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Level 1 Elementary

Fill the gaps using these key words from the text.

life expectancy *birth rate* *death rate* *lifestyle* *compare*
household products *diet* *suicide* *aftershave* *tragedy*

1. _____ are things you use at home, such as perfumes, cleaning liquids and shampoos.
2. A person's _____ is the food that he or she normally eats.
3. A _____ is a very sad situation.
4. The _____ is the official number of births each year in a particular country.
5. Your _____ is the way you live your life.
6. A person's _____ is the number of years they will probably live.
7. The _____ is the official number of deaths each year in a particular country.
8. _____ is a liquid with a nice smell that a man puts on his face after shaving.
9. If you _____ two things, you think about the ways in which they are the same or different.
10. _____ means killing yourself.

Key words

Find the information

Look in the text and find this information as quickly as possible.

1. What percentage of murders in Russia are linked to alcohol?
2. What percentage of suicides in Russia are linked to alcohol?
3. How much pure alcohol does the average Russian drink each year?
4. How much alcohol do some household products contain?
5. What is the life expectancy for men in Russia?
6. What is the life expectancy for women in Russia?

Cologne and antiseptic: Russia's killer drinks

Sarah Boseley, health editor, and Luke Harding in Moscow

June 15, 2007

A new medical study about alcoholism reports that almost half the men of working age who die in Russia die as a result of alcohol. The report says that large numbers of Russian men die young not just because they drink a lot of vodka but because they also drink household products containing alcohol, such as perfume, aftershave and medicines. Some products contain 95% alcohol.

An international group of scientists looked at one city in the Ural mountains. They wanted to discover the effects of drinking in Russia. They chose the city of Izhevsk because it is a typical industrial city where life is the same as in other large cities in Russia and where the death rate is the same as the Russian average. The scientists wanted to find out why life expectancy in Russia is so low: in 2004 it was 59 years for men and 72 for women. As a result of the low life expectancy and a low birth rate, the population of Russia is falling by 700,000 a year.

Alcohol has always been an important factor in death and disease in Russia. Changes in the death rate which are linked to changes in lifestyle and politics support this fact. Life expectancy increased during the mid-1980s when President Gorbachev tried to stop people in Russia drinking so much alcohol.

After the end of communism the death rate in Russia increased in the early 1990s. This was probably because of alcohol.

One study found that Russians, and people in other countries of the former Soviet Union, drank more than anybody else in the world - about 15.2 litres of pure alcohol per person each year for people over 15 years of age. They also drank more dangerously and often drank for two days or more without stopping.

The scientists examined the medical records and interviewed the families of 1,750 men who had died in Izhevsk from 2003-05. They compared these men with 1,750 who were still alive. They found that problem drinkers and people who drank alcohol from products like perfume and aftershave often died younger than those who did not have a drinking problem.

The scientists say that men who lost their jobs because of drinking had very little money and often drank household products containing pure alcohol. In the group of men who were still alive, 47% who drank household products containing alcohol were out of work compared with 13% who drank only vodka and beer. In total, 43% of deaths of men aged 25 to 54 in Izhevsk were because of alcohol. This is probably because they drank household products with very high levels of alcohol.

Another report says that people who get their alcohol from household products often live in poor housing and have bad diets, and this could also lead to an early death. The report also says that many people also drink illegally produced alcoholic drinks.

The Russian government agrees that alcoholism is a huge problem and calls it a "national tragedy".

With Vladimir Putin as president, the Russian economy has grown very quickly since 2000 but people are still drinking a lot of alcohol. Russian alcoholics - drinking perfume, aftershave and cheap local alcohol - face great dangers. In winter they fall through ice or freeze to death in the snow.

According to 2005 figures, Russia has 2,348,567 registered alcoholics, and alcohol is linked to 72% of murders and 42% of suicides. The World Health Organisation says Russia is one of the most alcoholic countries in the world.

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Comprehension check

Match the beginnings and endings to make sentences about the text.

1. Many men in Russia die young because...
 2. Many people drink household products containing alcohol because...
 3. Household products containing alcohol are dangerous because...
 4. The population of Russia is falling because...
 5. Winter is a dangerous time for alcoholics in Russia because...
 6. Life expectancy increased during the mid-1980s because...
-
- a. ... President Gorbachev tried to stop people drinking alcohol.
 - b. ... life expectancy is very low and the birth rate is low.
 - c. ... they drink household products containing alcohol.
 - d. ... they contain a very high percentage of alcohol.
 - e. ... they may fall through ice or freeze to death in the snow.
 - f. ... they are poor.

Vocabulary 1: Chunks

Rearrange these words to make short phrases from the text. Check your answers in the text.

1. age working of men
2. a alcohol result as of

3. anybody more in than the else world
4. of work out
5. national a tragedy
6. the death in freeze snow to
7. of a number men large

Complete the table.

past simple

1. grow
2. find
3. choose
4. fall
5. lose
6. drink
7. try
8. lead

Answers

1. household products 2. diet 3. tragedy 4. birth rate 5. lifestyle 6. life expectancy 7. death rate 8. aftershave
9. compare 10. suicide

1. 72% 2. 42% 3. 15.2 litres 4. 95% 5. 59 6. 72

1. c 2. f 3. d 4. b 5. e 6. a

1. men of working age
2. as a result of alcohol
3. more than anybody else in the world
4. out of work
5. a national tragedy
6. freeze to death in the snow
7. a large number of men
8. an important factor

past simple

- | | |
|-----------|-------|
| 1. grow | grew |
| 2. find | found |
| 3. choose | chose |
| 4. fall | fell |
| 5. lose | lost |
| 6. drink | drank |
| 7. try | tried |
| 8. lead | led |

World Heart Federation obesity warning

Summary: The World Heart Federation is warning that obesity will overtake tobacco smoking as the biggest cause of heart disease unless the current trend of unhealthy lifestyles stops. At least a billion people across the globe are now extremely overweight, putting a massive strain on the world wide healthcare systems.

Obesity, which can cause heart disease, strokes and diabetes is on the increase across the globe. According to the World Heart Federation, an estimated twenty-two million children under five years old are now severely overweight. Nearly one in three children in the United States between the ages of five and fourteen is obese, compared to one in six, thirty years ago.

But obesity is not a condition which solely affects the Western World. Increasingly, low and middle income countries are suffering from the condition, often due to a change in their diets, as they substitute fibre intake for a much higher consumption of saturated fats and sugar. In Beijing, for example, one in five children of school age is now obese.

The World Heart Federation says obesity can also be blamed for spiralling health costs. The US spends almost a tenth of its national healthcare budget on overweight patients, and in Western countries as much as two point eight percent of the total sick care costs is attributable to obesity. The Federation warns that unless the world's population acts now to eat a healthier diet and to take more exercise, obesity will rapidly overtake smoking as the leading lifestyle risk factor for heart disease and strokes.

BBC News

Match these words from the text to their meanings

- 1 on the increase
 - 2 condition
 - 3 low and middle income countries
 - 4 substitute
 - 5 fibre intake
 - 6 higher consumption of saturated fats
 - 7 spiralling
 - 8 attributable to
 - 9 overtake
 - 10 lifestyle risk factor
-
- a growing
 - b likely to be caused by
 - c something people choose to do which can badly affect their health
 - d poorer countries
 - e eating of more fats
 - f the amount of fibre they eat
 - g medical problem
 - h here, become a bigger problem than...
 - i here, increasing rapidly
 - j you use it instead of the other thing

Health crisis looms as life expectancy soars

1 Pre-reading

Match the words and expressions with the definitions

- | | |
|--------------------|---|
| 1. life expectancy | a. the age at which you stop working |
| 2. retirement age | b all the people who live in a city or country |
| 3. a report | c. to rise, to get bigger |
| 4. population | d. the number of years people live |
| 5. to increase | e. the money you receive when you have retired |
| 6. pension | f. a document that gives information about a specific subject |

Now read the article

Life expectancy in Britain in 2002 is about 75 years for men and 80 years for women. The retirement age is 65 years for men and 60 for women. One hundred years ago, in 1901, life expectancy was just 48 years for men and 49 years for women. This means that men are now living, on average, 27 years longer than 100 years ago and women are living 31 years longer. Last week a group of scientists published a report about life expectancy. In the report they said that life expectancy would increase even more in the 21st century. In the United States, for example, the official government forecast is that life expectancy for women will be 83.9 years in the year 2070. The report says, however, that it will be much higher than that it will be as high as 101 years. The report also says that a baby girl born in France or Japan this year has a 50% chance of living to the age of 100 years. France and Japan have the highest life expectancy in the world. Life expectancy is an average figure. In the 1880s in Britain, for example, many people lived to the age of 60 or 70, but almost 25% of the population died before the age of 5. So the life expectancy figure for the 1880s was about 46. In the 20th century many scientists said that there was an absolute limit to the human lifespan. The longest time anyone had lived was 122 years. Now, however, many scientists believe that there is no limit to human life and that people in the future will live longer and longer lives. The report is very important for governments. If life expectancy increases in the 21st century to 85, 90 or even 100, this will cause many problems for the social security, health and pensions systems. There will be more and more old people in the population. If people retire at 65 and live until 100, it will be very expensive to pay pensions and other social costs. Perhaps Western governments will have to increase the retirement age.

The Guardian Weekly 16 - 5 - 2002 ,

2 Choose the correct answer

1. What is the life expectancy for women in Britain in 2002?
a. 75 years b. 80 years c. 90 years
2. What is the retirement age for men in Britain?
a. 65 years b. 60 years c. 75 years
3. What was the life expectancy for men in 1901?
a. 49 years b. 48 years c. 47 years

4. What is the official forecast for life expectancy for women in the USA for the year 2070?
 a. almost 84 years b. more than 84 years c. 101 years
5. Which country has the highest life expectancy?
 a. Japan b. the USA c. Britain
6. In the 1880s what percentage of the population died before the age of 5?
 a. more than 30% b. more than 25% c. almost 25%
7. What is the longest human lifespan?
 a. 101 years b. 122 years c. 129 years

3. Vocabulary work

Fill the gaps using words from the text.

1. Men in Britain are now living 27 years _____ than in 1901.
2. A report on life expectancy was _____ last week.
3. The official government _____ in the USA says that life expectancy will be 83.9 in 2070.
4. The new report says it will be much _____ than 83.9.
5. France and Japan have the _____ life expectancy in the world.
6. In the 1880s many people _____ to the age of 60 or 70.
7. Many scientists think there is no _____ to human life.
8. People in the future will live _____ lives.
9. In future pensions and other social costs will be more _____ .
10. Perhaps the _____ age will increase.

4. Grammar focus – comparatives and superlatives

Fill the gaps using a comparative or superlative form (eg higher or the highest)

- 1 Life expectancy in Japan is _____ than in Britain.
- 2 Life expectancy in Britain is _____ than in Japan.
- 3 Life expectancy in Japan and France is _____ in the world.
- 4 Life expectancy in 1901 was much _____ than it is now.
- 5 Life expectancy now is much _____ than it was in 1901.
- 6 Pensions will be much _____ in the future.

7 Life expectancy in the USA will be _____ in the year 2070 than it is now.

8 People today live _____ than they did 100 years ago.

5. Discussion

In future people will live longer and longer lives. Perhaps they will live for 150 or even 200 years. What problems will this cause? What are the advantages and disadvantages of living for 200 years? Health crisis looms as life expectancy soars

KEY

1 Pre-reading

1 d 2 a 3 f 4 b 5 c 6 e

2 Choose the correct answer

1 b 2 a 3 b 4 a 5 a 6 c 7 b

3 Vocabulary work

1 longer 2 published 3 forecast 4 higher 5 highest 6 lived 7 limit 8 longer 9 expensive 10 retirement

4 Grammar focus

1 higher 2 lower 3 the highest 4 lower 5 higher 6 more expensive 7 higher 8 longer

Accidents

The issue

Accidents are responsible for 10,000 deaths a year in England and are the leading cause of death among children and young people. Major causes include:

Road traffic accidents: every year 2,500 adults die in road traffic accidents. Each year there are 215 deaths among children who are passengers and 180 deaths among children who are pedestrians or cyclists. Rural areas are more severely affected.

Accidents in the home: About half of all deaths among children under 5 happen within the home. Fires, burns, drowning, choking, poisoning and cuts are all major causes of injury. Older people are also particularly at risk. More than 3,000 people over 65 are killed each year in falls. Osteoporosis, particularly affecting older women may mean that the consequence of falls is more severe.

Accidents at work: These can be linked to the nature of the work, the work environment or failure to manage risk effectively.

Questions:

1. Where are the three major categories of accidents?
2. There are 10,000 accidents in England every year. T/F?
3. Many young people die as a result of accidents T/F?
4. 2500 children are involved in road deaths every year T/F?
5. Urban areas are safer than rural areas T/F?
6. How many child passengers die every year?
7. About 50% of children die from accidents in the home T/F?

8. Who are more at risk from accidents in the home?
9. What are the major causes of injury in the home?
10. How many people over 65 years of die from falls in the home every year?

Going under

Level 1 Elementary

Pre-reading A: Predicting the content

Read the headline and the sub-heading below. What do you think the article is going to be about?
 Umbrellas breaking in the rain?
 Rainwater filling houses and streets?
 Tourists staying away because of the rain?

Pre-reading B: Key words

Match these keywords from the text with the meanings below.

- | | | | |
|-----------------|---------------|----------------|----------------|
| <i>disaster</i> | <i>floods</i> | <i>results</i> | <i>run-off</i> |
| <i>drainage</i> | <i>sewers</i> | <i>ploughs</i> | <i>absorb</i> |
1. _____ removing liquids from something
 2. _____ water from rivers filling the land
 3. _____ a very bad accident or serious damage
 4. _____ a system of pipes underground to carry waste water away
 5. _____ things that happen because something else happened
 6. _____ take in liquid a little at a time
 7. _____ too much water that cannot go down into the ground
 8. _____ digs up the land in lines, using machines

Now read the article, check the words in context, and see if your answer to Question 1 was correct.

Going under

Everyone knows that it often rains in Britain. We often have week upon week of rain. So why have a few heavy showers caused so much damage here this summer?

Aida Edemariam reports

July 24, 2007

People trying to take a train to or from the southwest of England this weekend could think they had accidentally walked into a disaster movie. Some trains never arrived, and the people who had to watch their homes and businesses go under water couldn't believe that such a short rainstorm could cause so much damage.

I can understand their surprise, because this country is famous for its wetness. Rain is our national weather. Snow can cause us problems, yes, and very hot weather, like last summer, causes difficulties, too – but rain? With our wide experience, surely we should lead the world in rain management. Unfortunately not. Thousands of people had to leave their homes over the weekend, and thousands more are still trapped inside their houses. Some towns in the south had floods of up to five metres. In

the north of England, some people still can't go home after last month's floods, which killed 8 people. Everyone is asking how such short rainstorms – just one hour in London, slightly longer in other places – could have such terrible results.

In fact, the answer is partly because it all happened so quickly. Brize Norton in Oxfordshire had 121.2mm of rain between midnight Thursday and 5pm Friday – a sixth of what it would expect for the whole year. South Yorkshire got a month's worth of rain on June 25. It has been raining for weeks now, "and the ground is very wet, so immediately you get rainfall, you get runoff", explains professor Adrian Saul, of Sheffield University.

It isn't just that the ground cannot absorb so much so fast – drainage systems get too full, too. "When you design a system you have to plan for possible dangers, and generally the plans are good enough to protect our communities," says Saul. "It's very lucky that the Victorians built the systems as big as they did. Especially in London, they thought the city would get bigger, and that has protected London until now." But London's population is now four times as big – and last Friday, the sewers couldn't handle so much water.

"Our sewers are not designed to have so much water flowing through them," says Nicola Savage, a spokeswoman for Thames Water. And they are not designed for the way we use them nowadays. "We each, personally, use much more water than ever before. Also, the public often use the sewers as a rubbish bin," Savage adds. "People put things like babies' nappies down the toilet. And also, we need to encourage people not to pour fat and oil down the sink. The sewers were never designed to handle this kind of thing."

Saul is also investigating how farmers can control the flow of water off land. If Farmers plough across hills, not down them, there will be less runoff. And carefully placed trees can help stop flooding. Also, the more animals walk over a piece of land, the harder the ground becomes, and the less water it can absorb. Then, plants can't grow well, and there won't be enough food. And if farm animals get no drinking water for 48 hours, thousands will die, and meat will cost more.

Scientists are also investigating how each of us can help reduce a problem that, in fact, we have helped create: by extending our houses, paving driveways, and building car parks. All this takes away soft ground that could absorb water, and adds to the runoff into drains and rivers. And we should collect any water that runs off the house instead of letting it go into the sewerage system. We can use rainwater to flush toilets or run washing machines. Every little helps.

For although this month's weather in Britain has been very unusual, that may happen more, and more often, as our climate changes. Today people in Oxfordshire and Gloucestershire are having to leave their houses. Tomorrow, next month, next year – who knows?

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Scanning for information

First, read the text quickly to find the words and numbers in the box below. Underline them in the text.

June 25
five metres
eight people
121.2mm
5pm Friday
48 hours
Adrian Saul
the Victorians

four times
Nicola Savage

Now, read the text again, and use the information above to complete the sentences below.

1. _____ built the sewers in London.
2. The rain stopped in Oxfordshire at _____.
3. _____ were killed in floods last month in the north of England.
4. _____ is a professor at Sheffield University.
5. Farm animals may die if they can't drink water for _____.
6. _____ of rain fell in five hours in Brize Norton.
7. _____ gave some information from Thames Water.
8. In South Yorkshire, on _____, it rained as much in one day as it usually rains in a month.
9. Flood water was _____ deep in some towns in the south.
10. There are _____ as many people living in London now as when the London sewers were built.

Vocabulary development

Find words in the text that mean the following. Paragraph numbers are given to help you.

