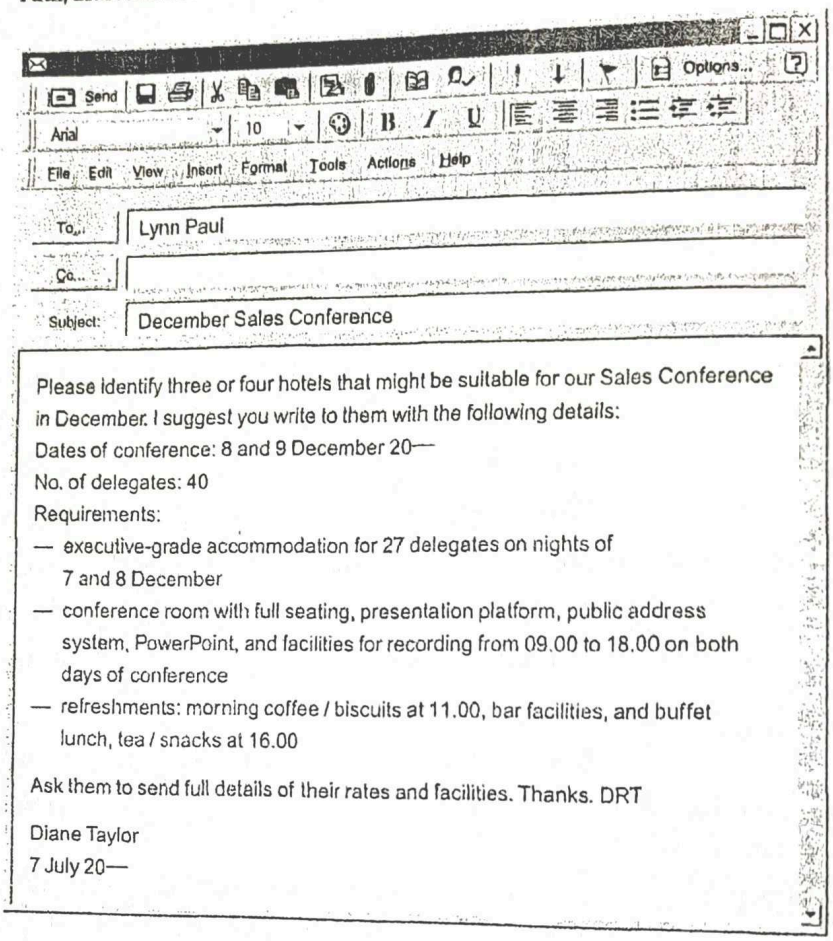
6 Can you come to our Sales Conference on 18 March?
We would like _____.

7 Thanks for helping me while I was in Hamburg last week.
I would _____.

8 It'll be good to see you on Friday.
I look _____.

3 Conference facilities

Diane Taylor, Sales Director of Data Unlimited plc, has emailed her PA, Lynn Paul, with details of a sales conference she is planning for December. As Lynn Paul, draft the letter she mentions.



4 Hotel reservation

Diane Taylor chose the Royal Hotel for Data Unlimited's sales conference (see Exercise 3). It is now only a few days before the conference and two delegates, Charles Bickford and Claire Ramal, have made a last-minute decision to stay at the hotel. As Lynn Paul, complete the fax below. Ask the hotel if they have two extra rooms available and apologize for the short notice.

Fax

Data Unlimited plc
Data House
Chertsey Road
Twickenham
TW1 1EP
Telephone: +44 (0)20 81 460259
Fax: +44 (0)20 81 985132

To: _____
From: _____
Fax: 01372 908754
Subject: _____
Date: 3 December
Page/s: 1

5 Invitation

Read this invitation from a Chamber of Commerce and choose the best words from the options in brackets.

Dear Herr Boldt

We 1_____ (*wish, want, would like*) to invite you to our annual dinner on 15 February, and 2_____ (*wonder, ask, demand*) if you would consider being one of our guest 3_____ (*announcers, speakers, talkers*).

Our theme this year is 'The effects of the euro', and we would 4_____ (*admire, seek, appreciate*) a contribution from your field of manufacturing on how this is 5_____ (*afflicting, affecting, altering*) you and your colleagues enterprises. Please 6_____ (*let, leave, make*) us know as soon as possible if you are able to 7_____ (*talk, speak, discuss*).

8_____ (*Inside, Enclosed, Within*) you will find a formal invitation for yourself and a guest.

Yours sincerely

Peter House

Chairman

6 Accepting an invitation

Below is Herr Boldt's reply to Peter House (see Exercise 5). Write it out, putting the phrases in the correct order and adding paragraphs, capitals, and punctuation where necessary.

Dear Mr House

for your letter / inviting me to speak / on 15 February / thank you / at your annual dinner

I am honoured / your kind invitation / to accept

I would like to focus / on the cost of raw materials / in my talk / on the effects that the euro is having

and would welcome / you care to make / I will send you / next week / any comments or suggestions / a transcript

to meeting you / very much / I look forward / on February 15

Yours sincerely

Gunther Boldt

Chairman

14
Memos and reports

1 Formal and informal English

Match the sentences in column A with sentences in column B with similar meanings. Then put a tick by the sentences which are more suitable for a formal memo.

Column A

1 We haven't decided so far.

2 No-one will lose their job because of what we're doing.

3 Your cooperation in this matter is essential.

4 He's always off sick so he's leaving.

5 The company has expanded a lot recently.

6 Please see your manager if you have any questions.

7 Staff should close windows and take personal belongings with them.

8 The staff restaurant will be relocated in the near future.

Column B

a The last few months have seen a period of unprecedented growth.

b Have a word with your boss if you don't understand.

c No firm decision has yet been reached.

d Don't forget to take your coat and bag, and shut the windows.

e You've got to do what we say.

f We're going to move the canteen.

g There will be no redundancies as a result of this measure.

h He has decided to retire on the grounds of ill-health.

31 Present tenses

A Sample sentences

The logistics department dispatches finished goods to our customers and receives raw materials from our suppliers. Delivery documentation is enclosed with the consignment, but the shipping papers aren't prepared in this department. In this area here the goods are loaded onto trucks; and over there incoming goods which have just arrived are unloaded. A consignment is just being delivered over there. We have been using plastic packaging for many years; however, next year we are moving to more environmentally-friendly materials.

B Form

Present simple* and *Present continuous

	Positive	Negative	Question
Present simple active	We *receive* raw materials from our suppliers.	The supervisor *doesn't prepare* the papers.	Where *do* you *store* finished goods?
Present simple passive	All goods *are received* at this depot.	The bill of lading *isn't dispatched.*	Where *are* the goods *stored*?
Present continuous active	The supervisor *is checking* the delivery.	I *am not sending* out a bill of lading with this shipment.	When *are* we *moving* to the new depot?
Present continuous passive	Goods *are being unloaded* over there.	At present the pallets *are not being reused.*	Why *are* those crates *being moved*?

Present perfect

	Positive	Negative	Question
Present perfect simple active	Our contractor *has built* a supporting wall.	They *have not drained* the water yet.	How many tunnels *have* they *dug*?
Present perfect simple passive	The walls *have been built.*	The water *has not been drained.*	*Has* the cable *been laid*?
Present perfect continuous active	The supervisor *has been checking* the walls today.	I *have not been working* on that site since last year.	How long *have* they *been excavating* at the site?

Note: the *present perfect continuous passive* is very rare

C Uses

The *present tenses* are used to express a range of meanings.

The *present continuous* describes:

1 an activity at or around the time of speaking
At present we are using plastic packaging.
2 a fixed future plan
Next year we are building a new depot.

The *present simple* describes:

a regular or characteristic happening
How often do you receive shipments?

The *present perfect* describes:

1 an activity at a non-specific time in the past
Our contractor has built a new supporting wall.
2 an activity which started in the past and continues to the present
We have been working on this project since last year.

1 Choose the correct verb form in each of the following.

1 In this process, the mixture is heated/is heating to 120°C.

2 Once the salts are dissolving/have dissolved, the heat is reduced.

3 Several people have survived/are surviving the earthquake and are treating/are being treated in hospital at the moment.

4 For security purposes the employees change/are changing their passwords regularly.

5 Up until now people in this area have taken/take waste plastic to recycling centres, but at present we have tried/are trying a curbside collection system.

2 A journalist is asking some questions. Complete the answers by putting the verb in brackets into the appropriate present tense in the active or passive.

1 A: Do you normally hold these products in stock?
B: No. They ___*are*___ normally ___*made*___ to order. (make)

2 A: Is the chief engineer here at the moment?
B: I'm afraid not. He _____ currently _____ the plant in the north of Scotland. (inspect)

3 A: Can I see the new design?
B: Yes, of course. It _____ just _____ off the production line. (come)

4 A: How many units do you produce a month?
B: We _____ 5,000 units a month and only a very small number _____. (produce) (reject)

5 A: How long have you been using imported raw materials?
B: We _____ (import) rayon for many years but we _____ only just _____ (begin) using imported polyester.

6 A: Is this the natural colour of the fabric?
B: No, this fabric _____ (dye).

7 A: And how long will it be kept in store?
B: Not long at all. We _____ (dispatch) this load tomorrow afternoon.

3 Complete the following text with the correct form of the verbs in brackets.

Over the past ten years, this area (a) _____ (experience) severe flooding. Houses (b) _____ (damage) and roads (c) _____ (destroy). The local authority (d) _____ (decide) to introduce a flood control system. At present our workforce (e) _____ (build) a dam on the west side of the town and dikes along the river bank (f) _____ (heighten). We must complete the work within two months, so at present we (g) _____ (work) 24 hours a day. We (h) _____ (believe) that these measures will solve the problem in the short term but on 1st May we (i) _____ (start) work on a new watercourse. The plans (j) _____ already _____ (draw up) and we (k) _____ (be) ready to start next week.