1. _____ – kept somewhere, like a prisoner (para 3)
2. _____ – to think and plan how to build something (para 5)
3. _____ – succeed in working with (para 5)
4. _____ – special pieces of soft material for babies to wear because they can't use the toilet (para 6)
5. _____ – covering (the ground) with hard material like concrete or bricks (para 8)
6. _____ – to wash away with a lot of water (para 8)

Prepositions

Choose prepositions from the box to go with the words below.

on over like for in

1. _____ the weekend
2. _____ the south
3. _____ June 25
4. raining _____ weeks
5. plan _____ possible dangers
6. Especially _____ London
7. designed _____
8. things _____ babies' nappies

Key

1. drainage 2. floods 3. disaster 4. sewers 5. results 6. absorb 7. run-off 8. ploughs

1. the Victorians 2. 5pm Friday 3. eight people 4. Adrian Saul 5. 48 hours 6. 121.2mm 7. Nicola Savage 8. June 25 9. five metres 10. four times

1. trapped 2. design 3. handle 4. nappies 5. paving 6. flush

Prepositions

1. over the weekend
2. in the south
3. on June 25
4. raining for weeks
5. plan for possible dangers
6. Especially in London
7. designed for
8. things like babies' nappies

A chance to save millions of lives by freeing up drug patents

Level 2 Intermediate

1) Acronyms

Complete the table. The answers can be found in the text.

| ACRONYM | FULL FORM |
|----------|-------------------------------------|
| 1. _____ | human immunodeficiency virus |
| 2. _____ | acquired immune deficiency syndrome |
| 3. TRIPS | _____ |
| 4. TB | _____ |
| 5. _____ | World Trade Organisation |

Key words

Fill the gaps using one of these key words from the text in each gap.

commission innovation bypass generic patent radical
wealthy disastrous

1. A group of people that is officially put in charge of something or is asked to report on something is called a _____ .
2. _____ is the invention of new ideas, methods and equipment.
3. If something has _____ results it causes a lot of damage or harm.
4. _____ is another word for "rich".
5. A _____ is an official document that gives an inventor the right to make or sell an invention for a fixed period of time and prevents anyone else from making or selling it.
6. A _____ change is new and very different from the usual way of doing something.
7. If you _____ something, you avoid dealing with it.
8. A _____ drug is basically a copy and is one sold without a trademark.

A chance to save millions of lives by freeing up drug patents

There is not much good news in the newspapers but occasionally something happens that can make even the most pessimistic person think that one day the world could be a better place.

Most people have probably missed what's happened because it is a "good news" story, so the headlines were small. But the consequences could be large. It could help save the lives of millions in the poor countries of Africa and in other parts of the world, who are under the death sentence of HIV infection. Medicines could keep them alive, but although those medicines have become much cheaper, they are still not cheap enough for someone who can hardly feed his or her family.

One thing that is preventing really low prices is the patent system. When they develop a new drug, the giant pharmaceutical companies get 20 years protection, which means they can recover their costs through high prices and large profits. This is normal in the wealthy northern hemisphere but disastrous in the poor south.

For years the pharmaceutical companies and the governments of countries such as Britain and the United States have insisted that the patent system is essential for the industry. They say that without the patents there would be no money to research and develop new drugs. But last month a commission presented a report which states very clearly that patents can be bad for poor countries.

This report is remarkable for a number of reasons. On the commission on intellectual property rights there were lawyers, scientists and a bio-ethicist, but also a senior director from the drug company Pfizer. This suggests that the radical solutions in the report would not do such serious harm to the pharmaceuticals industry. Perhaps patents actually prevent innovation even in the developed world. Sometimes they stop scientists exploring promising areas of research. Sometimes they force companies to fight in court and this can waste millions of dollars. And patents do not, and will not, persuade the drug companies to invent new medicines for diseases of poor people. The report says the only way to do that is to spend public money.

At the centre of the patent question is the trade and intellectual property rights agreement of the World Trade Organisation. This agreement is due to be signed by the poorest countries by 2006.

The result of this will be to introduce to the poor southern nations a patent system which is designed to protect technologies and drugs in rich countries. The report says that poorer countries should be allowed to set their own levels of intellectual property protection. Most important of all, the report says that countries with serious diseases like AIDS, malaria and tuberculosis must be able to bypass patents. They should be able to make cheap generic versions of patented drugs themselves, and they should be able to buy generics made abroad if they cannot make them at home. The commission does not want to cause damage to the pharmaceutical industry. It says that patents are important and must be respected in wealthy countries.

Of course, the pharmaceuticals industry does not agree. "Patents are essential so that we can develop new medicines to fight disease in both the developed and developing world," responded a spokesman. The industry is probably putting pressure on politicians at this very moment. But the existence of this report suggests that there may have been a change of direction within government which will put people before the needs of the pharmaceuticals companies.

Comprehension check

Match the beginnings and endings of the sentences.

1. The news about the patent report only made small headlines because
2. Many people will die of AIDS in Africa and in other parts of the world because
3. The governments of rich countries defend the patents system because
4. Patents may prevent innovation because .
5. Patents are bad for poor countries because .
6. The TRIPS agreement will be bad for poor countries because
7. The report says countries with serious diseases
8. If poor countries cannot produce generic drugs themselves they

9. The report says that patents
10. The pharmaceuticals industry says patents are essential because

- a they stop scientists exploring new areas of research.
- b it will introduce an expensive patent system to those countries.
- c should be respected in rich countries,
- d it was a "good news" story.
- e should be able to buy them abroad.
- f they say it provides the money for research and development.
- g should be able to bypass patents.
- h they provide the money to develop new medicines.
- i the drugs that could save them are too expensive.
- j they keep the price of drugs very high.

Vocabulary work: Prepositions

Fill the gaps using an appropriate preposition.

1. Drugs companies can recover their costs _____high prices and large profits,
2. The drug companies say the patents system is essential _____the industry.
3. There would be no money for research and development _____a patents system,
4. The report says patents are bad _____poor countries.
5. The commission was composed _____ people from different sectors.
6. The solutions presented in the report would not do serious harm _____ the pharmaceutical industry,
7. The commission does not want to do damage _____the pharmaceutical industry.
8. Drugs companies are putting pressure _____ politicians.

VERB

1. recover
2. research
3. solve
4. explore
5. agree
6. introduce
7. sign
8. permit
9. develop
10. suggest

NOUN

Discussion

What are the points against ending patents from the point of view of the pharmaceuticals companies?

What are the points in favour of ending patents from the point of view of poorer nations?

What do you think is the solution to this problem?

Key

1 HIV 2 AIDS 3 Trade and Intellectual Property Rights 4 Tuberculosis 5 WTO

1 commission 2 innovation 3 disastrous 4 wealthy 5 patent 6 radical 7 bypass 8 generic

Comprehension check

1 d; 2 i; 3 f; 4 a; 5 j; 6 b; 7 g; 8 e; 9 c; 10 h

Prepositions

1 through 2 to 3 without 4 for 5 of 6 to 7 to 8 on

1 recovery 2 research 3 solution 4 exploration 5 agreement 6 introduction 7 signature

8 permission 9 development 10 suggestion

Will mobile phones be the death of us?

Answer the questions below about mobile phones. Discuss the answers with a partner.

- 1 Do you have a mobile phone?
- 2 What do you use it for?
- 3 How often do you use your phone?
- 4 Do you think there are any health hazards associated with using mobile phones? What are they?
- 5 Do you worry about using your mobile phone too much? Do you limit your personal usage?

You are going to read a newspaper article about research into the effects of electromagnetic radiation.

How do you think the words below are connected in the article?

a castle a lab (laboratory) toxicology rats cancer

Read the article. Check your answers.

Set in the pancake-flat landscape around Bologna, Italy, the castle of Bentivoglio hides a secret. Deep underground in the cramped basement are the sounds and smells of rats - thousands of them. Living rats in cages that surround odd-looking antennae, being fed and watered by technicians. Dead ones are painstakingly examined under microscopes. The work that Bentivoglio does is toxicology. Its background is in the testing of chemicals in the environment that may cause cancer. However, its immediate future is an \$11m project investigating the health effects of another ubiquitous accompaniment of civilisation: electromagnetic radiation.

In the biggest research project of its kind, toxicologist Morando Soffritti and his team hope to nail down the answer to a controversial question: what happens when humans are exposed to that radiation? Close to this spot Guglielmo Marconi became the first person to transmit a simple wireless signal over the distance of a mile. One hundred and ten years later, mobile phones have become the standard accessory for everyone from small children upwards. Italians are not alone in loving their telefonini. The question is, will a lifetime's exposure to their emissions increase our risk of cancer? For Soffritti, head of the Ramazzini Foundation's Centre for Cancer Research, we are all now involved in an experiment, and it is probably the biggest since Sir Walter Raleigh went to Virginia and brought back tobacco. In each of four small rooms a stubby antenna, the equivalent of a mobile phone base station,

rises 1m from the floor, surrounded by plastic cages on wooden shelves. The walls are covered in black cones of foam rubber impregnated with graphite, soaking up radiation that would otherwise escape. To check if any health effects vary with dosage, three different intensities of radiation are being tested. Animals in the fourth room act as controls. In three decades of work on 160,000 mice and rats, the Bentivoglio labs have identified a score of substances capable of causing cancer. Among them are xylenes and toluene (both present in petrol), the fungicide mancozeb, and vinyl chloride and vinyl acetate - both used in the manufacture of plastics.

The lab's findings have led to the enforcement of lower exposure standards in the workplace, and a rethink of the way we produce plastic food and drink containers, including those for storing whisky. The labs are funded largely by Italian charities and benefactors, but the Ramazzini Foundation has just signed a 10-year, \$3m agreement with the US National Institute of Environmental Health Sciences. This will give American scientists access to the raw data from studies published by the Italian group. So, to provide a definitive answer to the mobile phone question, the Italian lab is exposing thousands of rats to precisely controlled radiation from their 12th day in the womb until they die of old age or disease. Because the rats have a normal or near-normal lifespan, good housing conditions, and are exposed only to the levels of electromagnetic radiation that we voluntarily experience ourselves, Italian animal welfare activists have given the work a clean bill of health. If Soffritti is aware of the global scale of the potential problem, he is also aware of the global interests he might be challenging. "When innovative research reveals that agents important for technological development, and so of great economic and political interest, may be hazardous for health, obstacles will be put in its way," he said. And does he use a mobile? "Only when I have to."

The Guardian Weekly 15-04-2005

Read the passage again and answer the questions. Discuss them with a partner.

- 1 Where do Morando Soffritti and his team carry out their experiments?
- 2 What do they want to find out?
- 3 Why are there four different rooms used?
- 4 What changes in the way we live have resulted from the research?
- 5 Who pays for the research?
- 6 What do you think Soffritti thinks about the dangers of using mobile phones?

Match the words below to the correct definition.

- 1 cramped
a. small and crowded b. wide and spacious
- 2 painstakingly
a. quickly b. carefully
- 3 ubiquitous
a. everywhere b. nowhere
- 4 stubby
a. long and thin b. short and fat

5 a score

a. a hundred b. twenty

The words below are all connected with science. Which words are nouns, which verbs, and which adjectives?

examine innovative test publish experiments
investigate identify research impregnate expose

Rewrite the sentences. Replace the words in italics with the words above.

- 1 Scientists have *creative and new* ideas.
- 2 Scientists are carrying out *detailed studies* into cancer. They are performing *scientific tests* on rats and mice.
- 3 Dr Smith is going to *deliberately show* mice to radiation and *thoroughly cover* them with toxic chemicals.
- 4 Scientists want to *recognise* the main causes of cancer.
- 5 Once they have the results of their research, they will *put* them *in book form*.

Super-rich get richer

Level 2 Intermediate

Key words

Fill the gaps in the sentences below using the following key words from the text.

founder fortune inherit compile commodities
tycoon bachelor heiress entrepreneur retail

1. If you _____ money, you get it from someone who has died.
2. The verb to _____ means to make something such as a list, report or book by bringing together information from many different places.
3. An _____ is someone who uses money to start businesses and make business deals.
4. A _____ is a rich and powerful person in business or industry.
5. A _____ is a very large amount of money.
6. A _____ is a man who has never been married.
7. A _____ is someone who starts an organization or business.
8. _____ is the process of selling goods directly to the public.
9. _____ are things that can be bought or sold, especially basic food products or fuel.
10. An _____ is a woman who will receive money or property when another person dies. 1

Find the information

Look in the text and find this information as quickly as possible.

1. Who is the world's richest man?
2. Where does the world's third richest man come from?
3. What is the total wealth of all the people on the rich list?

4. How much is Harry Potter author JK Rowling worth?
5. How many dollar billionaires are there in Russia?
6. Who is the world's richest woman?

March 9, 2007

The rich keep getting richer. According to the latest Forbes ranking of the world's richest people, there are now a record 946 dollar billionaires around the world. They have made their money from everything from telecoms to steel to Chinese food.

For the 13th year in a row, Microsoft co-founder Bill Gates was the richest person in the world. His personal fortune rose \$6bn last year to \$56bn (£29bn). His friend, the investment expert Warren Buffett, was the second richest. His fortune increased by \$10bn during the year to reach \$52bn. Both Mr Gates and Mr Buffett give a percentage of their fortunes to charity. Third richest is the Mexican telecoms entrepreneur Carlos Slim Helu, who added \$19bn to his wealth, and now has \$49bn.

The total wealth of all the people on the list grew by 35% during the year to \$3.5 trillion as a result of rising property prices, commodities and stock markets. Luisa Kroll who helped to compile the list at Forbes said it was "an extraordinary year". On the previous list there were just 793 billionaires.

The richest Briton on the list is the Duke of Westminster, Gerald Cavendish Grosvenor, at number 55. Grosvenor inherited much of his wealth and is one of the UK's wealthiest landowners. He is said to be worth \$11bn. Sir Philip Green, the retail entrepreneur who controls British Home Stores and Topshop owner Arcadia is the second richest Briton at number 104 on the list. Sir Philip, 55, has \$7bn. Next are the property tycoons David and Simon Rueben, who are worth \$4.5bn between them and are number 177 on the list.

There are 29 British citizens on the list. Virgin founder Sir Richard Branson is number 230 with \$3.8bn; David Sainsbury of the grocery family is 432nd with \$2.2bn; newspaper owner Viscount Rothermere, Jonathan Harmsworth, is number 618 with \$1.6bn and James Dyson also has \$1.6bn.

Harry Potter author JK Rowling is right at the bottom of the list with a fortune valued at \$1bn. There are two others who have made their money from a very different type of publishing; Richard Desmond the former soft porn publisher who now owns the Daily Express is 754th on the list with \$1.3bn in the bank and Paul Raymond, who owns Escort, Mayfair and Razzle magazines, is also worth \$1bn.

The list shows growing wealth in both China and India, the two dynamic economies driving global economic growth. Another 14 people from India joined the list. With a total of 36 billionaires, India has now overtaken Japan, which has 24, as home to the most billionaires in Asia. There are three Indians in the top 20, led by Lakshmi Mittal, an Indian citizen who lives in London and who is number five on the list with \$32bn.

There were 13 Chinese newcomers including Li Wei, the founder of Synear Food Holding. Her company is one of China's largest producers of frozen food and is an official supplier to the Beijing Olympics in 2008.

The US still has 44% of the world billionaires but its share is getting smaller. Russia is also rising fast and has 53 billionaires according to Forbes. The Wal-Mart family dropped from the top 20, after a difficult year for the world's largest retailer.

The average billionaire is 62 years old and 60% of the people on the list made their money from scratch. Around 100 unmarried men are included among the world's wealthiest. At the top of the list of bachelors are Google founders Larry Page and Sergey Brin - unmarried at 33 and 34 respectively, they are both worth \$16.6bn and are number 26 in the overall list. Other interesting bachelors are Russian metals tycoon Mikhail Prokhorov, in 38th place with an estimated fortune of \$13.5bn; or divorced James Packer, who has a more modest \$5.5bn media fortune.

One of the more interesting rich people on the list is the accordion-playing, fire-breathing founder of Cirque du Soleil, Guy Laliberte, at number 664 on the list. The 47-year-old Canadian founded his circus-based, animal-free acrobatic show in 1984 and still keeps 95% of the business. His fortune is

estimated at \$1.5bn. The richest woman, at number 12, is 84-year-old L’Oreal heiress Liliane Bettencourt, with a fortune of \$20.7bn. Chat show queen Oprah Winfrey is believed to be worth \$1.5bn.

Comprehension check

Decide whether these statements are True or False according to the text.

1. China has more dollar billionaires than Russia.
2. The percentage of US billionaires in the list is falling.
3. More than half the people on the list started with nothing.
4. Guy Laliberte has sold most of his Cirque du Soleil business.
5. Sir Philip Green is a publisher.
6. Carlos Slim Helu made his money from telecoms.
7. Rising property prices were the only reason for the 35% increase in the total wealth of the people on the list.
8. The founders of Google are married.

Vocabulary 1: Find the word

Find these words and expressions in the text.

1. A noun meaning a position on a list that shows how good someone is compared to others. (para 1)
2. A noun meaning someone who knows a lot about a particular subject. (para 2)
3. A noun meaning a group of organizations which help people who are poor or ill. (para 2)
4. A verb meaning to become better than another person. (para 6)
5. A noun meaning someone who has recently started to be involved in something. (para 7)
6. A noun meaning a company that sells goods direct to the public. (para 8)
7. An expression meaning with nothing at all. (para 9)
8. An adjective meaning richest. (para 9)

Vocabulary 3: Prefixes

Match the prefixes with their meanings.

- | | |
|-----------|---------------------|
| 1. co- | a. new |
| 2. re- | b. against |
| 3. anti- | c. many |
| 4. neo- | d. joint, together |
| 5. mal- | e. below, less than |
| 6. multi- | f. across |
| 7. trans- | g. again |
| 8. under- | h. badly |

Vocabulary 2: Word formation

Complete the table.

| verb | noun |
|------|------|
|------|------|

1. invest
2. grow
3. marry
4. increase
5. inherit
6. own

7. produce
8. found

Discussion

How much money does a normal person need? What can you do with more than \$1 billion? Should the super-rich pay more tax?

KEY

1 Key words

1. inherit 2. compile 3. entrepreneur 4. tycoon 5. fortune 6. bachelor 7. founder 8. retail 9. commodities 10. heiress

Find the information

1. Bill Gates 2. Mexico 3. \$3.5 trillion 4. \$1 billion 5. 53 6. Liliane Bettencourt in the 1980s

Comprehension check

1. F 2. T 3. T 4. F 5. F 6. T 7. F 8. F

Vocabulary 1: Find the word

1. ranking 2. expert 3. charity 4. overtake 5. newcomer 6. retailer 7. from scratch 8. wealthiest

Vocabulary 2: Word formation

1. investment 2. growth 3. marriage 4. increase 5. inheritance 6. ownership/owner (person) 7. production/producer (person) 8. foundation/founder (person)

Vocabulary 3: Prefixes

1. d 2. g 3. b 4. a 5. h 6. c 7. f 8. e

Emoticons, emails and letter writing / Intermediate

Match these emoticons with their meanings.

- }:-(I'm wearing glasses
 ;-) I'm undecided
 8-) I'm married
 0:-) Your toupee is blowing in the wind
 :-)(-: I'm only joking!
 :-\ The writer just made a sweet or innocent remark

Skim-read the article to find words that mean the following.