32 Past tenses

A Last year we began a study of airbags on our four wheel drive vehicles. First we analysed the results of the tests that we had carried out. After the results had been compiled, we used modelling software to evaluate the performance of the airbags. This showed how well they had performed under different conditions. While we were evaluating the physical performance, another study was assessing the materials that we were using. All the results were then recorded into a database.

B Form

Past simple and *Past continuous*

	Positive	Negative	Question
Past simple active	Last year we *began* a new study.	We *didn't develop* the software ourselves.	Where *did* you *record* the results?
Past simple passive	The performance of the air bags *was assessed*.	The results *weren't recorded*.	Where *were* the findings *published*?
Past continuous active	While the analyst *was carrying* out the test ...	... the other technicians *were not recording* the results.	What *were* you *doing* during the test phase?
Past continuous passive	While the test *was being carried* out ...	... the results *were not being recorded*.	Why *were* the findings *being written* down?

Past perfect

	Positive	Negative	Question
Past perfect simple active	After we *had compiled* the results ...	Because they *had not recorded* the data ...	*Had* they *carried* out all the tests?
Past perfect simple passive	... after the results *had been compiled*.	... because the data *had not been recorded*.	*Had* all the tests *been carried* out?
Past perfect continuous active	The analyst *had been checking* the walls yesterday ...	We *had not been evaluating* the physical characteristics ...	How long *had* you *been working* on the project?

Note: the *past perfect continuous active* is quite unusual and the *past perfect continuous passive* is very rare

C Uses

All the *past tenses* are used to express activities at a definite time in the past.

The *past simple* describes:
an activity at a definite time in the past
The study of airbags was started last year

The *past continuous* describes:
an activity which is a time frame for another activity
While we were studying the airbags, we made a significant discovery.
While our team was studying performance, another team was looking at the characteristics.

The *past perfect* describes:
an activity that happened earlier than another activity in the past
Our studies showed how well the equipment had performed.

Notes:
We use the *past tenses* with these expressions:

yesterday	*yesterday morning/afternoon/evening*
last	*last night/week/month/year*
ago	*one hour/two weeks/three months/four years ago*
in	*in 2005/the 1990's/the 16th century*

TASKS

1 Six of the following sentences contain mistakes. Find the mistakes and correct them.

1 Sydney Harbour Bridge was building in 1932.
2 While they were carrying out tests in the laboratories, researchers were analysing past results.
3 The first real road builders in Britain was the Romans.
4 The Romans built roads of layers of broken stones of various sizes and were covering them with flat stones.
5 The system didn't working because the loudspeaker had been wrongly connected.
6 Before factories were told to stop polluting the environment, waste was being dumped in rivers and in the sea.
7 Louis Pasteur was discovering the action of germs while he was studying fermentation in wines.
8 The production process had already been shut down when the leak in the fuel tank was found.
9 Nuclear energy began to be used from the mid-1950s.
10 In the second half of the 20th century, the electronics industry transforming the way we work in factories.

2 Make past tense questions and answers using the words given.

1: When were fibre optics first developed?

1 When / be / fibre optics / first / develop?
2 The boxes / break / because they / make / of low quality materials.
3 The power supply / cut off / because / cables / come down / during the storm.
4 They / not complete / the foundations / by the time the building materials / arrive.
5 When / they / install / the solar panels?
6 be / this / the first hydroelectric scheme / in Scotland?
7 They / not use / wood chip / for heating / when the engineer / visit / the factory.
8 How / they / produce / gas / before they / discover / North Sea gas?
9 be / the oil pollution along the coastline / cause / by an oil tanker spillage?
10 How / they prepare access to this mine?

3 Complete the following report of an accident which happened in a factory with the correct form of the verbs in brackets.

On Friday morning at 9.25 a worker in the chemical plant (a) _____ (find) by a female colleague. He (b) _____ (lie) on the floor. His colleague (c) _____ (check) that he (d) _____ still _____ (breathe) and then (e) _____ (call) the emergency services. The injured man (f) _____ (take) to hospital where he later (g) _____ (recover). An investigation at the factory (h) _____ (find) that a bottle containing a dangerous chemical liquid (i) _____ (leave) open. Vapour from the liquid (j) _____ (escape) into the air. While he had been working in the room he (k) _____ (become) unwell. He (l) _____ (become) drowsy and then (m) _____ (fall) unconscious. Investigating officers are interviewing everyone who (n) _____ (work) in the factory that morning.

33 Future forms

25 1

A Sample sentences

A: When are we going to treat the first patients with the new drug?
B: The results from the tests won't be available before next year.
A: When is PharEurop going to register the drug?
B: They are preparing the preliminary forms next month. So they'll be ready before the summer.
A: And when are you going to publish that paper on the results?
B: I am submitting it to the medical journal after the summer.

B Form

1 There is no *to* after *will* or *shall*:
The results of the tests will be ready after the summer.
2 You need the verb *to be* with the *present continuous* and the *going to* forms:
I am submitting it to the medical journal after the summer.
When is PharEurop going to register the drug?

C Uses

Look at the differences in meanings between the following pairs of sentences:
I am going to upload the new web page next week. (I intend to do it: future with *going to*)
I am uploading the new web page next week. (It is my fixed plan to do it: future with *present continuous*)

We are going to digitize the pictures so that we can upload them to our website. (We intend to digitize them: future with *going to*)
The digital pictures will be uploaded to our website on 1st June. (The upload date is a fact: future with *will*)

Now look at this mini-dialogue. Notice the different shades of meaning between the three future forms:

A: When will the hardware be installed?
B: We are going to lay the network cables next Tuesday.
A: I'm seeing the electrical contractor tomorrow. We're going to review the site plan.
B: Good. So when do you think the system will go live.
A: The file server will be delivered on Friday.
B: And the work stations?
A: They're coming at the beginning of the following week.

Notes:
1 The *present continuous* needs an expression of future time to give it a future meaning.
The work stations are coming. (now)
The work stations are coming at the beginning of next week. (in the future)
2 Typical expressions of future time are:
tomorrow morning/afternoon/evening but *tonight*
next week/month/year
in two weeks/months/years
in the short/medium/long term
3 The negative of *will* is *won't*:
The results won't be ready this week.

TASKS

1 Match these present tense situations with the future intention.

1 The building materials are being delivered.
2 There is a backlog of orders.
3 We're shutting down production.
4 The workers need different interesting jobs to do.
5 This is a very slow manual process.
6 There have been too many faulty goods recently.

a We're going to replace the faulty machine.
b We're going to build a new warehouse.
c The assembly line is going to be inspected.
d We're going to automate it in the near future.
e The workers are going to work overtime.
f We're going to introduce job rotation.

2 In the following situations choose the correct sentence. a) or b).

1 You are reminding a colleague about the programme for tomorrow.
   a Remember that you'll meet the supplier at 12 o'clock.
   b Remember that you're meeting the supplier at 12 o'clock.

2 Two colleagues are discussing the future visit by inspectors.
   a The inspectors won't allow us to store chemicals in this cupboard.
   b The inspectors are not allowing us to store chemicals in this cupboard.

3 Designers are discussing the car models with airbags.
   a The use of airbags is going to save more lives in the future.
   b The use of airbags is saving more lives in the future.

4 Two managers need the results from some research before November.
   a They won't be able to complete the research before November.
   b They aren't completing the research before November.

5 A senior manager isn't looking forward to next week because he's worried about the tests.
   a Tests will be carried out next week.
   b Tests are being carried out next week.

3 A salesman is describing a new product to a customer. Complete what they say with *will* or *won't* and a verb from the box.

give • operate • deal • take • be • contact
install • provide • need • revolutionize • warm • see

S: This is an excellent new material which (a) _____ the use of solar panels.

C: I see, and how many hours of sunshine (b) _____ we _____ to produce energy?

S: It (c) _____ necessary to have sunshine. It (d) _____ in daylight only.

C: (e) _____ it _____ enough energy to warm the building in winter?

S: It (f) _____ the building but you may need additional heating when it is very cold.

C: What about installation?

S: We (g) _____ it for you. It (h) _____ long and you (i) _____ soon _____ how effective it is. We (j) _____ you a three year guarantee and if there are any problems we (k) _____ with them immediately.

C: When will you be able to install it?

S: As soon as we receive your order we (l) _____ you to discuss a suitable date.

34 Conditionals

A Sample sentences

If you follow these measures, the risk of burns will be substantially reduced.
If you combined these two substances together there would be a serious risk of explosion.
If you hadn't sealed the container, the vapour would have contaminated the environment.
If you feel unwell, seek medical advice immediately.
In case of contact with eyes, rinse immediately with plenty of water.

B Form

A conditional sentence has two clauses: the *if* clause and the main clause.
There are four principal types of conditional sentences: conditional I, conditional II, conditional III and universal conditions.

Conditional	*if* clause	main clause
I	*present simple*	*future* with *will*
II	*past simple*	*conditional* with *would*
III	*past perfect*	*past conditional* with *would have*
Universal	*present simple*	*present simple*

Note that the following contractions are common in speech:
will – *'ll*, e.g. *I'll* *would have* – *would've*, e.g. *we would've* *would/had* – *'d*, e.g. *they'd*

C Uses

We use conditional sentences to talk about the relationship between events and their consequences:
If our survey indicates the possibility of oil (event), *then we will do some drilling* (consequence).

Conditional I
Here the speaker sees the event as a real possibility:
If the oil field is productive, we will recover our exploration costs in a short time.

Conditional II
Here the speaker sees the event as a remote possibility:
If there was a blowout, we would evacuate the rig immediately.

Conditional III
Here the speaker recognizes that the event is an impossibility, i.e. cannot be fulfilled:
If we hadn't made this find, we would have leased out our tankers.

Universal Conditions
Here the speaker indicates that the consequence always follows the event:
If a rock is permeable, it allows water or other fluids, such as oil, to pass through it.

Notes:

1 These expressions mean *'if'* and *'only if'*:
provided/providing (that) *on condition that* *so long as*
Provided that the results of our surveys are positive, we will continue to drill here.
2 These expressions indicate that a future event may or may not happen.
in case *in the case of* *in the event that* *in the event of*
In case of corrosion, stop all activity.
3 *unless* means *'if .... not'*
Do not return to the rig unless the supervisor gives instructions to do so.

TASKS

1 Match two parts to form conditional sentences.

1 If these tests produce positive results,
2 If rubber is cooled to –200° C,
3 If safety measures had been followed,
4 If you want to study the files from the internet,
5 If we bought a new software package,
6 If you want to use this software package on more than one system,
7 If the goods had been sent by sea,
8 If we ran an additional test,

a the accident would never have happened.
b download them onto your computer.
c we'd be able to do all the technical specifications in half the time.
d we could estimate the experimental error.
e they would have taken nearly two months.
f it becomes brittle and will break.
g we'll continue with clinical trials.
h you'll have to get a site licence.

2 Complete these sentences using the words in brackets.

1 The tests won't be continued unless _____ (there/be/better safety measures).
2 He wouldn't have been injured if _____ (he/follow/the correct procedures).
3 In the event of a collision, _____ (the airbag/inflate).
4 If all vehicles were fitted with a catalytic converter, _____ (there/be/less/pollution).
5 The reaction would be speeded up if _____ (we/introduce/a catalyst).
6 If heat is applied, _____ (the substance/decompose).
7 As long as disinfectant is used, _____ (infections/not be/ pass on).
8 If iron is left in contact with air and water, _____ (it/rust).

3 Two site workers are discussing the weather. Complete the conversation with the correct form of the verbs in brackets.

A: We'll carry on with the work when the conditions (a) _____ (improve).

B: If we'd known the weather was going to be this bad, we (b) _____ (delay) the start of the project.

A: Well, if the rain (c) _____ (stop) soon, we'll get the foundations laid by evening.

B: It could have been worse. Do you remember building that bridge last year? If we (d) _____ (not build) the dike of sandbags, the river would have flooded the town.

A: And if we hadn't brought in that earthmover, we (e) _____ (not make) it in time.

B: If we get any more rain here, we (f) _____ (have to) repair the potholes in the road before we can use it.

A: Provided it (g) _____ (stop) soon, we'll be able to start preparing the timber. If they'd chosen another time of year, we (h) _____ (not have) these problems. It would be much nicer if we (i) _____ (have) indoor jobs at this time of year!

35 Verb phrases

26

A Sample sentences

Next month the production department will start to control stock levels every week.
Next month the production department will start controlling stock levels every week.
Do you like working on the assembly line?
Do you like to work on the assembly line?

B Form

After some verbs we can use:
Verb ...*ing* or infinitive + *to*, e.g.
We will continue to automate the process.
We will continue automating the process.
You should never try to operate this machinery unless you are wearing protective clothing.
You should never try operating this machinery unless you are wearing protective clothing.

C Uses

Sometimes the meaning is the same; sometimes it is different.

1 The same meaning:
We can use both forms after these verbs:

begin • continue • intend • prefer • start

We prefer to inspect stock levels on a monthly basis.
We prefer inspecting them twice a month.

2 A different meaning:
We can use both forms after these verbs, but with a different meaning:

forget • remember • try

Please remember to check the bill of materials. (Don't forget)
I remember checking the bill of materials. (I checked it and I remember it)
We tried to mix the two chemicals that you delivered (we attempted to do it)
We tried mixing the two chemicals that you delivered. (we experimented with it)

3 A slight difference of meaning:

The employees like rotating jobs, as it increases their motivation. (They enjoy it)
We like to use a subcontractor to maintain this equipment. (It is a good thing to do)

Notes:

1 *We would like* _____ *(as is)*

2 *We prefer to use organic products rather than chemical ones.*
We prefer organic products rather than chemical ones.
We prefer carrying out thorough lab tests to field trials.
We prefer carrying out thorough lab tests to trialling the products in the field.

We would like to introduce quality circles next year. (not *we would like ~~introducing~~*)

TASKS

1 Choose the correct sentence in each of the following.

1 This new telephone system has been such a success.
  a I really regret not making a change a long time ago.
  b I really regret to not make a change a long time ago.

2 This unit is extremely heavy.
  a Could you try moving it, please?
  b Could you try to move it, please?

3 Security is very important.
  a Don't forget changing your password regularly.
  b Don't forget to change your password regularly.

4 This sounds as though it could work!
  a Would you like setting up trials?
  b Would you like to set up trials?

5 It was several years ago but
  a I remember discussing the advantages of videoconferencing.
  b I remember to discuss the advantages of videoconferencing.

2 Complete the following sentences with either *to* + infinitive or verb + *...ing*. Choose from the verbs in the box.

produce • scratch • visit • overload • deliver • increase • reduce • switch

1 Installing another machine could risk _____ the electricity supply.
2 Tell him _____ off the power supply.
3 We expect _____ production by 15%.
4 We'll finish _____ that model in November.
5 The suppliers have agreed _____ the amount of packaging.
6 Please avoid _____ the disc.
7 The firm refuse _____ without payment in advance.
8 We want our customers _____ our website for further information.

3 This is part of a memo sent from a computer consultant to a manufacturing company. Complete the memo using the words in brackets.

To: Helmut Pohl
From: Steve Banks
Re: computer software

MEMO

I have begun work on the software for order processing. I had planned (a) _____ (come) and see you but I've decided (b) _____ (begin) _____ (work) on what I've got here. I am trying (c) _____ (develop) your existing software so that your office staff can keep (d) _____ (use) the existing routine. If we do that we can avoid (e) _____ (create) further training costs. The idea will involve (f) _____ (link) all the modules from quotations, order processing, bill of materials to invoicing. When we link them in this way we will hopefully prevent mistakes (g) _____ (happen).
I'd like to invite an associate (h) _____ (join) us on this project and if he agrees (i) _____ (do) this, we can hope (j) _____ (complete) the outline of the programme by July. I don't want (k) _____ (delay) _____ (run) the demonstration and will try (l) _____ (arrange) a suitable time to discuss this further.

Active vs passive

A Sample sentences

For our research studies we normally produce a preliminary analysis. We then publish the findings and circulate them to various experts. This is exactly what we did when we applied for the current patent. We are therefore very surprised that you have contacted us in this matter. We can assure you that we completed all the relevant documentation. In the meantime we will investigate your claims further.

For our research studies a preliminary analysis is normally produced. The findings are then published and circulated to various experts. This is exactly what was done when the current patent was applied for. We are therefore very surprised that we have been contacted in this matter. We can assure you that all the relevant documentation was completed. In the meantime your claims will be investigated further.

B Form

Every active sentence has at least two parts:
a subject [1] + an active verb form [2]
We normally produce a preliminary analysis.
[1] [2]

Every passive sentence has at least two parts:
a subject [1] + a passive verb form [2]
A preliminary analysis is normally produced.
[1] [2]

Aktywna
Subjekt + acti
rec
we
you... produce
Pasywna
Resto produced

C Uses

We use the *active* verb form in speech and writing to describe actions and events. For example: Paper still plays a vital role in our lives – newspapers tell us the events of the day, and books entertain and educate us. Paper has been with us since 105 A.D. The Chinese first used it to make records: later it spread to all parts of the world.

We can use the *passive* in the following situations:

1 We are not interested in the doer.
Ancient paper was made entirely of rags; modern paper is made from wood pulp - a faster and cheaper alternative.

2 In process descriptions.
First the logs are stripped of bark, cut into smaller sections, and made into chips. The chips are put into a large tank called a digester and allowed to stew in a chemical mix under pressure. The wood pulp that is created by this process is then washed to remove any chemicals and pressed through screens to remove chunks and foreign objects. The pulp is then drained of water to form a mass that is then bleached and washed again.

The first two corresponding *active* sentences would be:
First we strip the logs of bark, then we cut them into smaller sections, and make them into chips. We then put the chips into a large tank called a digester and allow them to stew in a chemical mix under pressure.

3 In impersonal language.
The chemicals in this process are toxic: safety clothing must be worn.
This is the typical style of a written order or instruction. The corresponding *active* sentence would be:
The chemicals are toxic: wear safety clothing.

TASKS

1 In the following sentences underline the verbs and decide if they are *active* or *passive*.

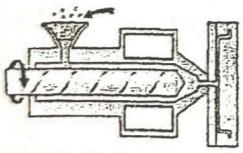
1 A repeater boosts the electrical signal so that longer cables can be used. passive passive
2 Men's ties are usually made of silk or polyester. passive passive
3 Nearly all paper can be recycled if it is sorted and contaminants are removed.
4 Geothermal energy is produced below the earth's surface. passive
5 The main sources of greenhouse gas emissions include fossil fuel generating plants and transportation vehicles. active
6 Manufacturers choose plastic containers for many different reasons. active
7 Oil was formed in underground rocks millions of years ago. pasiv

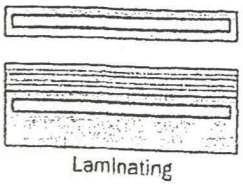
2 Here is a list of changes which have taken place in a town between 1960 and today. Use these notes and the verbs given to write sentences to describe these changes.