1. to show or tell – _____ (para 1)
2. to put in – _____ (para 1)
3. a feeling you experience – _____ (para 1)
4. someone who is extremely interested in computers – _____ (para 1)
5. not deliberate or planned – _____ (para 2)
6. behaving or speaking in a way that seems rude – _____ (para 2)
7. to feel sorry or sad about something you have done – _____ (para 4)
8. the process of changing from one state to another – _____ (para 4)
9. a strong sad or guilty feeling about something you have done – _____ (para 6)
10. to destroy – _____ (para 7)
11. without emotion – _____ (para 8)

12. to let someone know you have received something they sent you – _____ (para 9)
13. to communicate ideas or feelings indirectly – _____ (para 10)

Emoticons, emails and letter writing

Simon Jenkins

September 21, 2007

Have emails made us into unemotional machines?

The emoticon is 25 years old. In 1982, a Pittsburgh professor, Scott Fahlman, noted that his students' emails lacked body language and voice tones and could not express greetings and humour. So, the smiley was born, and with it a large amount of symbols intended to insert normal human emotion into the cold alphabet. A–Z might have been fine for Shakespeare, Milton, Keats and Shelley, but for today's global nerd it is not good enough.

Early telegraphy had its own short forms and users soon realized that abbreviated language could sometimes cause unintentional pain and embarrassment. Therefore, symbols were used to soften remarks that might seem sarcastic or abrupt. The result was not just smileys but frownies and various signs of confusion, love, anger and surprise.

There are 16 pages of emoticons in Andrew John's Txtr's A–Z – my favourite being }:-(which means 'your toupee is blowing in the wind'. These days many computers automatically change the frownie into :-(. In other words, :-)and }:-(have become formal symbols in Internet vocabulary.

I agree that there is a problem. I have often sent a personal email or text message which I have regretted afterwards. The old-fashioned pen slowed the transition from spoken word (and intended meaning) to script. It gave you time to think, as did the manual typewriter. Writing involved effort. A word was thought about before being written on paper and sent through the post.

These days, thoughts quickly change into finished, but imperfect sentences. As soon as they are on screen they become real. And 'send' is always clicked too soon. There is no wait for the post to go, no time to correct what you wrote. Nor is there any certainty that an email has arrived, so we have to call and ask: "Did you get my email ... why didn't you reply?" And then we regret sending it off so quickly. We should have read it through one more time.

How on earth did we manage in the past? Somehow we communicated love, hurt, remorse, anger and joy with the help of the Oxford English Dictionary. We used quill, pen, pencil, ballpoint, even typewriter, and if anything went wrong we had the telephone as backup. But why is email so lacking in feeling that it needs its own additional emoticon alphabet? How believable is :-)?

The authors of a book on 'netiquette' say that, "On email people aren't quite themselves ... they are angrier, less sympathetic, less aware, more easily wounded, even more gossipy." Some have even wrecked their marriages, lost their jobs and ended up in jail.

Many of us do not know how to handle email. Do we start Dear Sir or Hi gorgeous, or get straight down to business? Do we cover the screen with capital letters, exclamation marks and emoticons in a desperate effort to explain what we mean? Do we end with Yours sincerely, Kind regards or Byeeee! Even such simple words as please, thank you and sorry have a hundred different meanings when spoken but are toneless when lying flat on the screen.

The truth is that, for other than routine messages and acknowledgements, email is not as good as the telephone and the letter. Compared to the telephone, email distances us. It not only removes the tone of your voice, it prevents people from interrupting or replying. It is a one-way conversation, a monologue, with all the rudeness that can imply. Compared to a letter, email is faster but has none of the humanity, not to mention politeness, of handwriting.

Emails are bad at conveying humour or criticism, bad news or sympathy. The form is too cold. Those who wish to communicate sincerity to another human being should telephone.

Better still, clear your desk, take out a crisp sheet of note paper, pick up a pen and do something Emoticons, emails and letter writing you may not have done for ages. Write a proper letter. The recipient will be amazed and delighted that you have taken the time. You will have written what you meant to say, and I bet you won't have used emoticons.

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Comprehension check

Are these statements True (T) or False (F) according to the text?

1. The emoticon was invented because the alphabet doesn't contain human emotion.
2. A student invented the smiley in an email to his professor.
3. Manual typewriters are better than computers for conveying emotion.
4. People often regret sending emails.
5. The author says that people often hold monologues on the phone.
6. Emails can be bad for your health and your love life.
7. Many people change their personality when they write emails.
8. The author suggests that we write more letters.

Discussion

Discuss the following questions in small groups.

Do you prefer to write letters or send emails?

When did you last send an email?

When did you last write a letter?

How many emails do you send/receive per week?

How many letters do you send/receive per week?

Do you use emoticons when you write emails?

What do you think when you receive an email containing emoticons?

Webquest

Have a look at these websites for more information on emoticons. Which emoticons do you like best?

Unusual and funny emoticons:

www.angelfire.com/hi/hahakiam/emoticon.html

A-Z of emoticons:

www.sharpened.net/glossary/emoticons.php

Emoticons that you've probably never seen before:

http://en.wikipedia.org/wiki/List_of_common_emoticons

Key

1 Pre-reading task

};-(Your toupee is blowing in the wind

:-) I'm only joking!
8-) I'm wearing glasses
0:-) The writer just made a sweet or innocent remark
:-)(-: I'm married
:-\ I'm undecided

1. express 2. insert 3. emotion 4. nerd 5. unintentional 6. abrupt 7. regret 8. transition 9. remorse 10. wreck 11. toneless 12. acknowledgement 13. convey

Comprehension check

1. T 2. F 3. F 4. T 5. F 6. T 7. T 8. T

Some emoticons :-)

A

0=) Angel
:-t Angry

B

~:0 Baby
:-o Bored
:-# Braces
</3 Broken Heart

C

=^.^= Cat
:O) Clown
O.o Confused
:-S Confused
B-) Cool
:_ (Crying
:'(Crying
|_P Cup of Coffee

D

_ Dazed
#-o Doh!
:*) Drunk

E

-@--@- Eyeglasses

F

() Football
:-(Frown
:(Frown
:-(Frowning
=P Frustrated
:-P Frustrated

G

\$_\$ Greedy
:-> Grin

H

=) Happy
:-) Happy
) Happy
<3 Heart
{ } Hug

I

| | |
|----------|-------------------------|
| :\| | Indifferent |
| J | |
| X-p | Joking |
| K | |
| \VVV/ | King |
| :~)* | Kiss |
| :~* | Kiss |
| L | |
| =D | Laughing out Loud |
|):- | Left-handed Sad Face |
| (:- | Left-handed Smiley Face |
| M | |
| =/ | Mad |
| :~)(:- | Married |
| <:3)~ | Mouse |
| N | |
| ~,~ | Napping |
| :~B | Nerd |
| O | |
| ^_^ | Overjoyed |
| P | |
| <:0 | Partying |
| :~/ | Perplexed |
| =8) | Pig |
| \&&&/ | Princess |
| Q | |
| \%%%/ | Queen |
| R | |
| =D | Really Happy |
| @~)~~~~ | Rose |
| S | |
| =(| Sad |
| :-(| Sad |
| :(| Sad |
| :~7 | Sarcastic |
| :~@ | Screaming |
| =O | Shocked |
| O-\-<]: | Skateboarder |
| :~) | Smile |
| :~Q | Smoking |
| :> | Smug |
| :P | Sticking Tongue Out |
| :o | Surprised |
| T | |
| :~{ } | Talking |
| (:\| | Tired |
| :~J | Tongue in Cheek |
| :~& | Tongue-tied |
| U | |
| =~O | Uh-oh |
| :~\ | Undecided |

| | |
|------|--------------------|
| **== | United States Flag |
| V | |
| :-E | Vampire |
| W | |
| 8-) | Wearing Sunglasses |
| ;-) | Winking |
| ;) | Winking |
| X | |
| l-O | Yawn |
| Y | |
| Z | Zorro |

Life through a lens

Level 2 Intermediate

Key words

Fill the gaps in the sentences using these key words from the text.

widespread facilities sedentary decline pastime
balanced survey reluctant multitask essential

1. If you _____, you do more than one thing at the same time.
2. If something is _____, it happens or exists in many places.
3. A _____ life is one in which all parts combine well together and exist in the correct amounts.
4. A _____ is a set of questions that you ask a large number of people.
5. _____ are things such as rooms or pieces of equipment provided at a place for people to use.
6. A _____ is a reduction in the amount or quality of something.
7. If something is _____, it is completely necessary.
8. A _____ is something people do regularly for fun in their free time.
9. If you are _____ to do something, you don't want to do it.
10. If an activity is described as _____, it involves a lot of sitting and not much exercise.

Look in the text and find this information as quickly as possible.

1. What percentage of British children watch TV in bed at night?
2. How much time on average do British children spend in front of a screen each day?
3. How many children read books in their own time each day?
4. How many children did the survey interview?
5. What percentage of five to 16-year olds use the Internet?
6. How much time on average do children spend online (on the Internet)?

Life through a lens: How Britain's children eat, sleep and breathe TV
 Lucy Ward, social affairs correspondent
 January 16, 2008

A generation of ‘multitasking’ children are living their daily lives – including eating and falling asleep – to the accompaniment of television, according to a survey of young people’s media habits. They watch TV before they go to school, when they return home, as they eat their evening meal and then – for 63%, a much higher percentage than read a book each day – in bed at night. The survey of five to 16-year-olds shows that four out of five children now have a TV set in their bedroom.

Television has become so widespread that many children now combine it with other activities, including social networking online, looking from their laptop to the TV screen and back again. Even if they are concentrating on the television, young people are now unwilling to watch just one programme, with boys in particular often switching between channels to keep up with two programmes at the same time. The survey, conducted by the market research agency Childwise, will increase worries that childhood is increasingly about private space and sedentary activities and less about play, social interaction or the child’s own imagination.

The government’s recent Children’s Plan focused on improving play facilities as a means of ensuring a more balanced life for young people who spend a lot of time watching television. Today’s survey findings show that after declining for three years, television-watching among children is now increasing again. This is mainly the result of more girls watching soap operas.

Internet use is also continuing to increase rapidly. This means British children spend an average of five hours and 20 minutes in front of a screen a day, up from four hours and 40 minutes five years ago. Reading books for pleasure, on the other hand, continues to decline as a regular pastime. While four out of five children read books in their own time, only a quarter do so daily and 53% at least once a week.

The report, based on interviews with 1,147 children in 60 schools around England, Scotland and Wales, found television viewing now averages 2.6 hours a day across the age group, though one in ten say they watch more than four hours daily. The survey, which has been conducted annually for 14 years, asked for the first time whether children watched television while eating dinner or in bed before going to sleep. It found that 58% watch during their evening meal, while 63% lie in bed watching the screen (rising to almost 75% of 13 to 16-year-olds). Two-thirds – particularly the youngest children – watch before school, and 83% turn on the television after returning home.

Rosemary Duff, Childwise research director, said television was now “a part of children’s lives”, but added that the quality of viewing had changed. “People used to pay more attention when they watched television. It used to be less widespread but much higher in its importance. Now it is widespread but just part of the background, not just at home but wherever you go.”

“It seems that children now multitask, keeping one eye on the television as they flick through magazines or use the computer,” Duff added. When the company asked boys to choose between programmes on different channels they often refused, saying they would ‘watch both’. “They switch from one to another and cannot imagine that they should have to make a decision. They are surprised that you should put them in a situation where they have to make a choice.”

Computers are also now a key part of children’s private worlds. “The Internet is now an essential part of most young people’s lives,” says the study, with 85% of five to 16-year-olds using the Internet, and over a third (including a quarter of five to six-year-olds) owning a computer or laptop of their own. On average, they go online just over four times a week, spending two hours each time.

The survey shows a rise in Internet use, particularly among younger children. This is mainly the result of social networking sites, primarily Bebo. Communication, says the report, “has overtaken fun (e.g. online games) as the main reason to use the Internet and study is now far behind”. Almost three quarters (72%) of children have visited a social networking site, and over half have their own profile – sometimes lying about their age to avoid minimum age requirements. Children as young as eight are now signing up.

Kathy Evans, policy director of the Children’s Society, which is conducting its own inquiry into modern childhood, said there was now “growing public and professional concern about the possible effects of children’s TV and Internet viewing habits”. The inquiry will report next month on children and technology as part of its two-year investigation.

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Are these statements True (T) or False (F) according to the text?

1. Boys often watch more than one TV programme at the same time.
2. The rise in Internet use is mainly the result of social networking sites.
3. The number of children watching television is falling steadily.
4. Less than half the children surveyed watch TV while they are eating their evening meal.
5. The survey is conducted every 14 years.
6. Many children watch TV and use a laptop at the same time.

Find the word

Find the following words or phrases in the text.

1. A four-word expression meaning while something else is happening or can be heard. (para 1)
2. A three-word phrasal verb meaning to continue to follow. (para 2)
3. An adverb meaning every year. (para 5)
4. A two-word phrasal verb meaning look quickly at a magazine or newspaper. (para 7)
5. A verb meaning to say you will not do something that someone has asked you to do. (para 7)
6. An adjective meaning as small in amount or degree as possible. (para 9)
7. A two-word phrasal verb meaning agree to join a course or organization. (para 9)
8. A noun meaning the time of your life when you are a child. (para 10)

Verb + noun collocations

Match the verbs in the left-hand column with the nouns in the right-hand column to make collocations.

- | | |
|------------------|-------------------|
| 1. visit | a. facilities |
| 2. turn on | b. the Internet |
| 3. improve | c. a magazine |
| 4. flick through | d. attention |
| 5. make | e. a survey |
| 6. use | f. a choice |
| 7. pay | g. a website |
| 8. conduct | h. the television |

Word building

Complete the table using words from the text.

verb

1. interact
2. imagine
3. decline
4. research
5. refusal
6. inquire
7. investigate
8. please

noun

Discussion

Do you think children spend too much time watching TV and using the Internet? What are the advantages and disadvantages of these activities?

KEY

1. multitask 2. widespread 3. balanced 4. survey 5. facilities 6. decline 7. essential 8. pastime
9. reluctant 10. sedentary

Find the information

1. 63% 2. Five hours 20 minutes 3. A quarter (25%) 4. 1,147; 5. 85% 6. Two hours (four times a week)

Comprehension check

1. T 2. T 3. F 4. F 5. F 6. T

Find the word

1. to the accompaniment of 2. keep up with 3. annually 4. flick through 5. refuse 6. minimum
7. sign up 8. childhood

Verb + noun collocations

1. g 2. h 3. a 4. c 5. f 6. b 7. d 8. e

Word building

verb

1. interact
2. imagine
3. decline
4. research
5. refuse
6. inquire
7. investigate
8. please

noun

- interaction
- imagination
- decline
- research
- refusal
- inquiry
- investigation
- pleasure

Afghan Airlines

Intermediate

Fill the gaps using these key words from the text:

bureaucracy hijack disastrous nickname incompetent
corrupt rescue plan bribe sanctions émigré

1. A _____ is a plan designed to save a company and change its fortunes.

2. An _____ is a person who leaves their country in order to live somewhere else.
3. A _____ is money offered to an official to help you by doing something illegal or dishonest.
4. If you _____ a plane, you take control of it using force.
5. _____ are official orders to stop trade with a country that has broken international law.
6. _____ is a complicated system of rules and processes.
7. If something is _____, it causes a lot of damage or harm.
8. An _____ person does not have the ability to do a job correctly.
9. A _____ person does dishonest or illegal things to earn money.
10. A _____ is an informal name that is not a real name.

Look in the text and find this information as quickly as possible:

1. What is the name of Afghanistan's national airline?
2. How many employees does Ariana have?
3. How much money does the manager of Ariana earn each month?
4. When was Ariana founded?
5. When did the US invade Afghanistan?
6. How many flights does Ariana now operate each week?

It's four o'clock in the afternoon and a hundreds of employees are leaving the headquarters of Ariana, Afghanistan's national airline. In the boardroom, one man stays behind. Dr Muhammad Atash, a man with a kind but worried face, sits in his chair and rubs his eyes. Ariana faces a number of "difficulties", he explains. "Employees steal from the company. They give jobs to members of their family. There's a lot of bureaucracy. There aren't many qualified staff and a lot of people prefer not to do any work." But then he pauses. "I believe we are starting to make progress."

Ariana is different from most other airlines for many reasons, all of them bad. Its history is terrible. During Afghanistan's quarter of a century of war, Ariana planes were shut down, shot down or hijacked. No-one chooses to fly Ariana today. It has a disastrous safety record and this means it cannot fly to most European and American airports. It is nicknamed "Scaryana". UN officials and foreign diplomats are not allowed to take Ariana flights. And most of the 1,700 staff are, according to Atash, either extremely incompetent or corrupt.

Is Ariana the world's worst airline? Perhaps not. There are many bad airlines in the developing world. "Ariana is no worse than many others," says David Learmount at Flight International magazine. "If a country has no safety culture, neither does its airline." But Ariana has one advantage over other disaster airlines – it has a rescue plan. Atash, a straight-talking Afghan-American emigre, returned three years ago from the USA where he ran a business. He was given the job of manager at Ariana in June.

It is not a glamorous job. Atash is paid just \$100 a month and uses his own mobile phone. But he has a can-do attitude and plans to get rid of hundreds of incompetent staff. It is a difficult task but he is not alone. In comes Hanns Marienfeld, the leader of a six-strong team from Lufthansa hired to help with the rescue plan. He describes the state of Ariana one year ago: "It was not up to international standards," he says. "It had no flight schedule. Customers had to pay a bribe to get a ticket, a second bribe to get a boarding pass and sometimes a third to get their seat in business class. We flew here or there, whenever the pilots felt like it." Initial safety standards were not good. In 2003 and 2004, Ariana's fleet of six planes suffered six major engine failures. "In Germany, our pilots only see that sort of thing in a flight simulator. In Ariana we do it in real life," says Marienfeld.

The early years were very different. Ariana was founded in 1955 and quickly gained a reputation as a small but proud regional carrier. It flew hippies and adventurers from London, Paris and Frankfurt and brought honeymooning couples from neighbouring Pakistan. But in 1973, King Zahir Shah was overthrown and five years later a civil war began. The visitors vanished and Ariana, like the rest of Afghanistan, suffered very badly.

During the 10-year Soviet occupation, when the roads were too dangerous, Ariana became the safest way to travel. But the sense of security was relative. The mujahideen fighters who were fighting the Soviet forces were armed with American anti-aircraft missiles. So Ariana pilots had to learn how to avoid the missiles while taking off and landing. Some staff could take no more. On a flight to Kandahar in 1989, a fight broke out between the pilot and the co-pilot. The pilot wanted to fly the plane to Iran. The co-pilot did not want to go. As they fought for the controls, the plane fell out of the sky, crashing into the desert near the Iranian border. All six people on board died.

After the Soviet departure the airline went from bad to worse. When the Taliban took control of Kabul a year later, they brought their 7th century ideas to Ariana's 20th-century business. They sent the stewardesses home, banned inflight music and gave the job of director to a 26-year-old religious fanatic.