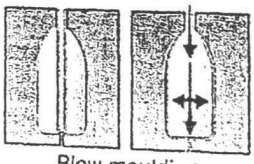
Example: *Four hotels have been built.*

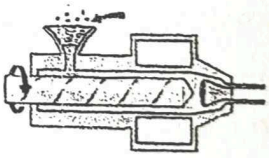
1960	today	verb
no hotels	four hotels	build
wet land	no wet land	drain
small library	new library extension	open
three factories	no factories	close
river polluted	river clean	clean
few offices	new office block	build
no parks	two parks	establish
no airport	plans for airport	plan

3 In the following description of how plastics are shaped, put the verb in brackets in the correct form.


Injection moulding


Laminating


Blow moulding


Tube making – extrusion

There are many ways of shaping plastics. The most common way is by moulding. Blow-moulding (a) is used (use) to make bottles. In this process, air (b) is blowed (blow) into a blob of molten plastic inside a hollow mould and the plastic (c) is forced (force) against the sides of the mould.

Toys and bowls (d) are made (make) by injection moulding. Thermoplastic chips (e) are first heated (heat) until they melt and then forced into a water-cooled mould under pressure. This method (f) suits (suit) to mass production.

Laminating (g) produce (produce) the heat-proof laminate which (h) is used (use), for example, for work surfaces in kitchens. In this process, a kind of sandwich (i) are made (make) of layers of paper or cloth which (j) soaks (soak) in resin solution. They (k) are then squeezed (squeeze) together in a heated press.

Thermoplastics can (l) be shaped (shape) by extrusion. Molten plastic (m) is forced (force) through a shaped hole or die. Fibres for textiles and sheet plastic may (n) be made (make) by extrusion.

37

Causation

27

A Sample sentences

The application of civil engineering techniques has led to more secure structures.
Tighter environmental controls have made many companies use cleaner sources of energy.
These stains result from the extensive use of dyes.
We have moved over to water turbines because they offer significant cost savings.
Many accidents in mining happen due to poor security procedures.

B Form

We can express the relationship between a cause and an effect in a number of ways.

1 *Verbs* and *verb phrases*

Modern civil engineering techniques have led to the use of better construction methods.

[_____A_____][___B___][_____C_____]

Here A = the cause; B = the verb linking the cause to the effect; C = the effect.

Here are other *verbs* and *verb phrases* with a similar meaning.

account for cause • result in bring about give rise to be responsible for

Alternatively we can reverse the elements in the sentence:

The use of better construction methods results from modern civil engineering techniques.

[_____C_____][___B___][_____A_____]

Here A = the effect; B = the verb linking the effect to the cause; C = the cause.

Here are other *verbs* and *verb phrases* with a similar meaning.

arise from • be attributable to • stem from

2 *Clauses of cause*

We have moved over to water turbines because they offer significant cost savings.

Here a subordinating conjunction links the effect and the cause.

Here are the other main *subordinating conjunctions*:

as • since

3 *Phrases of cause*

Many accidents in mining happen due to poor security procedures.

Here an *adverb phrase* introduces the cause.

Other expressions with a similar meaning are:

as a consequence of • because of • on account of • owing to

C Uses

Look at the following text which shows the above language in use.

Combustion is a reaction in which the oxidization of an element or compound *leads to* the release of energy. If the combustion *results in* a flame, it is called burning. *Since* combustion can be dangerous, it is important to take precautions against injury. However, not all combustions *result in* flames. For example, the combustion of carbon in oxygen *causes* an intense red-white light but no flame. Petroleum, on the other hand, requires special handling *on account of* its volatility.

TASKS

1 Choose the correct phrase in each of the following.

1 Just-in-time manufacturing methods result from/result in a saving on storage costs.
2 The reject rate has fallen as a result of/giving rise to quality control.
3 Poor quality materials were responsible for/stem from product defects.
4 The machine broke down and resulted in/because of poor maintenance.
5 Steel was used in the construction caused by/on account of its strength.
6 Data was damaged as a result of/giving rise to a virus in the system.
7 Transport costs have increased accounting for/due to a rise in oil prices.
8 Stopping the use of certain chemicals in the process has brought about/arises from a reduction in the number of cases of allergic skin reactions.
9 Most British coal mines have been closed because/on account of they have become uneconomic.
10 The regeneration of plants and wildlife in rivers and waterways accounts for/is attributable to new legislation to stop pollution by industry.
11 There has been a large increase in the number of people who want to buy organic food products since/as a consequence of fears about chemicals in food.
12 Environmental problems resulting from the disposal of plastics led to/due to the development of biodegradable plastics.

2 Rewrite the following sentences using the verb or phrase in brackets.

1: Modern communication systems here resulted in more and more people working from home.

1 More and more people working from home is a consequence of modern telecommunications systems. (have resulted in)
2 Cold weather leads to a rise in the volume of electricity required by consumers. (is caused by)
3 Reduced transportation costs stem from the use of more lightweight parts. (brings about)
4 Increased energy efficiency accounts for an annual saving of electricity. (is attributable to)
5 Friction during drilling causes the production of heat. (results from)
6 A reduction in the amount of waste being discharged into rivers has resulted in rivers beginning to support fish again. (is attributable to)
7 Cars and aeroplanes are partly responsible for air pollution. (partly stems from)
8 Water flowing through the turbines causes them to spin. (due to)

3 Place the preposition *of, for, from, about, on, in, to* or <u>no preposition</u> in each space below to complete the following description of global warming.

The earth is kept warm (a) _____ account (b) _____ a layer of gases which surrounds it. However, human activity has brought (c) _____ an increase in greenhouse gases which trap more heat and cause a rise in temperature. Scientists believe that CO_2 accounts (d) _____ nearly half of global warming. CO_2 results (e) _____ the burning of fossil fuels and forests. No one knows exactly what changes will take place because (f) _____ this warming. In addition to CO_2, CFCs may be responsible (g) _____ about 25% of global warming in the future. Most scientists believe that more extremes in the weather will also be attributable (h) _____ global warming. They also expect higher temperatures to result (i) _____ more evaporation from the seas and an increase in rainfall. As a consequence (j) _____ heating, water expands and this will give rise (k) _____ a rise in ocean levels.

42 Relative clauses

A Sample sentences

Logistics is the business function which controls the movement of physical materials in a factory.
Our logistics department, which controls the movement of physical materials in the factory, is headed by Barry Perks.
A mine is a place where ores, coal, and precious stones may be obtained.
A miner is a person who works in a mine.
You need to speak to John Martin, who is in charge of the coal mine.

B Form

A *relative clause* is a type of *subordinate clause*.
Relative clauses begin with a relative pronoun.
Who and *which* are typical relative pronouns.

Blowholes are air or gas vents | *which* | *carry off fumes from tunnels or underground passages.*
| main clause | [relative pronoun] | subordinate clause |

There are two types of *relative clauses*:

defining relative clauses and *non-defining relative clauses*
Logistics is the business function which controls the movement of materials. (*defining*)
Our logistics department, which controls the movement of materials in the factory, is headed by Barry Perks. (*non-defining*)
A *defining relative clause* is written without commas: a *non-defining relative clause* is written in commas.

The table shows the range of relative pronouns

person	*who, whom, whose*	time	*when*
things	*which, that*	place	*where*

C Uses

1 *Defining relative clauses* give information which is essential to understand the sentence.
The packing list is a document which describes the contents of each package.
The clause *which describes the contents of each package* identifies the document: without this information, the sentence has a different meaning.
A haulier is a company or person who specializes in transporting goods by truck.
The clause *who specializes in transporting goods by truck* identifies the company or person.

2 *Non-defining relative clauses* give additional, non-essential information.
The packing list, which describes the contents of each package, is sent with the goods.
The clause *which describes the contents of each package* gives additional information: we can still identify the packing list without this information.
The mine, which has extracted diamonds since the 19th century, will be closed in two years.
The clause *which has extracted diamonds since the 19th century* gives additional information.

Notes:

1 The relative pronoun after the reason:
Thank you for explaining to us the reasons why/that the consignment was delayed.
(not: ~~*the reason because*~~)

2 The relative pronoun after *all, each, every* and compounds:
All the mining shafts which/that lead to the surface are blocked.

TASKS

1 Choose the appropriate relative pronoun in each of the following sentences.

1 A load-bearing wall is a wall that/where supports a vertical load as well as its own weight.
2 An architect is someone whose/who draws up plans for buildings and other structures.
3 An unheated building, a cellar or a basement are examples of places which/where are often damp.
4 Manufacturing takes place in factories when/where finished products are made.
5 Marconi was the scientist who/whom first received signals across the Atlantic.
6 You are invited to attend the meeting on Tuesday which/when details of the project will be discussed.
7 The company has opened a new workshop where/which engineering parts will be produced.
8 The operations manager, whom/whose office is on the first floor, is dealing with the problem.

2 In the following article, underline the relative clauses and write *defining* (D) or *non-defining* (ND) beside each one.