The UN imposed an international flight ban on the airline as part of UN sanctions against the Taliban. The company's reputation for disaster got bigger as its fleet of ageing aircraft got smaller. The former prime minister died in a 1997 crash; two accidents in 1998 killed about 100 people. In 2000, a flight from Kabul to Mazar-i-Sharif was hijacked to Stansted airport in the UK.

In 2001, the US led an international invasion of Afghanistan. This should have saved Ariana but instead it almost destroyed the company. US planes bombed the Ariana fleet, destroying six of its eight planes. The Taliban took \$500,000 in company cash and ran.

Now a process of change has begun. The number of flights has increased from 10 to 15 a week. Ariana management says 85% of flights are on time. Ariana made a modest \$1m profit last year. At Kabul airport the mechanics have new tools and new pilots are being trained. The old Kabul office will close soon and a modern sales centre, complete with young, enthusiastic staff and computerised booking, will open soon.

Meanwhile Atash plans to ask half his 1,700 staff to stay at home but continue their pay. "We are building the system with completely new people. We cannot mix them with the corrupt old ones," says Atash. Success is not guaranteed, however, and there is now a battle for control of the company. "We're going to fight all the way," Atash promises. "Because the other option is to sit here and do nothing. And that's not an option - either for Ariana or for Afghanistan."

Choose the best answer to each question:

1. Most of the current staff at Ariana are:

- a. hard-working
- b. lazy and corrupt
- c. new

2. The situation at Ariana is:

- a. getting worse
- b. getting better
- c. dangerous

3. Ariana is banned from most European and US airports because of:

- a. its safety record
- b. its pilots
- c. UN sanctions

4. The flight to Kandahar in 1989 crashed because of:

- a. engine failure
- b. an American missile
- c. a fight between the pilot and co-pilot

Match the words in the left-hand column with those in the right hand column to make phrases from the text:

- | | |
|-------------|--------------|
| 1. safety | a. failure |
| 2. flight | b. centre |
| 3. rescue | c. standard |
| 4. boarding | d. plan |
| 5. engine | e. schedule |
| 6. flight | f. pass |
| 7. sales | g. class |
| 8. business | h. simulator |

Complete the table:

| Adjective | Noun |
|------------------|-------------|
| 1. safe | _____ |
| 2. disastrous | _____ |
| 3. different | _____ |
| 4. corrupt | _____ |
| 5. incompetent | _____ |
| 6. proud | _____ |
| 7. enthusiastic | _____ |
| 8. successful | _____ |

Fill the gaps using an appropriate preposition. Check your answers in the text.

- 1. different _____
- 2. advantage _____
- 3. get rid _____
- 4. fall _____ the sky
- 5. _____ bad _____ worse
- 6. a process _____ change
- 7. increase _____ 10 _____ 15
- 8. 85% of flights are _____ time

Discussion

Would you travel with this airline? Why? Why not?

KEY

- 1. rescue plan 2. émigré 3. bribe 4. hijack 5. sanctions 6. bureaucracy 7. disastrous 8. incompetent
- 9. corrupt 10. nickname

Find the Information

- 1. Ariana 2. 1,700 3. \$100 4. 1955 5. 2001 6. 15

- 1. b; 2. b; 3. a; 4. c

4 Vocabulary 1 Noun + Noun Collocations

- 1. c; 2. e (h); 3. d; 4. f; 5. a; 6. h (e); 7. b; 8. g

Vocabulary Word Building

- 1. safety 2. disaster 3. difference 4. corruption 5. incompetence 6. pride 7. enthusiasm 8. success

Prepositions

- 1. from 2. over 3. of 4. out of 5. from; to 6. of 7. from; to 8. on

The future of design?

Level 2 Intermediate

Pre-reading task: New ideas

Use two or more of these words to make six new design inventions. The first letter of each idea is given to help you. Then skim-read the article to check your answers.

- | | | | | | |
|------------|---------|---------------|-----------|--------|-------|
| magnetic | sticky | solar-powered | camera | tidier | clock |
| wastepaper | robotic | transparent | furniture | garden | web |
| mirrors | cable | bin | glowing | vague | memos |
| bathroom | | | | | |

- a) v _____
- b) s _____
- c) t _____
- d) r _____
- e) m _____
- f) w _____

Key words: Synonyms

Skim the article again to find words that mean (almost) the same as:

- 1. boring / unexciting – _____ (para 2)
- 2. rule / idea – _____ (para 2)
- 3. original – _____ (para 2)
- 4. factory-made in large numbers – _____ (para 2)
- 5. changes – _____ (para 2)
- 6. plan / project – _____ (para 4)
- 7. to fail – _____ (para 4)
- 8. payment – _____ (para 4)
- 9. inexact / indeterminate – _____ (para 5)

10. leads / wires – _____ (para 5)
11. shows – _____ (para 6)
12. normal / ordinary – _____ (para 7)
13. no good / useless – _____ (para 9)

The future of design?

Ian Sample, science correspondent

November 24, 2007

A Japanese innovator wants to change the face of shopping and replace mass-produced goods with people-power ideas

If Kohei Nishiyama succeeds, he will be financially independent by the age of 40, living as an inventor and being woken each morning by his robot dog. The 37-year-old Tokyo-based designer and founder of Elephant Design has a dream, one he hopes will change the face of British shopping. He wants to empty the shelves of dreary, mass-marketed and mass-produced objects and replace them with products that we - the people - have helped to develop. Nishiyama calls his idea 'Design to Order' and the principle is simple. Anyone with a unique idea, for anything from a robotic web camera to a magnetic bathroom mirror, posts an image and description on his website. There, people can log on to suggest alterations and improvements to the design. If enough people then vote for the product, he makes a deal with a manufacturer and the product is made.

"There are so many mass-produced products making it on to the shelves because that's how large companies do things. Our idea is to give people what they want by involving anyone of any age or nationality who has a good idea, early on in the process," says Nishiyama.

The scheme has been running in Japan for a few years, and has taken off among designers who use it to present their ideas instead of committing to something that may flop. The company has recently set up a test site with retailer Muji to help develop products for its stores. One idea, for transparent sticky memos, was suggested by a 21-year-old student and will be marketed next month. She will get royalties from every pack sold.

Ahead of the formal UK launch next year, Nishiyama has appointed London-based designers The Division as its first British consultancy. The company has placed three designs on Nishiyama's website: a clock that is vague about the time, a set of solar-powered, glowing garden furniture, and a wastepaper bin that tidies ugly cables around work desks.

David Tonge, founder of The Division, said: "We wanted a relaxed clock for the home, so the hour hand is on the outside, and like a sundial it's fairly vague. But in the centre, it displays minutes in a digital form so you can use it if you're doing something like cooking pasta for 13 minutes."

The idea for the garden furniture came after Tonge was fed-up with the over-designed options he found in shops, while the cable tidier is a standard paper bin fitted with a powerblock and cable storage compartments.

Any item on the site that gets 1,000 votes is put forward for manufacture. As of yesterday, Tonge's clock had received 39 votes, the cable tidier 22 votes and the garden furniture nine. The leading product on the site, with 235 votes, is a bathroom mirror that is also a whiteboard. The designers

hope the buyers will be busy professionals, who can write appointments and thoughts on it, attach memos like fridge magnets, and see them as they brush their teeth in the morning.

For now the test site is only free to designers, but Nishiyama says he will take ideas from other people, if there are at least ten people who support an idea. "Because it's a new thing and it's experimental, a lot of people are posting ideas and, it has to be said, some of them are rubbish," says Tonge. "But it can be surprising. There are definitely people out there, who are not designers, who have some good, interesting ideas, and some of those may end up in the shops."

Guardian News & Media 2007

First published in The Guardian, 24/11/07

Comprehension check

Are these sentences true or false according to the article?

Correct any sentences that are false.

1. Kohei Nishiyama comes from Japan but lives in London. true / false
2. Kohei Nishiyama is the founder of a new design company. true / false
3. He doesn't like mass-marketed products. true / false
4. Elephant Design offers young designers the chance to present their ideas. true / false
5. Kohei Nishiyama wants to move the company base to the UK. true / false
6. A design needs 1000 votes before it can be produced. true / false
7. Currently the most popular product is the vague clock. true / false
8. There are no plans to market any new ideas yet. true / false

A new invention: Group work

Can you think of an item that would make your life easier – either at work or at home?

What would it do, e.g. polish your shoes, put on your make up, clean the snow off your garden path?

Make notes and present your ideas to the class.

ebquest

Go to the website in the article www.cuusoo.jp/muji.

Click on the pictures and see if you can guess what the designs are (the website is in Japanese).

KEY

New ideas a) vague clock b) solar-powered glowing garden furniture c) transparent sticky memos
d) robotic web camera e) magnetic bathroom mirrors f) wastepaper bin cable tidier

Synonyms

1. dreary 2. principle 3. unique 4. mass-produced 5. alterations 6. scheme 7. flop

8. royalties 9. vague 10. cables 11. displays 12. standard 13. rubbish

Comprehension check

1. false 2. true 3. true 4. true 5. false 6. true 7. false 8. false

Gang mayhem grips LA

Intermediate

Key words

Fill the gaps using key words from the text.

backfires bury to ruin a crackdown a gang
summit turf unprecedented impoverished to mourn

1. _____ is a group of young people who spend time together and often cause trouble.
2. When you _____ a person, you put his or her dead body in the ground.
3. _____ is to feel sad because someone has died.
4. _____ is an area that a group considers to be their own.
5. _____ is a strong action taken by the authority to stop a particular activity.
6. When leaders hold a _____, they have a meeting or series of meetings.
7. If something is _____, then it has never happened or existed before.
8. If a plan _____ then it has the opposite effect you intended.
9. If you are _____ then you have little or no money.
10. _____ something is to destroy or seriously damage it.

Read quickly

Skim the text and choose the correct answer.

1. a) Father Boyle buried Jonathan Hurtado. b) Father Boyle killed Jonathan Hurtado.
2. a) In LA there is a new race war between Hispanic gangs and white gangs. b) In LA there is a new race war between Hispanic gangs and black gangs.
3. a) Cheryl Green was killed by police. b) Cheryl Green was killed by gang members.
4. a) There were less gang-related crimes last year than the year before. b) There were more gang-related crimes last year than the year before.
5. a) The gangs have published a list of the worst gangs. b) The police has published a list of the worst gangs.
6. a) Homeboy Industries helps young people leave gangs. b) Homeboy Industries helps young people join gangs.

Gang mayhem grips LA
Paul Harris March 18, 2007

Father Greg Boyle keeps a count of the young gang members he has buried. Number 151 was Jonathan Hurtado, 18 – fresh out of jail. Now the Jesuit mourns him. “The day he got out I found him a job. He never missed a day. He was doing really well,” Boyle says.

But Hurtado made a mistake: he went back to his old neighbourhood. While sitting in a park, Hurtado was approached by a man on a bike who said to him: “Hey, homie, what’s up?” He then shot Hurtado four times.

Boyle’s Los Angeles is a world away from the glamorous Hollywood hills, Malibu beaches and Sunset Strip – the city that David Beckham and Posh Spice will soon make their home.

Boyle's Los Angeles is where an estimated 120,000 gang members across five counties battle over turf, pride and drugs. It is a city of violence as a new race war escalates between new Hispanic gangs and older black groups. Mayor Antonio Villaraigosa, who has referred to his city as "the gang capital of America", has launched a crackdown on the new threat.

The latest front is Harbor Gateway, a nest of streets between malls and office blocks. It was here, just before Christmas, that Cheryl Green, a 14-year-old black girl, died. As she stood on a corner talking with friends, two Hispanic members of the neighbourhood's notorious 204th Street gang walked up and opened fire, killing Green and wounding three others. Traditionally, the outside view of LA gangs has been of black youths but Hispanic gangs are rising and spreading across America.

Last year there were 269 gang-related killings in LA. Gang-related crime leaped 15.7 per cent last year, as most other types of crime fell. Hate crimes against black people have gone up.

Green's death made the public aware of the gang war between 'brown and black'. Next week a summit will be held called the Black and Brown Strategy Meeting which aims to head off a race war. "All of the signs are there that a racial war is going to explode in this city," says Khalid Shah, director of Stop the Violence, one of the groups organizing the meeting. "You are looking at an event which could not only paralyze an entire city but an entire state," he warns.

Green's death sparked Villaraigosa's crackdown. The police took the unprecedented step of publishing a list of the 11 worst gangs, including 204th Street. They promised to go after them with police, FBI agents and injunctions to prevent members meeting. But Angelenos have seen it all before. The city's history is full of anti-gang initiatives.

Publishing the 'hit list' could backfire. "Putting out a list was a bad idea. Groups that don't make the list will want to be on it. They don't exactly think rationally," said Alex Alonso, a gang historian.

Yet there is hope. Alfonso 'Chino' Visuet, 23, was sucked into the gang life as a teenager. There was the lure of excitement and riches, the push of a difficult home life. "People who join a gang are always running away from something. They flee to the gang," Visuet says.

Visuet now works for Father Boyle's Homeboy Industries, a project that helps people leave gang life. It provides jobs, an education, pays to have gang tattoos removed and gives counselling. It aims to remove the circumstances that lead to crime: poverty, abuse and unemployment. It is staffed almost entirely by former gang members and has created a bakery, a silk-screen printers and a restaurant.

It worked for Visuet. He starts college this autumn and wants to be a probation officer. "I was on the edge of doing something that would ruin my life, either by doing violence or having it done to me. That's over now," he says.

Visuet despairs at the conflict. "A brown gang member now just sees a black gang member. What they don't see is how that person comes from the same place they do. They might have a mother who is an alcoholic as well or a father who beats on them. They have the same story," he says.

LA is a city of two worlds – Hollywood and gangs. On a two-lane highway that goes through the middle of Harbor Gateway, a few hundred yards from where Cheryl Green was shot, there is a billboard for a new TV show called Sons of Hollywood. It shows three rich young men against a

backdrop of palm trees. It claims to be a 'reality' show, but for most of the impoverished, racially torn citizens it is nothing more than a fantasy.

Guardian News & Media 2007

First published in the Observer, 18/03/07

Comprehension check

Find information in the text and write short answers to the questions.

1. What was Jonathan Hurtado's mistake?
2. How are Boyle's Los Angeles and the Beckhams' Los Angeles different?
3. How is the view of LA gangs changing?
4. What are two consequences of Cheryl Green's killing?
5. Why do some people think the hit list is a bad idea?
6. Why do people join gangs, according to Visuet?
7. What does Homebody Industries do to help ex-gang members?
8. What is Sons of Hollywood?

Expressions

Order the words in italics to make expressions.

1. count of keep to something = to remember or record a number as it changes over time
2. make home your to somewhere = to live somewhere
3. there all the are signs = something is sure to happen in the future
4. they seen all it before have = they are used to it
5. doing edge the on of something = about to do something
6. fantasy nothing a than more = not real

War vocabulary

Find words relating to war and conflict in the paragraphs. The first letter has been given.

1. s _____ (Paragraph 2)
2. b _____ (Paragraph 4)
3. w _____ (Paragraph 4)
4. t _____ (Paragraph 4)
5. f _____ (Paragraph 5)
6. o _____ f _____ (Paragraph 5)
7. k _____ (Paragraph 5)
8. w _____ (Paragraph 5)
9. v _____ (Paragraph 11)
10. c _____ (Paragraph 13)
11. b _____ (Paragraph 13)

Phrasal verbs into nouns

Look at the following example from the text.

Mayor Antonio Villaraigosa, who has referred to his city as "the gang capital of America", has launched a crackdown on the new threat.

The noun crackdown comes from the phrasal verb to crack down.

Complete the sentences with nouns made from the following phrasal verbs.

black out blow up stop over hand out clean up lay off

1. On our flight to London we had a two-hour _____ in Frankfurt.

2. The family had several candles in the house in case of a _____.
3. The company was losing money and there were many _____.
4. He's forty and he still lives on _____ from his parents.
5. On the wall is a big _____ of a photo of a football player.
6. After the oil spill, the government launched a large _____ operation.

Discussion

What could be the causes of gang-related crime in a city like LA? Are there gang problems in your city?

Key words

1. a gang 2. bury 3. to mourn 4. turf 5. a crackdown 6. summit 7. unprecedented 8. backfires
9. impoverished 10. to ruin

Read quickly

1. a 2. b 3. b 4. b 5. b 6. a

Comprehension check

1. Returning to his old neighbourhood.
2. Boyle's LA is full of violence and gangs, Beckham's is glamorous and full of celebrities.
3. There are now more Hispanic gangs, not only young black gangs.
4. The public is aware of the race war and police have launched a crackdown.
5. Because other gangs will want to be on the list.
6. Because they are running away from something.
7. It provides education, counselling, tattoo-removal and jobs.
8. A reality TV show.

Expressions

1. to keep a count of something
2. to make your home somewhere
3. all the signs are there
4. have seen it all before
5. on the edge of doing something
6. nothing more than a fantasy

War vocabulary

1. shot 2. battle 3. war 4. threat 5. front 6. opening fire 7. killing 8. wounding 9. violence
10. conflict 11. beat

Phrasal verbs into nouns

1. stopover 2. blackout 3. layoffs 4. handouts 5. blowup 6. cleanup

Online fraudster

Intermediate

Key words

Read the definitions of these key words and answer the questions.

1. Fraud is a crime of obtaining money from someone or tricking them. What is a fraudster?
2. If you go on a drinking spree you drink a lot in a short amount of time. What is a spending spree?
3. Many payment systems use microchips and personal identification numbers (PINs).

What is a chip and pin security system?

4. The majority of British people have a mortgage on their house, which can take them over twenty years to pay back to the bank.

What is a mortgage?

5. An employee is a person who is employed. A divorcee is a person who is divorced. What is an interviewee?

6. Credit card companies and online shops are trying to protect customers against scams.

Is a scam an honest or dishonest way of making money?

What do you think the article will be about?

Read the headline. Tick the words you think will appear in the article.

computer criminal
prison sentence
climate change
athletics
phone
internet
conviction
fun
bottle

Now read the article and check your answers.

It's easy money, says online fraudster who stole £250,000

Bobbie Johnson, technology correspondent

Thursday May 3, 2007

On the outside, Tee was a typical student. Living away from home was expensive, and he had racked up a sizable debt in a short time. Like most students, he had a computer and a phone in his room - but instead of using them to study, he turned them into the tools of a 21st century criminal.

In his short career as a fraudster, Tee - who is trying to rebuild his life after serving a long prison sentence, and agreed to speak anonymously - estimates that he stole as much as £250,000 through stolen credit card details, identity theft and bank account takeover. Police officials last week said the volume of online crime was so high that they could not investigate every case, and that big criminals were moving into the fast-growing field.