THERE HAS BEEN a lot of controversy surrounding the Three Gorges Dam, which is being built in China. The dam, which will be 181 metres high, is expected to produce 18.2 million kilowatts of power. However, this is the reason why many people are unhappy. 15 million people, who used to live in the valley, have had to move. These people, whose homes have been covered in water, complain that they have been given land where very little grows. They also say that the living conditions, which they have to live in now, are unsatisfactory. But those who are in favour of the project say that the dam will provide extra electricity, which will stimulate the economy in eastern and central China, where development has been held back. However, critics say there will be an oversupply of power, which they will not be able to sell. There are people who are deeply worried about the effects of the dam on the environment. They say there is a danger to animals and fish which live in the area. But there are other people who claim that hydroelectric power is much cleaner than burning coal. There will be fewer emissions which contribute to the greenhouse effect. New ship locks, which are expected to increase shipping and reduce transportation costs, will be built. Navigation on the river, which is currently dangerous, will become much safer. But critics say there will be sedimentation which could increase flood levels.

3 Use the information in brackets to complete the following sentences.

For example: (The manufacturers provided some information.) We have used the information that ...
We have used the information that the manufacturers provided.

1 (The assembly line produces car parts.) They have automated the assembly line that _____.
2 (Water is stored in a tank.) The water tank where _____ is underground.
3 (Circuits can store large amounts of information.) Computers contain many circuits which _____.
4 (W.C. Röntgen discovered X-rays by accident.) X-rays have been used since 1895 when _____.
5 (Faraday was born in the south of England.) Faraday, who _____, developed the process of electromagnetic induction.
6 (The manager's signature appears on the document.) The manager whose _____ is responsible for purchasing.
7 (Several people work in this area.) Everyone who _____ is responsible for regular maintenance of the machinery.

43 Subordinate clauses of result and purpose

30

A Sample sentences

Benton have defined quality standards (in order) to meet minimum product specifications.
Last year Markham introduced new quality standards so (that) they detected defective products before completion.
Mansell have initiated a quality review programme so as to meet customer expectations.
We sample and monitor all processes so that customers' needs are exceeded.
For zero defects to be achieved, we will have to introduce tighter prevention controls.

B Form

Clauses of result and *purpose* are subordinate clauses. There are three possible constructions:

1 *(in order/so as) to* + infinitive
Benton have defined quality control standards (in order) to meet minimum product specifications.
2 a *subordinating conjunction* followed by a verb
We sample and monitor all processes so that customer needs are exceeded. (purpose)
Last year Markham introduced new quality standards so (that) they detected defective products before completion. (result)
3 *for* + noun followed by an infinitive + *to*
For zero defects to be achieved, we will have to introduce tighter prevention controls.
(= so that zero defects can be achieved, we ...)

The main *subordinating conjunctions* are: in order that • so that

Before the infinitive + *to* you can put: for • in order (to) • so as (to)

Note the negative forms:
So as not to pay for unnecessary reworking, we sample all raw materials.
In order not to lose customers, we have a policy of continuous process improvement.

C Uses

Clauses of purpose answer the question *why* or *what ... for*. They present the purpose of the information in the main clause.
Clauses of result also answer the question *why or what ... for*. In contrast to *clauses of purpose*, they typically look to the past to see what result an action achieved.
Electricity is usually transmitted at the highest voltages possible to minimize energy losses. (purpose)
We tied together the electric utilities into large systems so that power was exchanged. (result)

Now look at the differences between the constructions in *clauses of purpose* and *result*.

1 We use *to, in order to* and *so as to* + infinitive when the subject of both clauses is the same.
Energy is generated from different fuels in order to avoid reliance on one source.
2 We use *so that* or *in order that* where the subject of the clauses is different.
Electricity producers are able to exchange power so that one utility can assist another
3 We use *so that* + clause for *clauses of result*.
These electric utilities were then combined into larger systems so that power was exchanged.

Notes:
The following sentences are wrong:
We use coal ~~for make~~ energy. (to make)
We changed to gas ~~for to make~~ energy. (in order to make)
We started producing hydroelectric power ~~for making~~ cleaner energy. (to make)

TASKS

1 Rewrite the following sentences using the words in brackets.

1 They introduced computer-guided robots because they wanted to increase efficiency. (in order to).

2 Close the valve. That way the system won't overheat. (so that)

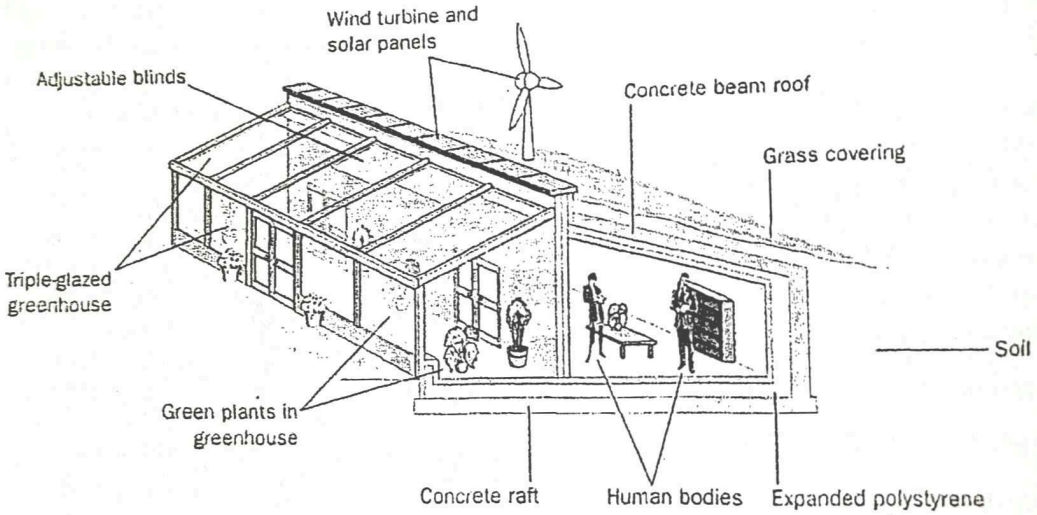
3 Scientists are carrying out research. They want to find a cure for AIDS. (so as to)

4 Circuit breakers have been installed because they don't want the system to overload. (so that ... not)

5 The system is sealed. They want to stop water and dust getting in. (in order to)

6 He is taking anti-malarial drugs. He doesn't want to get malaria. (so that)

2 An architect is explaining the features of an ecological house to some interested builders. Complete the following description choosing phrases from the box.



heat doesn't escape • use too much power within the house
the temperature can be controlled • produce power for the house
provide insulation • receive the maximum amount of sun
save energy • purify the air • prevent the loss of heat • be kept dry

As you can see, there are several features in this house that have been designed to (a) _____ but still provide a comfortable living area. On one side you can see a large glazed greenhouse that faces south so as to (b) _____. It is in fact triple glazed in order to (c) _____. Inside this greenhouse, we would recommend plenty of green plants to (d) _____. Of course it can get quite hot on summer days so adjustable blinds are fitted on all the glass windows so that (e) _____. Wind turbines and solar panels are fitted to the roof in order to (f) _____. For the house to (g) _____, the foundations consist of a concrete raft. The inner layer is made of expanded polystyrene which is used to (h) _____. The roof comprises concrete beams with a thick soil covering and grass so that (i) _____. Of course, there are also people in the house to generate a certain amount of heat too. In addition, so as not to (j) _____, low energy equipment and lighting are used.

44 Countable and uncountable nouns

A Sample sentences

The engineers in the production department regularly assess the accuracy of the finished goods.
We are concerned about the level of pollution so the test equipment is checked each day for reliability.
Tools must be stored in a safe place after use.

B Form

We can identify two classes of nouns:

countable *uncountable*

A *countable noun* typically has both a singular and plural form. Look at the following (production) words:

component/components • cycle/cycles • defect/defects
factory/factories • line/lines • machine/machines

An *uncountable noun* typically has only one form, which normally takes a singular verb. Look at the following (health and safety) words:

dust • environment • friction • harm • inhalation • waste

Notes:

1 A small number of *countable nouns* only have a plural form:
The report identified six major findings.

2 A small number of *uncountable nouns* take a plural verb:
briefs (textiles) • *clothes* (textiles) • *eaves* (construction)
goods (production) • *jeans* (textiles)

Also: *gasworks* (energy), *waterworks* (energy) and other compound words with *works*.

3 A small number of *uncountable nouns* look plural, but take a singular verb:
electronics (electronics) *hydraulics* (energy)
Hydraulics is a branch of science that deals with practical applications (like the transmission of energy or the effects of flow) of liquid (like water) in motion.

C Uses

Look at the following sentences from the field of textiles which contrast *countable* and *uncountable nouns*.
We produce our *cloth* by knitting natural fibres. This *cloth* is then used in the manufacture of a range of *clothes*, mainly menswear. Our products include *jackets* and *trousers*. This *jacket* has been produced using our latest *equipment* which streamlines the sewing and final pressing of the garment.

TASKS

1 Decide if the following nouns are *countable* or *uncountable* and write them in the appropriate column below.

drill • dye • electronic mail • equipment • factory • fault • information • laboratory machine • machinery • packaging • pollution • reliability • silk • tunnel

Countable	Uncountable

2 Complete the sentences with a suitable noun from the box. Make it *plural* or add *a/an* if necessary.

study • paint • pavement • storage • prevention • disposal • reservoir • inspection

1 The European Community has prepared guidelines on waste _____ .

2 Companies usually want to deliver goods as soon as they have been completed because _____ takes up a lot of room and is very expensive.