For Tee, who served almost four years for conspiracy to defraud, the chance to use people's ignorance against them was just too easy. "Although it sounds really flippant, it wasn't even like a part-time job - because at least in a job you have to work a few hours," he said. "Maybe it took an hour a night if I really felt like it. But to me it felt like a bit of fun and a pastime which developed into an easy way of making money."

In spare moments around his university schedule - he was studying law - the young Yorkshireman would take card details lifted from insecure websites or passed on from other criminals, and embark on spending sprees that got him cars, clothes and cash. Sometimes scant details such as a name and phone number could open the door. "I used to go through different methods depending on how confident I felt," he said. "I used to call people up and pretend to be from a fraud department and just ask them for their details. But sometimes it's as easy as getting information from a local video shop."

Now 26, Tee admits that by the time he was caught he was looking into the possibility of getting bank loans and even mortgages using stolen identities. "It was just a game to see how far you could go," he said. "My favourite trick was that you get a card in someone's name and use it. Then, within 24 hours, you call the bank up and convince them that you're the genuine person and that you haven't made those transactions - and they refund it. Then you just go to the cash machine and take

it all out again.” He even sent flowers to one victim, using their stolen bank details to pay for the bouquet as a cruel gesture of thanks.

People like Tee represent the smallest end of what is now a multibillion pound criminal industry. Statistics from Cifas, the UK’s fraud prevention service, show that identity theft was up almost 20% last year, while Internet and card fraud rose to an all-time high of £414m in 2006.

Martin Gill, a criminologist at the University of Leicester, who has studied the actions and motivations of fraudsters - Tee was one of his interviewees - said the perceived ease of fraud, particularly when using the Internet, was encouraging to those who commit crime. “One of the things that comes through is the belief that they’re not going to get caught,” he said. Industry insiders say a large number of cases still go unreported because conviction has proved so difficult.

“The common reaction among companies selling goods is a real frustration at how hard it is to prosecute and get convictions for people who commit fraud,” said Keith Marsden, managing director of 192.com, which sponsors Prove-ID, a private industrial forum on dealing with fraud. “It’s a hard process to go through.” Instead, companies are choosing tougher security procedures and programmes to educate the public about safe Internet use.

But experienced fraudsters like Tee say that it is still too easy: even chip and pin, which has drastically cut physical fraud levels, can prove beneficial to the seasoned criminal. “I thought chip and pin was brilliant - now cashiers think they’ve got no right to look at your card. If I wanted to, I could pretend to be anyone, because nobody will ever check. It’s a new opportunity for them.”
How to avoid scams

- Never give personal details over the phone. Banks should never ask for pin numbers or codes.
- Only shop on secure websites that display a padlock or key symbol in your browser. The address should start https instead of http.
- Only open email attachments if you are entirely sure it is necessary.
- Be wary of suspicious-looking emails. Some viruses use the name of somebody you trust as a disguise.

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First published in The Guardian, 3/5/07

Comprehension check

Match the sentence halves.

1. Tee started online fraud when...
2. He stole as much as £250,000...
3. Tee viewed stealing as...
4. Statistics show that online crime...
5. Criminologists say that people commit online crime because..
- .6. Tougher security and public awareness are...
7. People should not give their personal...
8. People should be careful of suspicious...
 - a. details over the phone.
 - b. emails and attachments.
 - c. fun and easy.
 - d. has risen in the past year.
 - e. he was a student at university.
 - f. they think they won’t get caught.

- g. through stolen credit card details, identities and bank accounts.
- h. two methods to stop crime.

Vocabulary Find the word

Find the word for the following definitions.

1. A phrasal verb meaning to accumulate. (para 1)
2. An adverb meaning unknown, that nobody knows your name. (para 2)
3. An adjective meaning not serious. (para 3)
4. An adjective meaning few, little. (para 4)
5. A verb meaning to return money. (para 5)
6. An adjective meaning having a good effect or influence. (para 9)
7. An adjective meaning safe. (para 10)
8. A noun meaning something that hides a person’s real identity. (para 10)

Vocabulary Odd word out

Circle the odd word out in each group and explain why.

| | | | | |
|---------------|---------|----------|-------------|------------|
| 1 | 2 | 3 | 4 | 5 |
| fraudster | steal | mortgage | industry | browser |
| director | rob | padlock | money | attachment |
| criminal | react | loan | credit card | cashier |
| criminologist | defraud | debt | cash | website |

Vocabulary Prepositions

Complete the sentence with an appropriate preposition.

1. She’s been living ____ from home for the past three years.
2. It’s possible to use a laptop computer ____ many ways.
3. Climate change has developed ____ a major problem around the world.
4. It all depends ____ how you feel.
5. The government wants to educate young people ____ the dangers of smoking.
6. He gave his credit card details ____ the phone.
7. Be wary ____ suspicious-looking emails.

Discussion

Do you feel secure when shopping or giving out your personal details online? What security precautions do you take when using the Internet?

1 Key words

1. A person who commits fraud.
2. A short period of time in which you spend a lot of money.
3. A system for paying for something using a credit/ debit card that has information stored on it using a microchip.
4. A loan from the bank to buy a house.
5. A person who is interviewed.
6. A dishonest way of making money.

What do you think?

The words in the article are:

computer prison sentence internet fun criminal conviction phone

Comprehension check

1. e. Tee started online fraud when he was a student at university.
2. g. He stole as much as £250,000 through stolen credit card details, identities and bank accounts.
3. c. Tee viewed stealing as fun and easy.
4. d. Statistics show that online crime has risen in the past year.
5. f. Criminologists say that people commit online crime because they think they won't get caught.
6. h. Tougher security and public awareness are two methods to stop crime.
7. a. People should not give their personal details over the phone.
8. b. People should be careful of suspicious email and attachments.

Vocabulary 1: Find the word

1. rack up
2. anonymously
3. flippant
4. scant
5. refund
6. beneficial
7. insecure
8. disguise

Vocabulary 2: Odd word out

1. director (the others are all related to crime)
2. react (the others are all verbs relating to stealing)
3. padlock (the others are all money and bank related words)
4. industry (the others are all ways of paying for something)
5. cashier (the others are all Internet related words)

Vocabulary 3: Prepositions

1. away
2. in
3. into
4. on
5. about
6. over

Tigers and gorillas for sale online

Fill the gaps using these key words from the text.

wildlife *investigator* *exotic* *endangered*
specimen *stuffed* *anonymous* *unaware*

1. If an animal is part of an _____ species, it may soon disappear completely from the world.
2. A _____ is an example of something, especially of a plant or an animal.
3. If you are _____ of something, you don't know it exists.
4. A _____ animal is a dead animal that has been filled with material so that it looks alive.
5. If something is _____, it is interesting or exciting because it is rare or unusual.
6. _____ is a general word for animals and birds that live in natural conditions.
7. An _____ is someone whose job is to find out the facts about something.
8. If someone is _____, no-one knows their name.

Look in the text and find the following information as quickly as possible.

1. What does IFAW stand for?
2. How many websites were investigated?
3. What was the price of the Siberian tiger?
4. What was the price of the giraffe?
5. How many wildlife products did IFAW find in a single week?
6. How many live apes did they find?

Tigers and gorillas for sale online

Wildlife crime investigators working with an international animal charity say that thousands of endangered animals, which are supposed to be protected by law, are being bought and sold openly on the internet.

The investigators looked at nearly 100 websites based around the world and found a “shocking” selection of rare and endangered animals for sale. They included a Siberian tiger (\$70,000), a young gorilla (\$8,100) advertised as being in London, and other rare monkeys, birds, seahorses and whole turtle shells. One of the most expensive was a “sweet-natured” two-year-old giraffe being sold for \$15,500 in the US. “He has never been bad-tempered with me. A loving home is a must,” said the anonymous owner. The internet has revolutionised shopping for books, DVDs and airline tickets, but it has also opened up great opportunities to deal in illegal wildlife which, according to the United Nations, is worth billions of dollars a year and is now almost as big as the arms and drug trades. “Within one week we found over 9,000 wild animal products and specimens, and wild animals for sale, mainly from species protected by law,” says the report for the International Fund for Animal Welfare (IFAW). “More than 100 traders were identified, each advertising an unnamed, unspecified number of items,” said the authors of the report.

There were enough endangered animals for sale to stock whole zoos, and the parts of dead animals found on the web would have stocked hundreds of Chinese pharmacies. “They included some of the world’s most endangered species,” the report says. “There were live Amazonian parrots, wild cats, a green turtle which the seller said was taken from a Southeast Asian rainforest; even a live pet lion.” A total of 146 live apes were found in a week, and some were being advertised before they were even born. The commercial buying and selling of apes and monkeys is either illegal or subject to strict controls. The gorilla for sale in London probably did not exist, said an IFAW spokeswoman on Monday. “It was possibly a Congo-based operation which would capture an animal when someone ordered one.” Some of the animals were definitely real, however, including rare turtle shells, clothes made from the Tibetan antelope and stuffed lions and rare birds, which were all found, along with a stuffed polar bear that was advertised as being Victorian but looked quite new.

Although thousands of species are endangered all over the world, the sellers do not seem to have a problem finding animals to sell. IFAW says that the sellers range from individuals hoping to make money by selling a single exotic pet to professional traders who seem to have access to a regular supply. The sellers do not seem worried by the fact that it is illegal to buy and sell endangered animals. Many of them seem to be unaware that the law exists.

The Guardian Weekly 17/8/2005, page 17

Decide whether these sentences are True or False according to the text.

1. People selling wild animals on the internet know it is illegal to do it.
2. It is very difficult to find animals to sell on the internet.
3. The wildlife trade is worth almost as much as the drugs and arms trades.
4. Both live and dead animals are sold on the internet.
5. Animals are bought and sold secretly on the internet.
6. Some animals are advertised before they are born.

Find the words in the text that are the opposites of these words.

1. cheap _____
2. sweet-natured _____
3. secretly _____
4. legal _____
5. common _____
6. specific _____

Complete the table.

| verb | noun |
|----------------|-------|
| 1. investigate | _____ |
| 2. advertise | _____ |
| 3. sell | _____ |
| 4. protect | _____ |
| 5. produce | _____ |
| 6. identify | _____ |

Look at this example from the text.

The sellers do not seem worried by the fact that it is illegal.

This is not as categorical as:

The sellers are not worried by the fact that it is illegal.

Both **seem** and **appear** can be used in this way.

Make positive and negative sentences using seem or appear.

1. Many exotic animals are for sale on the internet. (appear)
2. The sellers don't have a problem finding animals to sell. (seem)
3. Many sellers are unaware that the law exists. (seem)
4. Many animals are endangered. (appear)
5. Trade in exotic animals is increasing. (appear)
6. People want to buy exotic animals. (seem)

Should people be allowed to keep exotic animals as pets?

KEY

1 Key vocabulary

1. endangered 2. specimen 3. unaware 4. stuffed 5. exotic 6. wildlife 7. investigator 8. anonymous

Find the information

1. International Fund for Animal Welfare

2. Nearly 100

3. £70,000

4. \$15,500

5. Over 9,000

6. 146

Comprehension check

1. F; 2. F; 3. T; 4. T; 5. F; 6. T

Vocabulary Opposites

1. expensive 2. bad-tempered 3. openly 4. illegal 5. rare 6. unspecified

Vocabulary Word building

1. investigation 2. advertisement 3. sale 4. protection 5. production 6. identification

Grammar focus

1. Many exotic animals appear to be for sale on the internet.

2. The sellers don't seem to have a problem finding animals to sell.

3. Many sellers seem to be unaware that the law exists.

- 4. Many animals appear to be endangered.
- 5. Trade in exotic animals appears to be increasing.
- 6. People seem to want to buy exotic animals.

Computers

Below you will find some computer terms.

Find the correct definition for each word and write the number in the appropriate box.

- | | |
|--------------------------------------|---|
| <input type="checkbox"/> computer | <input type="checkbox"/> bit |
| <input type="checkbox"/> spreadsheet | <input type="checkbox"/> hard disk |
| <input type="checkbox"/> file | <input type="checkbox"/> software |
| <input type="checkbox"/> RAM | <input type="checkbox"/> ROM |
| <input type="checkbox"/> DOS | <input type="checkbox"/> hardware |
| <input type="checkbox"/> database | <input type="checkbox"/> back up |
| <input type="checkbox"/> byte | <input type="checkbox"/> word processor |

1. an electronic machine that can be supplied with a program and can store and recall information, and perform various processes.
2. the machinery which makes
3. the sets of systems in the form of programmes rather than machine parts, which is stored on disk and controls the operation of a computer.
4. a small computer, or programme, used especially for ordinary office jobs, such as typing letters and reports storing information.
5. a large collection of data that is stored in a computer system in such a way that can easily be found by a computer user.
6. a type of computer program that allows figures (about sales, taxes, profits) to be shown in groups on a screen so that quick calculations can be made.
7. Random Access Memory, a memory in a computer system, used as temporary store for information which can be changed by the user. It can be searched in any order the user likes.
8. Read-Only Memory; a computer memory holding information that is continuously needed by the computer, such as the instructions for the language it uses. Information in this form cannot usually be changed or removed.
9. a magnetic disk on which information for the computer can be stored. It can store much more information than a floppy disk.
10. to make a copy of the information held on a disk.
11. a collection of information stored under one name.
12. Disk Operating System.
13. the smallest unit of information that can be used by a computer.

14. a unit of computer information equal to eight bits.

LCD versus CRT

Read the following article and decide if the following 8 statements are true or false(rispetto a cio dice il brano). Mark an **X** in the relevant box.

Have you noticed how much your computer screen flickers? This may be because your computer monitor uses Cathode Ray Tube (CRT) technology. This kind of technology offers colour and high-resolution pictures for relatively little money but the monitors are large, use a lot of energy, can flicker and emit electromagnetic radiation.

In recent years flat screens have become increasingly popular. Users talk of benefits such as more desk space, how easy they are to adjust for tilt and height, crisper, clearer images and the total elimination of screen flicker. It's like having a different PC, they say, a new window on the world.

Most flat screens are based on Liquid Crystal Display (LCD) technology which has a lot of benefits over CRT technology. Among them:

- LCDs are inherently flat, CRT monitors are not, so LCDs require much less space
- LCDs use less power than CRTs
- LCDs are distortion-free while typical CRTs are curved, which may cause image distortion
- most LCD displays use a Thin Film Transistor (TFT) system offering a wider angle of vision and high-quality images.

But there is one major drawback to flat screens: their cost. They are expensive compared with CRT monitors. Prices are falling, however, and they'll soon find their way into homes, schools and businesses.

Monitor manufacturers like Philips, Apple, Sharp or Panasonic offer compatible flat screens including built-in stereo speakers, headphone connection, and a Universal Serial Bus (USB) port. Some models can also be removed from the stand and mounted on the wall. They come with stylish designs for a variety of applications. LCDs range from small-size PC screens and TVs to large-screen projectors.

Now decide whether these statements are true or false. Correct those which are false.

| | True | False |
|--|--------------------------|--------------------------|
| 1) Most computers still use CRT monitors. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2) Typical CRT-based displays occupy less space than LCD displays. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3) Liquid-crystal displays are curved. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4) Flat LCD screens are becoming very popular. | <input type="checkbox"/> | <input type="checkbox"/> |
| 5) LCD technology consumes less power than CRT technology. | <input type="checkbox"/> | <input type="checkbox"/> |
| 6) Flat screens are cheaper than CRT monitors. | <input type="checkbox"/> | <input type="checkbox"/> |
| 7) Users of flat-screen monitors can't adjust the angle of vision. | <input type="checkbox"/> | <input type="checkbox"/> |
| 8) A USB port is offered as a standard option by manufacturers. | <input type="checkbox"/> | <input type="checkbox"/> |

Internet companies try to stop spam

AOL and Yahoo both say they will offer new service

Two of the world's biggest e-mail providers are preparing to charge companies for delivering large numbers of e-mails, which would otherwise be stopped by anti-spam filters. This report from our North American business correspondent Guto Harri:

Spam is the Internet equivalent of junk mail. At best, it's unwanted; at its worst, it can be sinister or offensive. Various software systems have been developed to block it and some are pretty effective. But legitimate e-mail from big business is often filtered by anti-spam software, making it hard for the company to operate and depriving customers of potentially attractive offers.

So in the next few months, Yahoo and AOL will try a different approach. For less than a penny a piece, they're offering to deliver e-mails directly to people's inboxes, bypassing any anti-spam device. Sending thousands or millions of e-mails would clearly incur a significant cost - but for that fee, the business would get a stamp of approval and authenticity. The customer could be reassured that the approach was genuine, and Yahoo and AOL would make a lot of money. Anyone who didn't want to pay could carry on as before.

Phrase definitions

the Internet equivalent of junk mail

the same thing on the Internet as letters, especially advertisements, that are sent by organisations to large numbers of people. We use the term 'junk mail' to show disapproval.

At best, it's unwanted; at its worst, it can be sinister or offensive

if something is 'sinister', it makes you feel that something evil, dangerous, or illegal is happening or will happen. If something is 'offensive' it is very rude or insulting and likely to upset people. Notice the construction: 'at best ... at worst ...'. We use this to emphasise the negative aspects or qualities of something. We put the least bad quality first, then the worst.

Are the following questions true or false? Read the text again and circle the correct answer:

1. Letters that are sent to people's houses and offices is called 'spam'. T/F
2. The most awful thing about spam is that it's something people don't want it. T/F
3. Anti-spam software is very successful for both businesses and customers. T/F
4. Yahoo and AOL are offering a new, cheap service to post emails directly to users, side-stepping the anti-spam programmes. T/F
5. If businesses use this new service they will get a government certificate to say they don't send spam to their customers. T/F
6. Every registered business will have to join Yahoo and AOL's anti-spam programme T/F

Many people find it's easier to remember vocabulary if it's grouped together in a meaningful way.

Below are words about IT (some from today's text) and some about the film industry

Put the words into the correct category.

e-mail script keyboard director grip inbox set megabytes spam software close-up hard drive review virus mouse zoom location jpeg shoot lighting email script

Speech-recognition

A . Tick the features mentioned in the article.

- Activate menus by saying the words on the screen
- Execute applications by voice
- Manage databases
- Configure multiple voice profiles
- Read documents to you using a text-to-speech system.
- Surf the web by speaking
- Create and compile a computer program
- Take dictation with accuracy
- Design graphics
- Accept spoken commands

Mobile phones and the Internet have changed the way we communicate. However, we still need to use the keyboard and the mouse to communicate with computers. When shall we be able to interact with PCs by voice? Speech recognition systems can make this possible soon; in fact, speech companies claim that their programs let you dictate, control your PC by voice command, and convert text into speech.

The most popular voice recognition packages are IBM ViaVoice, Dragon NaturallySpeaking, and L&H Voice Xpress. If you decide to buy one speech program, look for these features:

1. All the programs let you dictate text directly onto your word processor, spreadsheet or e-mail. They claim an accuracy rate of around 98 percent. The technology is particularly useful to dictate notes, business memos, letters and e-mail.
2. Speech programs are usually more accurate if you train the software by reading aloud for about 20 minutes. This process involves reading sample text and teach the program to recognize words that are not in its built-in dictionary (e.g. proper names, acronyms, unusual words). Most products let multiple users personalise their vocabulary and pronunciation.
3. They offer useful voice commands for editing and formatting (e.g. setting font size and style, text alignment etc.). However, it's a bit difficult to make corrections by voice; using the keyboard may be faster and more accurate.
4. Speech software allows you to use commands to launch programs or to navigate around windows and menus. You can also tell your programs to open a file, save it in a particular format or print it.
5. Some systems let you search the Web by voice. The Web version of IBM Via Voice enables chat room users to chat using their voices rather than keyboards. Dragon Naturally Speaking lets you browse the Web by speaking URLs and links, and dictate into online forms and fields in Microsoft Internet Explorer.

Speech recognition requires a powerful processor (500 MHz Pentium recommended), 64 MB of RAM, a good sound card, and a high-quality headset microphone.

Speech recognition technology has improved a lot and its potential is enormous, but some experts consider that it is not ready for common use yet. Some day, however, we'll be talking to our PC naturally, like a friend.

B . Language work - Modal verbs. With the help of the text, fill in the gaps in these sentences. Use the correct modal verb from the list.

can (ability) must (necessity) should (advice)
could (possibility) will (prediction) would (in hypothetical conditions)

1. With many voice-recognition programs, the user first train the software to recognise individual pronunciations.
2. You dictate into the program's text screen, or you dictate directly into any Windows application.
3. If you intend to do a lot of dictation, you get a high-quality headset microphone.
4. Speech-recognition software help children with special educational needs.
5. In a few years' time, everyone use voice commands to interact with computers.
6. If I could afford it, I buy a new PC and a speech-recognition package.

KEY

A. Features mentioned in the text:

- v Activate menus by saying the words on the screen
- v Execute applications by voice
- v Configure multiple voice profiles
- v Read documents to you using a text-to-speech system.
- v Surf the Web by speaking
- v Take dictation with accuracy
- v Accept spoken commands

B.

1. must
2. can
3. should
4. could
5. will
- 6 would

Software Patenting

(article supplied by Stefano Calzavara, student Informatica 2004/05)

One of the main arguments against software patents in Europe is that they will stifle innovation, especially for free software developers and Small Medium Size Enterprises (SMEs). Though there hasn't yet been a concerted attack against free software using patents, there have been many attacks on SMEs. If any big business needs to remove competition and is failing to do this by beating them on price, quality, or free licensing, then they can simply attack them with their patent portfolio. Even more worrying are the so-called "patent trolls" like Acacia Technologies, which "develops, acquires, and licenses" patented technologies, using them to extract licensing fees out of software developers, but who do not actually produce any software. The company is opening an office in Europe in the spring with the intention of demanding royalties on patents.

Since software, especially free software, is usually based upon a huge number of sub-programmes and ideas taken from other programmes, it would be extremely difficult to avoid patent infringement. However, under the U.S. system, SMEs have been restricted due to large companies building up patent portfolios that they use to reap billions in licensing revenues from other businesses. The idea of selling products over the Internet has already been patented in the U.S., and Amazon used its "one-click buying" patent to famously sue Barnes & Noble in the late 1990s.

Examples of currently granted European Patents are EP803105 and EP738446

These patent the idea of selling objects over a network using a server, client, and payment processor, or using a client and a server. In other words, these are patents on selling products over the Internet; clearly a lot of software would infringe on these overzealous patents. The time and money spent on patent filing, prosecution, maintenance, litigation, and licensing (which SMEs cannot afford, and which have caused many to fold or be bought out) could be better spent on product development and research leading to more innovation. Surely, software companies would prefer to live with the pressure of having to improve and innovate constantly instead of having to deal with software patents? This is how it works under copyright, which already prevents competitors from merely copying software. This is also how it has worked up till now, and we have managed to develop the Internet, operating systems, and other software without patents.

For the free software community, which eschews patents both on pragmatic and ethical grounds, they represent an even more worrying threat. Gestures from companies like IBM won't ever fully protect us from attacks. Free software can only guarantee its safety in an environment without patents, in which the only other threat is copyright infringement, which is easy to avoid--just don't copy proprietary code.

True or False

- 1 The author of this article believes that software patenting will create more innovation.
- 2 Big business wants to compete with SMEs by attacking them with patent litigation suits.

- 3 Accacia Technology, is opening an office in Asia during the summer.
- 4 Accacia is one of the biggest software developers in the world.
- 5 Barnes Noble is suing Amazon.
- 6 European patent EP 738446 is a patent which addresses e selling on the internet.
- 7 SMEs believe that more money should be spent on patent filing.
- 8 Copyright laws prevent companies from copying software.

Match the words 1-8 with the meanings a-h

- | | | | |
|---|-------------|---|----------------|
| 1 | stifle | a | avoid |
| 2 | concerted | b | unified |
| 3 | beat | c | gather/harvest |
| 4 | troll | d | smother |
| 5 | royalty | e | payment |
| 6 | reap | f | win |
| 7 | overzealous | g | uncompromising |
| 8 | eschew | h | mythical giant |

Numbers and Money

Money talks they say. All it ever said to me was "Goodbye".
Cary Grant (1904-1986), American film star

Do the quiz individually. Then compare answers with a partner.

Do you:

- a) give money to beggars?
- b) give money to charities?
- c) give away used items, such as clothing?

If you go for a meal with someone you don't know well, do you:

- a) offer to pay the whole bill?
- b) suggest dividing the bill into equal parts?
- c) offer to pay the whole bill but expect them to pay next time?
- d) try to avoid paying anything?

What do you think about people who do not pay the correct amount of tax? Is this:

- a) a serious crime?
- b) morally wrong but not a crime?

c) excellent business practice?

If you lend a colleague a small amount of money and they forget to pay it back, do you:

- a) say nothing?
- b) remind them that they owe you money
- c) arrange to go for a drink with them and say you've forgotten your wallet or purse?

How much cash do you have with you at the moment? Do you:

- a) know exactly?
- b) know approximately?
- c) not know at all?

Do you normally check:

- a) your change?
- b) your bank statements and credit card bills?
- c) restaurant bills?
- d) your receipts when shopping?
- e) prices in several shops before you buy something?

Write one more question to add to the quiz above. Ask a partner to answer it. Discuss your answers to the quiz. What do they say about your attitude to money? What do they say about your culture?

Dealing with figures

Saying numbers

Years

| | |
|------|----------------------|
| 1984 | nineteen eighty four |
| 2001 | two thousand and one |

Currencies

| | |
|--------|-----------------------------|
| £3.15 | three pounds fifteen |
| \$7.80 | seven dollars eighty |
| €250 | two hundred and fifty euros |

Decimals

| | |
|--------|-------------------------------------|
| 16.5 | sixteen point five |
| 17.38% | seventeen point three eight percent |
| 0,185 | (nought /zero) point one eight five |

Bigger numbers

| | |
|----------|---|
| 3560 | three thousand five hundred and sixty |
| 598, 347 | five hundred and ninety-eight thousand, three hundred and forty seven |
| 1m | one / a million (1,000,000) |

| | |
|---------|---|
| 3bn | three billion (3000,000,000) |
| \$7.5bn | seven point five billion dollars |
| £478m | four hundred and seventy eight million pounds |

Read the article below. Then write all the numbers and symbols in full, according to the way they are pronounced. For example, 1999: nineteen ninety-nine; £3.1m: three point one million pounds.

EuroDisney runs new project The French Government yesterday approved a Euro 4.6bn urban development project east of Paris, coordinated by EuroDisney, and designed to create 22,000 jobs by 2015.

Yule Gatto takeover bid

Yule Gatto, the chemicals group, launched a £240m bid for Holliday Chemical. Yule shares fell 32p (about 10%) to 274 in response to the news. Holliday's shares dropped 8p to end at 225p.

Prince invests in media and technology

The worldwide fall in stock markets last month encouraged Prince Alwaleed bin Talal to invest in media and technology companies. The Saudi prince spent \$400m on a 5% stake in News Corporation, \$300m on 1 % of Motorola and \$150m on 5% of Netscape Communications.

Monet market

A beach scene painted in 1870 by French impressionist Claude Monet when he was desperately short of money made £3.8m at Christie's Auction House in London.

New car registrations in Europe

New car registrations in Western Europe in November rose 10.4% to 991,800 from 898,400 a year ago, said the European Auto Manufacturers Association.

FT sales record

Sales of the Financial Times hit an all-time record in November. Worldwide sales were 12.4% up on November, last year.

Describing Trends

We can describe trends in English in different ways:

Verbs of change

Hospital admissions are rising.

Unemployment is falling in many areas.

Prepositions

Student numbers grew by 10% last year.

Sales grew to \$5.8 million.

Different Tense

In recent months our numbers of patients have risen dramatically.

In January we were making a loss.

We've been going through a difficult period.

To describe changing circumstances we can use verbs of movement.

| | | | |
|----------------|-----------------|----------------|-------------|
| <i>Improve</i> | <i>increase</i> | <i>recover</i> | <i>rise</i> |
| <i>Decline</i> | <i>decrease</i> | <i>drop</i> | <i>fall</i> |

A dramatic movement may be expressed by:

| | |
|---------------|----------------|
| <i>rocket</i> | <i>soar</i> |
| <i>dive</i> | <i>plummet</i> |

A slight movement can be indicated by:

| | | |
|----------------|------------------|------------|
| <i>edge up</i> | <i>edge down</i> | <i>dip</i> |
|----------------|------------------|------------|

The amount of increase can also be indicated using these verbs:

| | | | | | |
|--------------|---------------|---------------|------------------|-----------------|----------------|
| <i>halve</i> | <i>double</i> | <i>triple</i> | <i>quadruple</i> | <i>increase</i> | <i>tenfold</i> |
|--------------|---------------|---------------|------------------|-----------------|----------------|

Or with a preposition:

Our patient numbers grew by 15% last year
Sales have increased from 1.0 million to 1.8 million.

Changes which have not reached their end point are expressed using -ing.

Profits are falling.
Unemployment has been rising

If the change is complete we use a perfect tense.

The Government privatised the railways.

Draw a graph or symbol to describe or give an example of the following words:

| | | | | | | |
|---------|-------|-----------|----------|---------|----------|-----------|
| Decline | gain | drop | increase | rocket | plummet | double |
| Fall | halve | level off | triple | recover | decrease | fluctuate |
| improve | peak | rise | | | | |

Which of the above verbs also have noun forms? What are they?

For example, to increase an increase.

UK knee replacements

Read the following article and decide if the following 9 statements are true or false (rispetto a cio dice il brano). Mark an X in the relevant box.

UK knee replacements have soared in a decade

Knee replacement operations have more than doubled in a decade, with one in five operations being revisions (repeat surgery). Research by Bristol University's Department of Social Medicine has been published in the [Annals of the Rheumatic Diseases](#).

The figures show that those who are well off (the top 20%) are more likely to have the surgery in the first place, and to have a revision operation.

Total hip replacement

The researchers analysed hospital statistics in England between 1991 and 2000. The number of first time (primary) hip replacements increased by 18% during this period, with revision procedures (second or third attempts) more than doubling, up from one in twelve in 1991 to one in five in 2000. The largest increase in revisions occurred in the elderly age group, even though the absolute numbers are not high.

Total knee replacement

Primary time knee replacements more than doubled, while the numbers of revision surgery rose by 300%. Revision surgery now accounts for one in five of all knee replacement operations.

Future projections

The authors estimate, by projecting present trends, that knee replacements will overtake hips as the major joint replacement in the UK. Knees are expected to rise by a further 63% by 2010 and hip replacements by 22%.

Rates of primary surgery are higher among women and among those aged between 65 to 79, but a substantial increase also occurred among the over 80s and the 55 to 64 years age group.

As techniques improve and the population ages, the authors suggest very elderly people may be considered for surgery, increasing both the numbers of people eligible for joint replacement and their complexity and risks.

The most economically deprived 20% of the population had significantly lower rates of surgery than the better off 80% - about 20% fewer operations per 1000 people. To iron out all the inequalities would take a rate of increase almost nine times faster than at present.

Conclusion

Based on current trends, the authors conclude that knee replacements will overtake hips as the primary joint replacement in the UK, rising by a further 63% by 2010, while hip replacements will increase by 22%.

This is already the case in the US and Australia, with Sweden doing more hip replacements than knees.

True False

- | | | |
|---|--------------------------|--------------------------|
| 1) One in five operations are now performed on the knee. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2) Affluent patients are likely to have an operation in the first instance. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3) The number of primary hip replacements is falling. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4) There has been a trebling of hip revision operations in the period since 1991. | <input type="checkbox"/> | <input type="checkbox"/> |
| 5) The older population is having more hip revision operations. | <input type="checkbox"/> | <input type="checkbox"/> |
| 6) Knee revision operations have increased by 300%. | <input type="checkbox"/> | <input type="checkbox"/> |
| 7) It is predicted that knee replacement will be the major joint | | |

- | | | | |
|----|--|--------------------------|--------------------------|
| | replacement surgery. | <input type="checkbox"/> | <input type="checkbox"/> |
| 8) | There has been no increase in operations on women in the 55 to 64 age group. | <input type="checkbox"/> | <input type="checkbox"/> |
| 9) | The less well off section of the society have less surgery. | <input type="checkbox"/> | <input type="checkbox"/> |

Peter Bingham, President of a clothing company, is in a meeting with his Sales Director John Amidon, and his Financial Director, Kate Simmons. Complete their conversation with appropriate forms of the verbs in brackets. Sometimes more than one tense is possible.

Peter I'm glad you managed to make it today. I'd like to start by taking a look at the year's sales and profit figures. First of all John, could you summarise the sales figures?

John Well, we had a good January - 5.2 million. January's a difficult month because sales always..... (drop) after Christmas. In February we launched the new children's line and it went very well. Total sales..... (rise) to almost 8 million, which was nice. Unfortunately they then..... (plummet) after the Fire in the main factory. But by the end of April we.....(recover), 10.2 million was the figure – and since then sales.....(go up) steadily month by month. The December figures aren't in yet, but it looks like we.....(probably reach) 15 million this month.

Peter Good. I've got a couple of questions, but I'll save them for later. Kate, sales have increased, but has that meant higher profits?

Kate Yes, it has. We're waiting for the final figures, but we already know that overall in the first three quarters of the year, profits(rise) by 15% compared to last year, from 960,000 to 1.1 million. In fact since April, profits.....(increase) every single month and they.....(still go up).

Peter What about next year?

Kate Well, as you know, next year we're going to centralise distribution, so costs(decrease). Even if sales (level off), profits.....(improve).

MEDICINAL PLANTS

Read the article and fill in the spaces in the table.

For thousands of years man has used plants for treating and curing diseases. Even today we still obtain a large number of medicines from plants. These plants must be used with great care because, if we administer too much of the drug they contain, it may be dangerous. Many of the medicinal plants are poisonous. Nightshade, for example, provides atropine, which is a very important drug to relax the muscles, but the nightshade plant itself is extremely poisonous.

Sometimes the drug we use comes from only one part of the plant. The opium poppy produces a capsule containing white juice and from this we obtain the pain-killing drugs morphine and codeine.

Other important drugs come from the bark of trees. The cinchona tree in Peru provides quinine, which is used for treating malaria. Various other South American trees provide the drug curare. This was originally used by local indians as poison for their arrows but today the drug is used to relax muscles during surgical operations.

A number of drugs come from the leaves of plants. The leaves of the foxglove contain a powerful drug, called digitalin, which is administered to people with weak hearts. Coca leaves, grown in South America, produce cocaine. This is used in dental treatment to deaden the nerves in gums.

The underground parts of certain plants also have medicinal uses. The meadow saffron, a flower grown in Mediterranean countries, contains colchicine. This is a drug which is used to cure rheumatism. Onion and garlic are used to treat people with high blood pressure and also other diseases of the blood and heart. From yams we can make cortisone, a drug used in the treatment of rheumatism and arthritis.

Certain drugs can affect the working of the brain. Reserpine, for example, is used to calm the mind and reduce anxiety. It is obtained from the roots of an Indian plant called rauwolfia.

Many decorative plants also have medicinal uses. The leaves of the laurel can help in the treatment of stomach upsets and rheumatism. The cones of the cypress are used to treat blood diseases.

| Plant | Drug | Use |
|---------------------------------|------------------|-------------------------------------|
| 1) nightshade | ..... | ..... |
| 2) ..... | ..... | to kill pain |
| 3) | quinine | ..... |
| 4) various south American trees | ..... | ..... |
| 5) | digitalin | ..... |
| 6) ..... | ..... | to deaden nerves in gums |
| 7) meadow saffron | ..... | ..... |
| 8) | (not applicable) | to treat high blood pressure |
| 9) | cortisone | ..... |
| 10) ..... | ..... | to calm the mind, to reduce anxiety |
| 11) laurel leaves | (not applicable) | ..... |
| 12) | (not applicable) | to treat blood pressure |

SURGERY

Read the following article and decide if the following 10 statements are true or false(rispetto a cio dice il brano).
Mark an X in the relevant box.

Surgery is not a new concept. Physicians have tried to cure medical problems by cutting into the

human body since ancient times. Since Stone Age skeletons show signs of trephining or cutting a hole in the head to relieve pressure. Splinting and cauterization were also used,

Painful and dangerous surgical operations were performed by the Egyptians as far back as 3000 BC (Before Christ). Some operations were known to the ancient Babylonians, Greeks and Romans. The early Hindus used at least 125 surgical instruments and developed plastic surgery. In the Middle Ages surgeons were often confused with barbers as both performed operations. But only the barber did bloodletting, and it is from this that the red and white striped barber pole developed - the red for the blood and the white for the bandages.

Naturally amputations and other surgery were often carried out without the benefit of anaesthetic drugs - although alcohol and opium were used - and no antiseptics were employed, so that a patient who survived the shock of an operation often died as a result of infection later.

Nowadays operations are performed in sterile conditions, and a variety of drugs such as nitrous oxide, ether, or halothane (for general anaesthesia) or novocaine (for local anaesthesia) are available. And many types of intervention are possible today which were unheard of a hundred years ago.

In 1874 a leading British surgeon said that "the abdomen, the chest and the brain would be forever shut from the intrusion of the wise and humane surgeon"; yet since then such complex operations as heart transplants and the removal of brain tumours have become quite common.