3 Government officials have carried out _____ of the factory.

4 The main aim of the training is accident _____ .

5 Painters often use hot air guns to burn off old _____ .

6 During icy weather, the _____ at the side of the road may become slippery.

7 Drinking water for the local population comes from _____ in the mountains.

8 Scientists are carrying out _____ of children's eating habits.

3 In each of the **numbered lines** below there is a mistake. Underline the mistake and write in the correction.

1 The weather affects the cloths (*clothes*) that people choose to wear. In a warm
2 dry climate, a man may choose a pair of short and a short-sleeved shirt
3 made of cottons while a woman may prefer a thin dress. In colder climates
4 a thick jumper and a warm trousers would be more suitable and out of doors, a
5 coat, scarf and glove are necessary.
6 Different natural fibres was used by ancient cultures to produce textiles.
7 Linen were made in Egypt as long ago as 5000 BC, and cotton in India in
8 3000BC. Today, there are many different type of fibres available.
9 Synthetic fibres, often mixed with natural fibres, are used widely and provide a wide choice for the fashion industry.

good bad little
better worse less
best worst least
must far
more further
most furthest

15 Comparison of adjectives

A Sample sentences

Working in a factory is more dangerous than working in a chemical laboratory.
There is a higher risk of accidents in a factory than in a chemical laboratory.
Flammable materials have a lower flash point and are combustible: therefore we need to handle them with more care.
A bipolar transistor is the most common form of transistor.
A bit is the smallest unit of binary data.

comparative
is
super-
the

B Form

Many *adjectives* have three forms: positive, comparative and superlative.
Manson's factory is noisy. (*positive adjective*)
Burton's factory is noisier than Manson's. (*comparative adjective*)
Denham's factory is the noisiest. (*superlative adjective*)

1 If the positive adjective has one syllable, we form the comparative by adding *-er* and the superlative by adding *-est*:

positive	*comparative*	*superlative*
safe	safer	safest
clean	cleaner	cleanest

If we compare two objects, we use *than* in the comparison:
Burton's factory is noisier than Manson's.
If we compare more than two objects, we use *the* in the superlative.
Denham's factory is the noisiest.

ower
west
y → ier
y → iest
er
est

2 If the positive adjective has two syllables and ends in *-y*, *-ow* or *-le*, we form the comparative by adding *-er* and the superlative by adding *-est*:

positive	*comparative*	*superlative*
healthy	healthier	healthiest
narrow	narrower	narrowest
simple	simpler	simplest

more
most

3 For other adjectives with two syllables or more, we form the comparative with *more* and the superlative with *most*:

positive	*comparative*	*superlative*
dangerous	more dangerous	the most dangerous
flammable	more flammable	the most flammable

4 There is a small group of adjectives with irregular comparative and superlative forms:

positive	good	bad	little	much	far
comparative	better	worse	less	more	farther/furthest
superlative	best	worst	least	most	farthest/furthest

C Uses

1 If we compare two objects, we use *than* in the comparison:
TV's today are smaller than ever before.
2 If we compare more than two objects, we use *the* in the superlative:
Today we have the cheapest and the most reliable electronic appliances.

more stable
more accurate

TASKS

1 Complete the table.

adjective	comparative	superlative
accurate	more accurate	the most accurate
pure	purer	the purest
stable	more stable	the most
hard	harder	the hardest
heavy	heavier	the heaviest
thin	thinner	the thinnest
far	further	the furthest
impractical	more impar.	the most impr
bad	worse	the worst

2 Five of the sentences below contain a mistake. Find the mistake and correct it.

1 This silk fabric is the best quality we produce.
2 Following the fire, many more people have been affected by smoke ~~as~~ than we had originally thought.
3 Pollution of the ground is ~~most~~ more serious in area A than in area B.
4 Please wear ear protection because it's noisier here than in the other areas.
5 The locked cabinet contains some of most poisonous chemicals there are.
6 That was the loudest explosion I've ever heard.
7 These chemicals should be kept in good containers than these.
8 Sending the goods by air is certainly the most quick but it's also the most expensive.

3 Use the information from the table to complete the sentences below.

Bridge	Type of bridge	Length of span in metres	Built
Humber Bridge, England	suspension	1410	1981
Golden Gate Bridge, USA	suspension	1280	1937
Verrazano Narrows, USA	suspension	1298	1964
Quebec Bridge, Canada	cantilever	549	1917
Firth of Forth Railway Bridge, Scotland	cantilever	521	1890
Commodore John Barry, USA	cantilever	501	1974
New River Gorge, USA	steel arch	518	1981
Sydney Harbour Bridge, Australia	steel arch	509	1932

The Humber Bridge is the (a) longest (long) bridge listed in the table above. It is (b) longer (long) than the Golden Gate Bridge in the USA but it isn't as (c) older (old). The Verrazano Narrows Bridge in the USA is (d) newer (new) than the Golden Gate Bridge but (e) older (old) than the Humber Bridge. The (f) the longest (long) cantilever bridge is the Quebec Bridge in Canada. It is 28 metres (g) longer (long) than the Firth of Forth Railway Bridge in Scotland which is over 110 years (h) older (old). The (i) newest (new) cantilever bridge is the Commodore John Barry which is also the (j) shortest (short). The Sydney Harbour Bridge is (k) shorter (short) and (l) older (old) than the New River Gorge.

46 Adjectives and adverbs

A Sample sentences

R and D aims to develop new products and the means to produce them cheaply.
Qualitative research investigates current product positioning: and why customers currently use a particular product.
A coal field is an area containing significant coal deposits: the deposits in this coal field have been significantly reduced in recent years.

B Form

Adjectives and *adverbs* are grammatical units.

1 Here are some typical *adjective* endings and *adjective* forms:

-ate/-ite	accurate	-ic	scientific
-ful	harmful	-ous	dangerous
-al/-ial	artificial	-ing	mining
-ive	active	-ed	finished
-able/-ible	renewable	-ant/-ent	transparent

2 Other *adjectives*, particularly short ones, do not have special endings

bad • big • good • old • small • young

3 Most *adverbs* are formed by adding -ly to the *adjective*

adjective	harmful	active	scientific	dangerous	transparent	artificial
adverb	harmfully	actively	scientifically	dangerously	transparently	artificially

4 Some *adjectives* have the same form as adverbs

early • fast • hard • late • straight

A cage provides fast access to the mine. (adjective)
The cage raises and lowers miners fast. (adverb)

C Uses

We use an *adjective*:

1 to give more information about a *noun*
We carry out pure research.
[*adjective*] [*noun*]
What type of research? Pure research

2 after the verb *be*
All research is scientific.

We use an *adverb*:

1 to give more information about a *verb*
The miners reached the surface safely.
[*verb*] [*adverb*]
How did they reach the surface? Safely

2 to give more information about an *adjective*
The mine is extremely dangerous.
[*adverb*] [*adjective*]
How dangerous is the mine? Extremely

3 to give more information about an *adverb*
Miners work very hard.
[*adverb*] [*adverb*]

4 to give more information about a *sentence*
Firstly, I'll present the coal cutting equipment.

excelent

TASKS

1 Form an adjective from the following words by adding the correct suffix: *-ful, -ic, -ous, -y, -ant, -al, -able, -ent, -ed, -ial, -ive, -ible.*

danger ous	rely able	experiment al
dirt y	origin al	wash able/ed
magnet ic	expense ive	flex ible
use able	excel ent	resist able
industry ial		

2 Complete the following sentences with the adjective and adverb in brackets. Use each word once only.

1 The system will shut down _____ 2 _____. There is an _____ 1 _____ temperature control. (automatic/automatically)

2 New testing methods have made the process much more _____ 1 _____. Quality control now runs more _____ 2 _____. (efficient/efficiently)

3 Our aim is to ensure the _____ 1 _____ operation at the plant. The manufacturing process should run _____ 2 _____. (smooth/smoothly)

4 Demand for electricity is _____ 2 _____ lower in the evening. Statistics show that there is a _____ 1 _____ fall in demand after 10 p.m. (general/generally)

5 People are becoming more interested in _____ 2 _____ friendly products. There is a growing interest in _____ 1 _____ issues. (environmental/environmentally)

6 Safety procedures must be _____ 2 _____ observed to avoid accidents. The manager in a coal mine must be _____ 1 _____ about activities underground. (strict/strictly)

3 Here is part of a presentation about the textile industry in the UK. Choose the correct word in bold.

priblizno

The number of people who work in the textile (a) **manufactured/manufacturing** industry in the UK has fallen (b) **considerable/considerably** over the last 50 years. Today, it employs (c) **approximately/approximate** 130,000 people. Textiles for clothing and carpets have always been (d) **important/importantly** but today there is (e) **increasing/increasingly** trade in fabrics for (f) **industrial/industrially** applications. Fabrics are used (g) **increasing/increasingly** in the healthcare and automotive industries. The export of wool and (h) **woollen/wool** products has remained fairly (i) **constantly/constant** over the last 15 years. The UK also has a (j) **significant/significantly** silk industry, which produces over £170 million worth of goods (k) **annual/annually**. The UK linen trade has an (l) **excellent/excellently** reputation for quality and service and British exports remain very (m) **healthy/healthily**. The UK's expertise in chemistry is (n) **extensive/extensively** and this is (o) **important/importantly** to the (p) **dying/dyed** industry. The manufacturing of dyestuffs is (q) **relative/relatively** strong. The sale of carpets contributes to the sale of textiles (r) **significant/significantly**. The carpet industry has (s) **particular/particularly** strengths in the (t) **high/highly** quality end of the market.

povećan trgovinska industrija

sve znatajny

govorena

doprinosi

znacajno

posebne prednosti

visoko kvalitetni kraj tržišta

47 Prepositions of time

32

A Sample sentences

The timetable looks like this. We will install the software on Monday afternoon. That means your system will be out of action from 2 o'clock till about 5 o'clock. We also need to download some programs before starting the system again. Then we'll start testing. That'll take until Wednesday. After that, we need to configure all the modules. We hope to finish that by Wednesday evening. That means that you'll be up and running with a brand new system on Thursday morning. So, please inform everyone that we will need to shut down the system next Monday.