Most operations are performed by surgeons specializing in one field. An orthopaedic surgeon, for example, repairs broken bones, while a neurosurgeon deals with malfunctioning nerves. An ophthalmic surgeon treats eye disease such as cataracts. A thoracic surgeon specializes in chest operations and so on.

In each field, new knowledge and techniques have brought great progress, and statistics show that 649 out of every 650 people survive their operations (these figures include patients who enter the operating theatre in desperate condition because of accidents or neglected disease).

The average surgeon today rarely begins private practice before he is 31 or 32 years old. Half his life is spent in study and preparation. He graduates from school at 17 or 18 years of age, spends four years in premedical college and four more years in medical school. At the age of 25 or 26, he begins his general internship, which lasts for one to two years. Surgical residency usually extends for a period of 5 to 6 years.

At last, at the age of 32, the surgeon is ready to go into private practice. But even at this late stage in his development he usually performs surgery under the supervision of some older surgeon on the staff. Each hospital must meet a set of rigid standards and usually permits only ethical and qualified surgeons to be members of its staff.

True False

- | | | | |
|-----|---|--------------------------|--------------------------|
| 1. | Surgery was performed more than 5,000 years ago. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. | Surgery was first used by the Romans. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. | Plastic surgery was first used in the 1900s. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. | Barbers and surgeons played exactly the same role. | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. | Amputations were very risky operations years ago. | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. | Novocaine is used as a general anaesthetic. | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. | Heart surgery was not generally performed in the 18th century. | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. | Orthopaedic surgeons deal with eye complaints. | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. | Statistics show that only one person out of 650 dies during operations. | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. | It takes very few years to become a practising surgeon. | <input type="checkbox"/> | <input type="checkbox"/> |

Olympic Games

Read the text below and decide which of the following words best fits the space.

can *sporting* *reached* *since* *as*
many *unconcerned* *Generations* *existing*

Since the formation of the modern Games in 1894, the Olympic motto of "faster, higher, stronger" has been an aspiration of (1) _____ athletes.

(2) _____ of spectators have been captivated by their (3) _____ heroes pushing the boundaries with seemingly superhuman displays.

But, as Olympians gather in Athens, (4) _____ we expect more records to be broken, or have we (5) _____ the limit of physical performance?

Looking at the (6) _____ world records for the 24 track and field events, the signs are not promising. Only six new records have been set (7) _____ the arrival of the new millennium.

Dr Greg Whyte, the English Institute of Sport's director of science and research, is (8) _____.

He told BBC News Online that the advances in sports science and medicine make the Olympic motto (9) _____ relevant today as it was 110 years ago.

Life expectancy

Read the text below and decide which word/s A, B, C or D best fits the space.

A group of scientists (1) _____ last week that Western governments are seriously under-estimating how long their citizens are likely to live. This (2) _____ cause problems for the health, welfare and pensions systems of the developed world. (3) _____ recently only a few specialist demographers knew that governments were under-estimating life expectancy. But (4) _____ latest report on (5) _____ average life spans will be difficult to ignore. For (6) _____ years scientists (7) _____ advising governments that the increases in life expectancy over the past century, (8) _____ saw typical British male life spans rise from 48 years in 1901 to 75 years in 2000, and those of females from 49 to 80 years, will not continue. In the journal *Science* last week, however, two scientists from Cambridge and Rostock in Germany (9) _____ that life expectancy (10) _____ go on increasing.

(11) _____ comparing differences in life expectancy between the world's wealthier countries, they conclude that (12) _____ 2070 female life expectancy in the United States could reach 101 years.

| | | | | | | | | |
|----|---|---------------|---|------------|---|-------------|---|-------------|
| 1 | A | persuaded | B | warned | C | ordered | D | told |
| 2 | A | need | B | have to | C | must | D | could |
| 3 | A | Until | B | From | C | By | D | Within |
| 4 | A | the | B | a | C | one | D | -- |
| 5 | A | going up | B | increasing | C | increase | D | big |
| 6 | A | lots | B | a lot | C | much | D | many |
| 7 | A | has been | B | have been | C | is | D | was |
| 8 | A | that | B | which | C | who | D | whom |
| 9 | A | order | B | say | C | tell | D | told |
| 10 | A | will probably | B | is likely | C | possible | D | is possible |
| 11 | A | As | B | By | C | For | D | The |
| 12 | A | early to | B | as early | C | as early as | D | early as |

Wangari Maathai, Nobel Peace Prize Recipient

I. A radical scientist who gave up her lab coat for a lifetime helping poor African women plant trees has won the Nobel peace prize. Wangari Maathai, a Kenyan, became the first African woman to win the prize for her 30-year stewardship of the Green Belt Movement. She recently took a job as assistant environment minister in Kenya's new reformist government.

II. Maathai, the first woman in East Africa to get a biology doctorate, told reporters that her university had forced her to choose between academia and activism. She chose the latter, fighting privatisation of common land and raising money to pay poor women small sums to run plant nurseries. Her movement has planted 30 million trees.

III. She founded the Green Belt Movement in 1977 and eventually this became a national grass roots organization, providing work and improving the environment at the same time. This project has made significant headway in tackling Kenya's deforestation, soil run off and water pollution

problems. More than simply protecting the existing environment , her strategy is to secure and strengthen the very basis for ecologically sustainable development. Her methods have been adopted by many other countries and regions of the world which have been witness to deforestation, forest loss and desertification.

IV. She says her biggest achievement has been “ to link the environment to the problems rural people experience in their lives”, such as shortages of water and deterioration of soils. To celebrate her prize, she planted a nandi flame tree in the shadow of Mount Kenya, an area that has been ravaged by loggers.

V. Born in 1940 in Nyeri, Wangari Maathai was able to pursue higher education, a rarity for girls in the rural areas of Kenya. She earned a biology degree from Mount Scolastica College in Kansas, and a master’s degree at the University of Pittsburgh. When she returned to Kenya, Wangari Maathai worked in veterinary medicine research at the University of Nairobi, and eventually, despite the scepticism and even opposition of the male students and faculty, was able to earn a Ph.D. there. She worked her way up through the academic ranks, becoming head of the veterinary faculty, a first for a woman in any department at that university.

VI. Her husband ran for Parliament in the 1970s, and she became involved in organizing work for poor people. Her husband divorced her in the 1980s, complaining that she was “too educated, too strong, too successful, too stubborn, and, too hard to control.” They had three children.

VII. Not only has she been involved with the Green Belt Movement and environmental issues, but also with women’s causes. She has served as national chairperson for the National Council of Women of Kenya. Wangari Maathai is considered to be one of the most important figures today in the “ecofeminist” movement because of her work with the multiple social issues concerning nature and the environment, and women’s rights.

Find the synonyms and the opposites.

SYNONYMS

OPPOSITES

- I.** (1) surrendered
(2) looking after

- (3) impeding
(4) harvest
(5) conservative

- II.** (6) compelled
(7) (the) second
(8) to manage

- (9) passiveness

- III.** (10) (of the) common people
(11) progress
(12) testimony

- (13) disbanded
(14) unimportant
(15) weaken

- IV.** (16) accomplishment
(17) to join
(18) destroyed

- (19) abundances
(20) regeneration

- V.** (21) doubts

- (23) normality

(22) hierarchy

(24) cooperation

VI. (25) obstinate
(26) to dominate

(27) uninstructed

VII. (28) thought
(29) currently

(30) few

Paint

1 A paint that soaks up some of the most noxious gases from vehicle exhausts goes on sale in Europe next month. Its makers hope it will give architects and town planners a new weapon in the struggle against pollution. Called ecopaint, the substance is designed to cut levels of nitrogen oxides, collectively known as NOx gases, which cause respiratory difficulties and trigger smog production. The paint's base is polysiloxane, and embedded are spherical nanoparticles of titanium dioxide and calcium carbonate. Since the particles are so minute, the paint is clear, but pigment can be added.

2 The base is porous enough to allow NOx through it and adhere to the titanium dioxide particles. The particles absorb ultraviolet radiation in sunlight and use this energy to convert NOx to nitric acid. The acid is then either washed away in rain, or neutralised by the alkaline calcium carbonate particles, producing harmless quantities of carbon dioxide, water and calcium nitrate, which will wash away.

3 In a typical 0.3 mm layer, there will be enough calcium carbonate to last five years in a heavily polluted city. When the carbonate has been exhausted, the titanium dioxide will continue to break down NOx, but the acid this produces will discolour the paint.

4 The breakthrough, believe the designers in Grimsby, Lincs, was finding a robust base material. Previous attempts to use titanium dioxide in paints faltered because it attacked the base material as aggressively as the pollutants. Polysiloxane has been the answer, though developers are not sure why. Ecopaint is being lab tested by Europe funded PICADA, run by Dimitrius Kotzias, who states the layer is effective because air turbulence is carrying the gases over the surface, yet molecules stick to it long enough for the oxidation reaction to break them down. EU member states are required to monitor NOx levels and ensure that by 2010 they have dropped by an annual mean of 21 parts per billions when at present the current level in cities is ten fold those figures.

Find the Synonyms

(Paragraph 1)

- 1 Toxic
- 2 Arm
- 3 Fight
- 4 Inserted

Find the Opposites

- A emit
- B arrest
- C enormous
- D opaque

(Paragraph 2)

- 5 Absorbent
- 6 Fuse
- 7 Soak up

- E insufficient
- F restrict
- G darkness

8 Counteracted H dangerous

9 Disappear

(Paragraph 3)

10 Coating I unaccustomed

11 Used up J interrupt

12 Decompose K become brilliant

(Paragraph 4)

13 Achievement L detach

14 Resistant

15 Solution

16 Managed

17 Average

18 Times

Anti-gravity device could change air travel

Summary: The aircraft manufacturer Boeing has said that it's working on an experimental anti-gravity device. If it comes to fruition, the technology will revolutionise air and space travel.

The idea of anti-gravity is doubted by many scientists. But the involvement of the world's largest aerospace company lends it new credibility. Documents obtained by the magazine, Janes Defence Weekly, and seen by the BBC, show that Boeing is using the research of a Russian scientist, Doctor Evgeny Podkletnov, in a programme code-named Project Grasp.

The project is run by the top-secret Phantom Works in Seattle, the part of the company which handles Boeing's most sensitive programmes. Doctor Podkletnov claims to have built a device which can shield objects from gravity, making them, in effect, lighter and easier to lift.

Doctor Podkletnov's work is viewed with suspicion by some, but the head of the Phantom Works, George Mullner, told Janes that the science appeared to be valid and plausible. We shouldn't however expect anti-gravity aircraft in the near future. The idea is still highly experimental and it's not yet clear whether it can be engineered into something that works.

Vocabulary

Match the words below to their meaning

valid

suspicion

code-named

credibility

plausible

anti

gravity

research

device

sensitive

prefix used to form words that describe something that prevents or destroys something else - here, prevention of gravity

the force that makes things fall when you drop them

if someone or something has this, people believe in them or trust them

work that involves studying something and trying to discover facts about it

given to something that is secret

here, secret

machine

if something is viewed with this, it is not trusted

based on sound reasoning - true

believable

True or False

- 1 Scientists believe that anti-gravity machines will become a reality.
- 2 Boeing is supporting research into anti-gravity devices.
- 3 The BBC TV program was called Grasp.
- 4 The project is managed by the Phantom works.
- 5 Dr Pudkletnov believes that he can make heavy objects lighter.
- 6 George Mullner thinks that the discovery is practical.
- 7 George Mullner believes that in the future many aircraft will use this new science in their construction.

Better rice, less global warming

Summary: Rice plants which produce higher yields make less of the greenhouse gas methane, researchers have discovered. Scientists say their finding could lead to new varieties of rice which make more grain and contribute less to global warming.

Methane is the second most important greenhouse gas after carbon dioxide, and rice fields are among the biggest sources of methane. It's produced by a bacteria living in the wet soil of the paddy-field.

Now scientists from Europe and the Philippines have discovered that less methane is made in fields where the plants are producing more grain. The reason is that making methane needs carbon.

Plants absorb carbon from the air. They use some for making grain and some finds its way to the roots and then into the soil, where the bacteria can use it to produce methane. So if more carbon is tied up in making grain, there's less in the soil, which means less methane.

Rice is the staple food of half the world's population. But yields vary widely from region to region, and in some places, they're falling. A few months ago, to great fanfare, scientists unveiled the genome sequence of rice -- a tool of great potential use to researchers trying to develop new strains of rice with higher yields.

This latest research will now help steer scientists towards the genes they must work with if they want to design those new high-yielding strains without contributing to global warming.

BBC News

Vocabulary

Match the words below to their meaning

unveiled
tool
steer
yields
paddy-field
greenhouse gas
to great fanfare
staple food
tied up
genome sequence

a gas that may cause warming of the Earth's atmosphere

a flooded field where rice is grown

busy or occupied

a basic part of the daily diet

an amount of food produced by a plant

with a lot of publicity

revealed

the genetic information that describes a human, animal or plant
an instrument used for doing something (here refers to 'genome sequence')
to guide something or someone in a certain direction

True or False

- 1 Rice Plants contribute to global warming.
- 2 CH₄ is the most important green house gas.
- 3 Rice fields producing high grain yield produce less methane.
- 4 Plants absorb carbon from the soil.
- 5 Rice is an important food for 50% of the world's population.
- 6 Yields of rice are rising in many parts of the world.
- 7 Scientists have discovered Rice's genome sequence.

California gets landmark green law

Summary: One of the first laws to tackle greenhouse gasses in the United States, The Clean Cars Act, is due to come into effect today. The law is something of a snub to President Bush, who recently refused to sign up to an international treaty reducing greenhouse gas emissions.

The Clean Cars Act is the first law in America to force car manufacturers to find ways of reducing the emission of greenhouse gasses, including carbon dioxide, which cause global warming. Amongst the ideas already mooted; vehicles which are lighter and more aerodynamic and therefore consume less fuel or imposing a surcharge on some of the larger cars and vans in order to deter people from buying them.

In California, more than half the motoring population drive what is known as a sports utility vehicle (SUV) -- trucks which average around twelve miles to the gallon (approximately 0.43km/l). Yet surveys showed the majority of people here favour measures to reduce global warming. The big car manufacturers, of course, are not so keen. They spent millions of dollars in an attempt to defeat this legislation, warning it would cut their profits and raise the cost of new cars. Now they're considering forcing a state-wide referendum on the subject in an attempt to get the law overturned.

Although the US produces nearly a quarter of the world's carbon emissions, President Bush has refused to sign the Kyoto Protocol, committing rich countries to reducing air pollution. Some believe California's move will shame other states and eventually the federal government into action on the matter.

BBC NEWS, LOS ANGELES

Vocabulary

Match these words to their meanings

a state-wide referendum

shame

to deter

imposing a surcharge

mooted

consume

emission of greenhouse gasses

to force

the motoring population

to make someone do something, even if they don't want to

release of harmful gasses into the air

suggested

use

making the price artificially higher

to encourage someone not to do it with the threat of some negative action – here, the threat is that they will have to pay more

people who drive

a vote held across the whole state to see if the public agree

you make someone feel embarrassed or guilty about their actions

True or False

- 1 The Clean Car Act will come into force today.
- 2 President Bush is in favour of this new law.
- 3 Car manufacturers are being told to reduce emissions of CO₂.

- 4 Aerodynamic cars consume more fuel.
- 5 Less than 50% of Californians drive SUVs.
- 6 An SUV travels only 4 Km on a litre of fuel.
- 7 The car manufacturers want to reduce global warming.
- 8 California would like other states to follow their lead.

Climate summit

The United Nations summit is the first chance to salvage a deal since the dramatic collapse of talks on the Kyoto protocol in the Hague, and with the US still taking a tough line, other nations must decide whether to offer concessions to coax them back into the process.

Jan Pronk, who leads UN negotiations on climate change, has summoned the world's environment ministers to decide whether they should press on with the Kyoto deal and the emissions control targets it sets or tempt the Americans back. Mr Pronk has already said that the US might trade a commitment to plant forests as carbon sinks or by carbon credits from other nations instead of reducing its emissions by the drastic levels that Kyoto requires.

When George W Bush pulled out of the deal, he said targets like these would ruin the American economy, and a newly-leaked State Department memo forcefully re-states that position, suggesting the US should urge climate change solutions based only on market forces and improved technology.

After ten years of talking, all the ministers here want action on Kyoto as soon as possible. Britain's John Prescott spelled this out:

"We need to keep striving for that consensus which indeed is the responsibility of our generation, or the world today and the children of tomorrow will not forgive us if we don't secure that agreement."

The hard choice they must make is whether to go for a deal without the nation which alone contribute a quarter of the world's greenhouse gases, or keep waiting for Mr Bush to change his mind.

BBC News

Vocabulary

Match the words below to their meaning

negotiations
climate change

press on
emissions control targets
a commitment to
sinks
carbon credit
drastic
American economy
market forces
striving
consensus
secure that agreement
greenhouse gases
change his mind

discussions between people in which they try to reach an agreement

decreases by a large amount

making a great effort to achieve something

the desired levels of harmful gases released into the environment

to ensure the terms of the agreement are met and honoured

an affect on the world's weather systems brought about by different levels of gases in the atmosphere

The system by which America organises its money, industry and trade

to alter or reverse an opinion or a decision

continue doing something in spite of difficulties

a faithful promise to do something

significant and urgent targets like these

gases that trap heat from the sun and cause a gradual rise in the temperature of the Earth's atmosphere

a general agreement among a group of people

a set amount of carbon a country is allowed to release into the environment
the factors that determine how many people want to buy a product or service

Contour space mission

Summary: NASA has launched its Contour spacecraft, one of a series of missions designed to investigate comets. Scientists hope Contour will visit at least two comets, providing the first detailed look at the differences between these primitive building blocks of the Solar System.

Contour is NASA's second mission dedicated to studying comets. The spacecraft Stardust is already on its way to bring a sample of a comet back to Earth; and next year NASA hope to launch their Deep Impact Mission, which they say may help answer questions about how life may have begun on Earth. Some scientists believe that comets hold the most primitive materials in the solar system and that they played a role in shaping some of the planets, as well as possibly seeding life on Earth.

Instruments on board include the Neutral Gas and Ion Mass Spectrometer which will analyse the chemical composition of the comet nucleus - the icy core in the head of the comet.

Contour will travel closer to the nucleus than any spacecraft ever has before - at only a hundred metres away it'll be exposed to high speed debris, but NASA scientists hope that a five-layer dust shield made of heavy metallic fabric will protect the craft.

Its main camera, the Contour Remote Imager-Spectrograph, will provide high-resolution images showing rocks and other features on the nucleus as small as 4 metres across.

However scientists will have to wait a while before they get any comet data back - Contour is due to rendezvous with comets Encke in 2003 and Schwassmann-Wachmann-3 in 2006.