B Form

A *preposition* comes before a *noun*, e.g. *on* Monday afternoon
[preposition] [noun]

Where the *preposition* is followed by a *verb*, we use the *-ing* form of the verb, e.g.
We also need to download ***before*** *starting the system again.*
[*preposition*] [*verb ... ing*]

Note: *We also need to download* ***before*** *the system again.*

The most important *prepositions of time* are:

after • at • before • between • by • during • for
from ....in • on • since • to .... • until/till • up to

The drug testing programme will start on 1st July.
We hope to get approval for sale of the drug by 2005.

at sati
on dan, datum
in deo dana
mesec
at trenutak

C Uses

1 *At, in, on,* and *by*

At + clock time: *at 8 o'clock*
On + days of the week: *on Tuesday*
In + parts of the day: *in the morning*
but: *at night*

On + dates: *on 1st July*
In + months and years: *in August*
By + a deadline:
We hope to get approval by 2005.

by deadline
by pre roka
until/till
do roka

2 *By* and *until/till*

We use *by* for an action which happens at or before a deadline:
We hope to finish configuring the system by Wednesday evening.

We use *until/till* for an action which continues up to a deadline:
We will work on configuring the system until/till Wednesday evening.

3 No preposition

In some time phrases, we do not use a *preposition of time*.

a. before *this, last* and *next*
We will need to shut down the system next Monday. (not: ~~on next Monday~~)

b. with speed and frequency expressions
Megahertz is a unit of measurement equal to one million electrical vibrations or cycles a second. (not: ~~in a second~~).
This laser printer prints twenty pages of text a minute. (not: ~~in a minute~~)
You can also say *per second, per minute*, etc.

The
Oct
sig
Nov
sub
121
Nov
peri
inte
nex
(i) _
beg
deli
will
Jun
for
(o).
(p).

before
until
since

TASKS

1 Five of the following sentences contain mistakes. Find the mistakes and correct them.

1 The interim report was completed ~~to~~ the end of last month. at
2 These products have been on the market ~~since~~ nearly ten years. for
3 The meeting has been arranged for 16th April at 10 a.m. on
4 The results will be evaluated after the tests have been completed.
5 We intend to continue production during the new machinery is installed.
6 The road will be closed ~~from~~ 7 p.m to 7 a.m. between
7 The jacquard loom for weaving cloth was created ~~at~~ 1801. in
8 During the 19th and 20th centuries, great advances were made in treating illnesses.

2 Complete the following telephone conversation by adding the correct prepositions of time. If no preposition is required, leave the space blank.

ERIK: I was wondering if we could arrange a meeting (a) for next week?

MIRJAM: Yes, of course! I'm going to Washington (b) on Friday evening so can we arrange something (c) before that?

ERIK: Eh, Yes. I'm pretty busy (d) at the beginning (e) of the week but perhaps we could meet some time (f) on Wednesday?

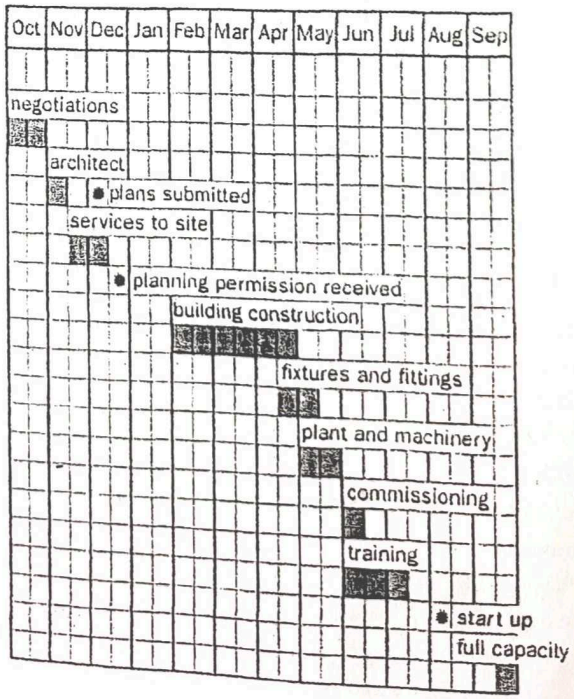
MIRJAM: Could we meet (g) in the morning (h) at 9.30?

ERIK: That's fine. I should have received the test results we've been waiting for (i) until then.

MIRJAM: I'm looking forward to seeing the latest results. I haven't heard anything (j) since we spoke (k) ___ last month.

3 Look at the Gantt chart and complete the memo. If no preposition is required, leave the space blank.

: project is running according to plan so far. (a) in
ober, negotiations for the site were carried out and a contract
ned. (b) at the beginning (c) of
vember we had meetings with the architects. Plans were
mitted to the local planning authority (d) on
December. Services to the site were laid (e) in
vember and completed (f) in December. Planning
mission was received (g) ___ last week and we
nd to start construction of the building early (h) ___
t month. We expect construction to take about three months.
in the middle (j) of April, work will
in on fixtures and fittings and plant and machinery is due for
very (k) on 4 May. Commissioning of the machines
last (l) for about two weeks (m) in
e. (n) at the same time, training courses will begin
operators and maintenance staff. These will continue
until mid-July. All going well, start up will be
in 8 months' time (q) on 6 August
if all goes smoothly we hope to be working at full capacity
by the middle (s) of September.



40 Prepositions of place

A Sample sentences

Let me give you a brief update about developments in the production area. On Monday, components will be moved from the old storage area to the new one. This means that fork lift trucks will need to move components out of warehouse 1 and into warehouse 2. You will find more details in the email I sent last week. There are two stages to the movement of old parts. In the new storage area, the parts will be stored on pallets on the top two shelves. From there they will be moved to their final destination according to the plan in the email attachment.

B Form

A preposition comes before a noun, e.g. *in* the production area
[preposition] [noun]

The most important *prepositions of place* are:

at • from • in • into • on • out of • to

Oil is transported from the oil field to the terminal by pipeline.
Corrosion in the pipes is extremely dangerous.

C Uses

1 *at*
We use *at* to describe a place in general rather than specific terms:
In the event of a blowout at the terminal we evacuate everyone immediately.
We employ some 30 people at the pumping station. cf *Twenty men sleep in the terminal.* i.e. inside

2 *to*
We use *to* to describe movement to a place:
Then the oil is transported to the terminal.
The roughnecks fly out to the oil rig on a Sunday evening.

3 *from*
We use *from* to describe movement from a place:
After the blowout we managed to pull everyone from the water.
The safety officer has just arrived from headquarters.

4 *in* and *into*
We use *in* to describe a place:
Corrosion in the pipes is extremely dangerous.
We use *into* to describe movement into a place:
The drill bit is fitted into the drill.

5 *into and out of*
Into and *out of* describe movement: they describe opposite movements:
Drilling mud is pumped into and out of the well during drilling.

6 *on and onto*
We use *on* with objects which have a surface:
We've found some new deposits on the Continental Shelf.
We use *onto* to describe movement onto a place which has a surface:
The oil is then loaded onto tankers. (Here the tanker is seen as a two-dimensional floating object.) cf. *The oil is then loaded into tankers.* (Here the tanker is seen as a three-dimensional object.)

dish satellite

TASKS

1 Complete the following texts using the correct preposition.
You may have to use some prepositions more than once.

between • from • on • along
above • through • to

Signals pass (a) from a telephone (b) to the local exchange (c) along copper cables. Most exchanges are linked by optical fibre cables (d) through which the signals travel as pulses of laser light. Microwave beams sent (e) between dishes (f) on tall towers, link some signals. International calls go (g) above undersea optical fibre cables or via satellites high (h) above the Earth.

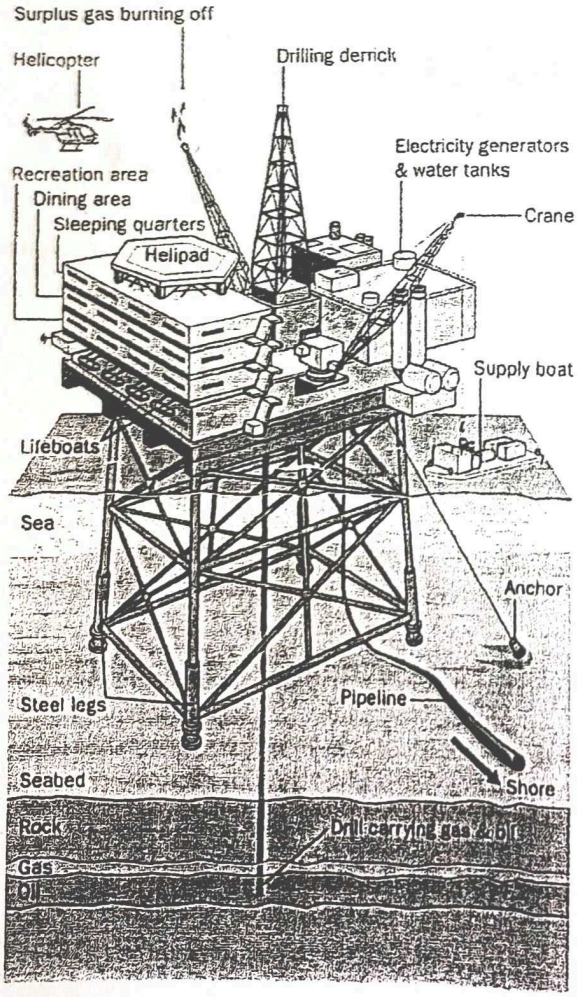
around • at • of • from • to

Refrigerators keep food (a) at a temperature (b) around about 5°C. They work by evaporation. When a liquid changes (c) to a vapour, it takes heat (d) from its surroundings. In a fridge, the cooling process is done by a refrigerant which circulates (e) around a system (f) of sealed pipes.

isprauqre

2 Complete the following description of an oil rig with the correct prepositions. Choose from those in the box. You will need to use some more than once.

above • on • in • from • to • in between
around • close to • of • beside • at • along • below



The Magnus oil rig stands (a) on huge steel legs resting (b) on the seabed. To prevent movement, a large anchor is firmly embedded (c) in the seabed. A production platform is built (d) above sea level. (e) in the centre (f) top the platform. (g) above the well, is the drilling derrick. Oil and gas are separated (h) out the bottom (i) of the derrick and a pipeline takes oil (j) from the platform (k) to shore. Helicopters carrying operators land (l) on the helipad located on one side of the platform. (m) below this pad there is an accommodation block. The recreation area is found (n) on the first level and (o) on the top floor the workers sleeping quarters are to be found. The dining area is on the floor (p) in between. Walkways run (q) beside one side of the accommodation block and (r) along the outside of the platform. Lifeboats can be found (s) close the accommodation block. Supply boats, carrying supplies for the rig, can tie up (t) on one side (u) of the rig and goods are lifted (v) from the boats using a crane. Drinking water is stored (w) in large tanks located (x) beside the electricity generators.

all
most
many
a lot of - a lot
some - a little of
a few - a little
no

49 Quantifiers

A Sample sentences

If you have no customer feedback, it is very difficult to understand their needs. That's where qualitative research comes in. It has many common uses. It can help you to understand why some customers buy and use a product. It can also investigate a lot of alternative communication messages. Most of our clients use our services to understand their customers better. And all of them use this information in the development of new products.

B Form

Countable	all	most	many	a lot of	some	a few	few	no
Uncountable	all	most	much	a lot of	some	a little	little	no

We use *countable quantifiers* with *plural countable nouns*; we use *uncountable quantifiers* with *uncountable nouns*. ➔ 44

Qualitative market research has ***many*** *common uses.*
[*quantifier*] [*countable noun*]

If you have ***no*** *customer feedback, it is difficult to understand their needs.*
[*quantifier*] [*uncountable noun*]

C Uses

Below are some examples of *quantifiers* in use, first in a short dialogue and then in an extract from a presentation.

A: Is there much demand for civil engineers these days?

B: You wouldn't believe it, but most of the vacancies are for civil engineers.

A: Really? With what type of qualifications?

B: All our vacancies require people with a thorough knowledge of surveying.

A: Don't most civil engineers need to know about surveying?

B: Yes, but there are some jobs in areas not directly linked to construction.

A: Such as?

B: We have a few vacancies for engineers to work in the aircraft industry.

A: Anything in nuclear power?

B: No vacancies in that area at the moment, I'm afraid.

A: Well, please let me know if anything turns up.

> In *all* turnkey contracts we undertake to finance, design, specify, construct, and commission the whole project. As *many of* our clients ask for a follow-up maintenance agreement, *most* maintenance will be included in the project price. However, there are *some* repairs which will not be covered. But, I wish to assure you that in other contracts there have been very *few* of these.

TASKS

1 Put the following in order from the most to the least.

1 Some of our clothing is made of silk.
2 None of our clothing is made of silk.
3 Most of our clothing is made of silk.
4 Little of our clothing is made of silk.
5 Much of our clothing is made of silk.
6 A lot of our clothing is made of silk.
7 A little of our clothing is made of silk.
8 All of our clothing is made of silk.

2 Complete the sentences with the words given in brackets.

1 There aren't many people working at night. Most of the staff work during the day. (most, many)
2 A few of the timber which was delivered last week was of very poor quality. We had to return some of the boards. (a few, some)
3 We don't manufacture many jackets of pure wool. There isn't much demand for them. (many, much)
4 Fibre optic cabling will be used in the future for all land-based communications. But, today, only some of these communications use fibre optics. (all, some)
5 At present, only a little paper is recycled in the UK. In the future, a lot more paper will have to be collected and recycled. (little, lot)
6 In the UK, most electricity is generated from nuclear energy or fossil fuels and very few renewable energy sources have so far been developed. (few, most)

3 The table below shows how the methods of transportation used by a company have changed over a period of 30 years. Complete the text below with words from the table in B on the opposite page.

Year	1970	1980	1990	2000	2010
rail	100%	85%	60%	40%	0%
road	0%	12%	35%	40%	70%
air	0%	3%	5%	20%	30%

In 1970 (a) all transportation was carried out by rail. (b) None goods were carried by road or by air. Ten years later, (c) most goods were transported by rail and a (d) few were taken by road. For the first time goods were being transported by air but there weren't (e) many goods being transported in this way. In 1990 the picture had changed. A (f) lots of goods were still being transported by rail. However, (g) much more transportation was by road and a (h) few transportation was being done by air. By the year 2000, (i) some transportation was by rail, (j) some by road and a (k) few was by air. By the year 2010, it is expected that (l) no goods will be transported by rail. (m) most goods will be transported by road and (n) some will be taken by air.

50 Contrasting ideas

A Sample sentences

Although email is a very convenient form of personal communication, most people have never sent one. But the number of users is increasing very quickly. Despite improvements in telecoms networks, connection speeds are often very slow; however ADSL promises faster connections.

B Form

We can use the following language techniques to contrast ideas:

1 *Clauses of contrast*

These consist of two clauses: the *main clause* and the *contrast clause*.

Even though the number of mobile phones users has increased, call charges remain high.

[*contrast clause*] [*main clause*]

The main *conjunctions of contrast* are:

although • but • even though • though • whereas • while

Notice the difference in use between *but* and the others:

Videoconferencing is very convenient, but (it) is not as personal as face-to-face contact.

[*main clause*] [*main clause*]

Although videoconferencing is very convenient, it is not as personal as face-to-face contact.

[*contrast clause*] [*main clause*]

2 *Phrases of contrast*

The *phrase of contrast* consists of a *preposition* (or prepositional phrase) + a noun.

Despite improved security, hackers can still access many networks.

[*phrase of contrast*]

The phrase of contrast can also come at the end of the sentence.

Hackers can still access many networks despite improved security.

The main words to introduce a phrase of contrast are:

despite • in spite of

3 *Sentence connectors of contrast*

These words or expressions link two sentences together which are in contrast to each other.

You can download Google from many sites worldwide. However, some are faster than others.

The main sentence connectors are:

all the same (informal) • but • even so • however • nevertheless • still • yet

C Uses

Study the mini dialogue below.

A: *Although* we can share many resources, some are not shared. *Even so*, we should see this as a vast improvement.

B: I don't understand why all the printers aren't available to all.

A: In fact, everyone can use all the printers; *however*, one has been designated as default for each work group.

A: I'd prefer to use the colour laser printer.

B: I know you would, *but* it's very expensive to print each page in colour. And in most cases, colour isn't necessary.

TASKS

1 Complete the following sentences by choosing a suitable ending from the box.

- accidents sometimes occur.
- those are a mixture of polyester and wool.
- people in developing countries often have to drink polluted water.
- there are places in the country where it doesn't work.
- careful packing.
- he washed it.

1 The contents of the crate were broken despite ...
2 Although the care label said the coat should be dry-cleaned. ...
3 These carpets are 100% wool whereas ...
4 Mobile phone coverage is fairly extensive: however. ...
5 In spite of strict safety regulations. ...
6 While we enjoy clean piped drinking water. ...

2 Complete the following text by using one of the words in the box.

whereas • however • but • despite • while

The first cantilever bridges were built in China and Tibet (a) _____ they were made of timber and could not carry heavy loads. (b) _____, once cheap, reliable steel became available in the 1870s, it was possible to build long spans capable of carrying rail traffic. (c) _____ the first modern cantilever bridge was built in Germany, the Forth Railway Bridge in Scotland held the record for the longest for over 30 years. The Forth Railway Bridge is made of huge steel tubes. (d) _____ the Oosterschelde Bridge in Holland is made of pre-stressed concrete. Some bridges look a little confusing in design. (e) _____ having cable stays. Lake Maracaibo Bridge in Venezuela is a cantilever type bridge.

3 A small company is looking for a new site to build a new factory. The Director is discussing three possible sites. Join the sentences in A and B using the connector in C to form part of her speech.

Example *Site 1 provides a suitable amount of space but it's the most expensive.*

A	B	C
Site 1 provides a suitable amount of space.	It's the most expensive.	but
It could be difficult.	It's worth considering.	although, still
Road and rail connections are not far away.	It will be necessary to build a bridge across the river.	although _____
It's surrounded by trees and close to the mountains.	It's only four kilometres from the nearest town.	however
There is a large labour market.	Workers in this area are unskilled.	even though
Site 1 is close to road and rail connections.	Site 2 is close to the airport.	while
Government finance is available for companies moving into the area.		nevertheless
Site 2 is fairly small.	Site 3 is almost too big.	whereas
Site 3 is not expensive.	It's in the centre of town.	despite
It may be difficult to get planning permission for new industrial buildings.		even so