BBC News

Vocabulary

Match the words below to their meaning

comets
sample
primitive
seeding life
analyse the chemical composition
nucleus
high speed debris
high-resolution images
comet data

an object that travels around the sun leaving a bright trail

scientific information about the comet

extremely old, and not developed

very good quality pictures

causing life to start

pieces of things that have been destroyed travelling very fast

a small quantity of a substance that shows you what it's like

the central part of the comet

examine what chemicals are included

Copying music from the Internet

Fill in the missing words

The record company EMI is planning a new service (1) _____ will allow people to copy music from the Internet (2) _____ breaking the law.

EMI's artists include the Spice Girls, the Beatles and pop stars Robbie Williams and Janet Jackson. (3) _____ the rest of the industry, it's struggling to cope with technological change (4) _____ makes it much easier for people to copy music without paying for it. Music can be stored in a personal computer, it can be passed (5) _____ in the world via the internet, millions of people own the equipment needed to record or burn their own unauthorised compact discs. Unofficial online music services like that provided (6) _____ the American group Napster have proved wildly popular.

To tackle the issue, EMI has teamed up with a computer software company to develop the first ever service that allows music lovers (7) _____ legitimately make their own CDs (8) _____ their own CD recording equipment of songs on which EMI holds the copyright. The music will be downloaded from the internet in encrypted form. The difficult bit comes in designing software (9) _____ gives the copyright holder power over what use is made (10) _____ the music once it's in the customer's computer. It may, for example, be possible to require additional payments everytime a new CD is burned. EMI says it'll talk (11) _____ pricing when the service is ready to launch. In theory it could do away with the need for dedicated music shops, but industry analysts say many people like to go to places (12) _____ they can listen to music they haven't heard before. But, of course, that too can be done over the internet.

BBC News

Vocabulary

the industry: the music industry, including record companies and recording artists

to burn a CD: the common term for recording content on to a compact disc

unauthorised compact discs: CDs which are made without the permission of the record company and recording artist

wildly: very

to tackle the issue: to try to find an answer to a problem

teamed up with: worked together with

holds the copyright: owns the rights to a piece of music so that people have to ask for your permission to copy or use it

downloaded: copied files onto your computer

encrypted form: coded so that it can't be used without permission

do away with: remove

New diet for pandas

Summary: In China, giant pandas are now eating health biscuits. Chinese scientists say the panda's regular bamboo diet simply isn't good enough, and the rare animals are suffering from malnutrition. But good food is the least of the giant pandas' problems. This report from Holly Williams:

As if the panda didn't have enough to worry about - loggers destroying their natural environment, hunters killing them for their skins and a breeding programme that's been plagued with problems. Now scientists say the black and white beasts just aren't eating right. They aren't getting enough vitamins, minerals or fibre. The new biscuits are high in all three - and to avoid confusing the pandas, the production line makes them in bamboo-like shapes. Apparently, the pandas find the biscuits 'very tasty'.

There are only 1000 giant pandas left in the wild. At the Panda Breeding Centre in Sichuan Province, scientists are scrambling to boost the animal's population. But the animals are notoriously difficult to breed in captivity - and are said to have a low libido. Scientists have tried everything from viagra to showing the animals sex education videos. Now at least, the remaining pandas will enjoy a balanced diet. But the hunting and logging continues - and their numbers are dwindling.

Holly Williams, BBC, Beijing.

Vocabulary

Match the words below to their meaning

loggers

a breeding programme
plagued with problems
very tasty
in the wild
scrambling
notoriously difficult to breed in captivity
libido
viagra
their numbers are dwindling

people and companies that cut down trees on a large scale

having a good taste

there are fewer and fewer

a modern drug used to help sexual reproduction

desire to have sex

finding it difficult

in their natural environment, not in a zoo or park

having a good taste

a plan to try and raise the number of pandas

it's well known that it is very difficult for pandas to reproduce

Ice reservoirs found on Mars

Put the verbs into the correct tense

Summary: A spacecraft orbiting Mars (1) _____ (detect) large quantities of water-ice just below the surface of the planet. The finding, by the American space agency NASA, is described as one of the most important discoveries ever made about the planet.

This report from David Whitehouse.

The News

This dramatic discovery (2) _____ (made) by sensors on the Mars Odyssey spacecraft that (3) _____ (orbit) the Red Planet since late last year. It (4) _____ (have) found evidence that just below the surface, across great swathes of the planet, there is water-ice.

This finding (5) _____ (answer) a question that has puzzled Mars researchers for decades. The first close-up pictures of Mars from spacecraft showed a world of deserts and craters, canyons and dried-up riverbeds. Obviously Mars (6) _____ (be) wet and warm in the distant past, but where did all the water go?

The answer appears that it is in the regolith - the layer of loose rock and dust on the surface. There is so much water that if it were all to melt, Mars would become a waterworld.

Water is essential for life as we know it, and researchers (7) _____ (speculate) that if life had developed during Mars's warm period, it might still be clinging to the moisture beneath the ground.

It also means that astronauts would have nothing more to do than dig to get drinking water.

The more we discover about Mars, the more the search for life on its surface becomes a top scientific priority, and the more it beckons human footprints.

David Whitehouse, BBC

Vocabulary

sensors

scientific instruments that measure changes - for example, in heat or light

to orbit

travelling around

great swathes of

large areas of

water-ice

water that has frozen

craters

large holes

canyons

long, narrow valleys with steep sides

dried-up riverbeds

the ground over which rivers once flowed

a waterworld

completely covered in water, flooded

clinging to

living in - if you cling to something, you hold onto it tightly

beckons human footprints

becomes a reason for going there - if you beckon someone, you make a signal for them to come to you

Ethiopia famine warning

Summary: Ethiopia faces a famine much more severe than that in the 1980s, its prime minister has warned. He said that if the situation was a nightmare last time, it is now too horrible to think about..

The scale of the current Ethiopian drought is much larger than the 1980s. Millions are now at risk, many living in the most inaccessible areas of this remote region. It is also made much worse by AIDS, which has infected over three million people. Weakened, they have already sold off many of their possessions. It's also eroded their ability to farm, even when times are good. But some lessons have been learned from previous disasters. An early warning system is in place, giving donors time to respond.

Some aid has already been promised, and more is on the way. And the Ethiopian government itself has been planning, building up its stocks, and distributing food aid in the villages where it's most needed. If this can be maintained the giant camps of the destitute can be avoided. This is vital to prevent cholera and diarrhoea. With a massive international effort the scale of the deaths can be reduced, but they cannot be avoided altogether.

BBC News

Vocabulary

Match the words below to their meaning

scale

inaccessible

Weakened

eroded

lessons have been learned

early warning system

donors

building up its stocks

food aid

If this can be maintained here

people, organisations and governments that give money, food and other aid

people have gained experience

people who are weakened have lost some of their physical strength

very difficult to reach

if they can continue to do this at the same level without stopping

gradually increasing its supplies

gradually destroyed or removed

number or extent

a system that give a warning at the earliest possible moment that something bad is going to happen

food given for people in need

Global Warming

Read the text below and decide which of the following words best fits the space.

percent

change

metres

video-link

mapped

cone

farmed

square

third

practical

Summary: From the upper slopes of Mount Kilimanjaro, once an icefield but now bare rock, Greenpeace campaigners - via video-link - have offered participants in the negotiations on climate (1) _____ in the Moroccan city of Marrakech a vivid example of the effects of global warming.

The snows of Kilimanjaro are one of the wonders of the natural world. Year-round winter right on the Equator, high on the roof of Africa. But as the world gets warmer, the snows are retreating. Greenpeace members had set up their (2) _____ right on the snow line. Participants in Marrakech could see the shadowy figure of Joris Thijssen perched on bare rock, with snow on the pinnacles behind.

"Hello ladies and gentlemen, welcome to this press conference live from the Kilimanjaro. At the moment I am at approximately five thousand (3) _____ high, the roof of Africa..."

Nothing could be more dramatic than the retreat of the Kilimanjaro ice cap. When it was first (4) _____ in 1912, there were twelve (5) _____ kilometres of ice and snow. Research published at the beginning of this year showed that more than eighty (6) _____ of that has now disappeared. A (7) _____ of the original ice mass has melted in just the last twelve years, and it looks as if the rest of the permanent ice cap could be gone by 2020. If the shining (8) _____ of Kilimanjaro melts, the world will have lost something of great beauty. But there will be (9)

_____ consequences as well. The melting glaciers water the lower slopes of the mountain, and those are the most densely (10) _____ and densely populated parts of Tanzania.

BBC News

Vocabulary

wonders:

something remarkable to be admired

the snows are retreating

there is less and less snow, it's moving back from where it used to be

perched

if you perch, you sit lightly on the edge of something - like a bird on a branch

nothing could be more dramatic

the retreat of the ice cap has been very sudden and noticeable

ice mass

the volume and weight of the ice

shining cone

the dazzling white snow and ice on the top of the mountain

will have lost

if the snow and ice melt, the result will be the end of this beautiful site - but it's not yet certain this will happen

practical consequences

real, rather than theoretical, results

the lower slopes of the mountain

the areas of the mountain nearer the ground

densely farmed and densely populated

there is a lot of farmland and a lot of people in a small area

Global weather problems

Read the text below and decide which of the following words best fits the space.

| | | | |
|--------------------|----------------|-----------------------|-----------------|
| <i>Climate</i> | <i>warming</i> | <i>climatologists</i> | <i>Flooding</i> |
| <i>devastation</i> | <i>effect</i> | <i>heavy</i> | <i>cloud</i> |
| <i>influence</i> | | | |

Summary: Natural changes in the (1) _____ are probably to blame for the unusual weather conditions in many parts of the world, according to (2) _____. In recent days there have been floods in Central Europe, parts of Russia, the Philippines, India and China. But the exact cause is leading to much debate amongst scientists.

The weather (3) _____ known as El Niño occurs every few years and causes (4) _____ of the Pacific Ocean near South America. It can have severe, often detrimental, effects on rainfall. Some scientists are blaming this particular climate phenomenon for the current freak weather conditions around the world.

However others say that El Niño hasn't properly started yet and only affects the Southern Hemisphere - so there is no way it can explain the (5) _____ rains in Europe.

Another theory is that the Asian Brown Haze which has been recently reported may be affecting weather over countries like Afghanistan, Bangladesh, India, the Maldives, Nepal, Pakistan and Sri Lanka. But again the brown (6) _____ has been around for many years - its presence being highlighted in the media following a report by the United Nations Environment Program - so it can't be blamed for what is happening now.

It's not unusual for monsoon rains to be delayed, and (7) _____ in Europe is also not uncommon. Only a few years ago the River Oder on the Polish-German border caused huge amounts of (8) _____.

Dr David Viner from the Climatic Research Unit at the University of East Anglia in Britain says that natural variability in the weather is probably to blame but human (9) _____ can't be ruled out.

BBC News

Vocabulary

detrimental
damaging or harmful

climate phenomenon
an event caused by the weather

current
something that is happening or being done at the present time

freak weather conditions
unusual weather

Southern Hemisphere
the southern half of the world

Asian Brown Haze
a brown cloud affecting Asia

highlighted
brought to attention

huge amounts
a large quantity

natural variability
changes caused by nature

can't be ruled out
may be possible

Grown in space

Fill in the missing words

Summary: Plants which spend time (1) ___ space grow bigger and stronger than their earth bound equivalents, according (2) ___ researchers in China.

In recent years, Chinese scientists have sent more than thirty kinds of plant seeds (3) ___ space, including many varieties of vegetables and medicinal herbs. The seeds are sown (4) ___ unmanned spacecraft before being sent (5) ___ orbit to grow as best they can (6) ___ zero gravity. Now scientists (7) ___ the Kewei Space Plant Propagation Base (8) ___ northern Hebei province say they have successfully retrieved some of the space seedlings and replanted them back (9) ___ earth. And the plants appear to be flourishing.

The researchers say plants grown (10) ___ space seeds have larger leaves, stronger stems and are more resistant to pests than plants grown in the conventional way. The research could have profound implications (11) ___ China which is struggling to feed a burgeoning population. And plants may not be the only items on the menu. China announced (12) ___ April that three eggs which had been sent (13) ___ space in an unmanned capsule had hatched successfully, to become the first space chickens.

BBC News

Vocabulary

Match the words below to their meaning

medicinal herbs

sown

unmanned spacecraft

into orbit

zero gravity

seedlings

flourishing

resistant

profound implications

a burgeoning population

doing very well

gravity is the force causes objects to fall to earth; zero gravity means there is no gravity

when seeds are put into the ground to grow they are 'sown'

plants which can be used to make medicines

if something is resistant it means it is not easily damaged

a spaceship which does not have any people on board

parked a fixed distance in space rotating around the planet earth

seeds which have just begun to grow

important future results

a growing population

Growth in air travel harms environment

Read the text below and decide which of the following words best fits the space.

| | | | |
|-------------------|----------------|---------------|---------------|
| <i>tackling</i> | <i>growth</i> | <i>double</i> | <i>fuel</i> |
| <i>operations</i> | <i>heating</i> | <i>smoke</i> | <i>target</i> |
| <i>altitudes</i> | <i>taxing</i> | <i>curb</i> | |

Climate change experts from the Tyndall Climate Research Centre in Britain have said urgent action is needed to (1) _____ the rapid growth in air travel if the government is to meet its commitments on (2) _____ global warming. This report from Stephen Evans:

Falling ticket prices and rising incomes are leading to rapid (3) _____ in global air travel. According to the British government, the number of British air passengers, for example, will more than (4) _____ in the next quarter of a century. Increases of such an order would mean much more aviation fuel being burned and aviation (5) _____ may be more harmful to the environment than other fuels because the resulting (6) _____ is emitted at high (7) _____.

A group of scientists at the environmental research group, the Tyndall Centre, says that if Britain is to meet its overall (8) _____ for cutting damaging emissions, other uses of fuel like for (9) _____ homes or driving cars would have to be cut dramatically.

The British government wants the use of aviation fuel covered by international agreement on the environment. The difficulty for any individual government is that (10) _____ fuel used at its own airports might push airlines to move their (11) _____ to competing airports in other countries.

BBC News

Hurricane hits Cuba

Summary: The eye of Hurricane Michelle, the strongest storm to hit Cuba for more than fifty years, has passed over the island and is now heading towards the Bahamas. It has left severe damage caused by winds of two-hundred kilometres per hour and flooding.

The eye of Hurricane Michelle has passed over Cuba but the island is still being battered by strong winds and heavy rain. Much of the country, including the capital Havana, is without gas and electricity. Telephone lines are down and the population is being urged to remain in their houses. Reports say that large areas of agricultural land, especially in the west and centre of the country, have been devastated and homes have been damaged. There is also severe flooding, mostly in coastal areas.

But there are few reports of casualties. This is probably thanks to the huge civil defence operation launched by the Cuban authorities over the past few days. More than six-hundred-thousand people were evacuated from vulnerable areas and remain in safe shelters while the damage is assessed and the cleaning-up operation gets under way. There are still no flights, public transport has been suspended and the country remains virtually at a standstill. But, as Hurricane Michelle heads out to sea, Cuba is breathing a tentative sigh of relief. The storm has passed, leaving a trail of destruction, but it does not appear to have been as bad as it could have been.

BBC News

Vocabulary

Match the words below to their meaning

the eye of Hurricane Michelle

battered

being urged to

devastated

casualties

evacuated

vulnerable

gets under way

at a standstill

breathing a tentative sigh of relief

very badly damaged

people who are killed or injured

if you are _____, you are sent from one place to another for your own safety

is started, begins

an uncertain feeling that the worst is over

without any activity, nothing is happening

the centre of the storm, where winds are low

hit with great power

being told or encouraged to do something

not very safe, easily damaged

Labs told to destroy deadly virus

The World Health Organisation has appealed to nearly four thousand medical laboratories asking them to destroy samples of a potentially lethal influenza virus that was unintendedly included in routine testing kits. The virus is a strain of flu that killed up to four million people globally in 1957 but disappeared entirely by 1968.

The strain of flu is known as H2N2 and if caught by one person, could spread very easily to cause a global pandemic, as no-one born after 1968 would have the antibodies. Samples of the strain were sent to the laboratories as part of a routine test to check their capabilities of accurately detecting different viruses.

The organisation responsible for sending out the samples, the College of American Pathologists, didn't break any rules because the deadly virus was classified as "Biological Safety Level 2", meaning that it wasn't particularly dangerous. The US government agency responsible for classifying viruses, the Centre for Disease Control, says it was in the process of deciding whether to change the strain's classification when it was informed that it had been widely circulated.

The World Health Organisation says there is no guarantee that every sample of the virus can be traced and destroyed because some of the laboratories may have sent derivatives of the sample elsewhere. But it says that the fact there have been no reports so far of anyone handling the virus becoming ill is reassuring and that the risk of a pandemic is very low. The WHO says safety procedures will have to be revised.

Vocabulary

Match the words below to their meaning

handling
traced
in the process of
a global pandemic
antibodies
spread
widely circulated
classification
derivatives
reassuring

expand to cover a larger area
a worldwide outbreak of the disease
blood proteins the body uses to fight a disease
in the middle of doing something
assigning to a class or category
sent to many laboratories
found
not originals but copied from an original
dealing with
giving hope, a good sign

True or False

- 1 If one person gets ill from H2N2, the flu will infect a lot of other people.
- 2 People born after 1968 are immune to H2N2.
- 3 The College of American Pathologists told laboratories that H2N2 was quite safe.

- 4 According to the Centre for Disease Control, while they were deciding how dangerous H2N2 was, it was sent to laboratories.
- 5 All samples and copies of H2N2 have been destroyed.
- 6 The World Health Organisation think it's a good sign that no one working with H2N2 has become sick.

Left-handedness linked to a better memory

Fill in the missing words

Summary: A new study suggests (1) _____ that being left-handed or related to lots of left handed people can give you (2) _____ a better memory. (3) _____ The study, which looked at handedness and brain function, (4) _____ also goes some way to explaining why people don't remember events which happened in their very early childhood.

(5) _____ The researchers conducted experiments (6) _____ into two different types of memory function: remembering events and remembering facts. Overall, they found that people (7) _____ who were left-handed or had left-handed members in their immediate families could remember events more easily. In remembering facts, there was little difference.

(8) _____ The experiments also involved measuring brain activity during the memory tasks. Results from these brain scans backed up earlier studies which suggest that both halves of the brain are involved in remembering events, (9) _____ whereas only one half seems to be used when remembering facts.

The researchers say this shows that remembering events at least has little to do with brain dominance. They say the key to how we remember events is likely to be the corpus callosum. In left-handed people and those with left-handed relatives it is generally larger. (10) _____ This part of the brain doesn't develop fully until about the age of four, which could explain why memories of early childhood are difficult to recall.

BBC News

The Words

conducted experiments
carried out scientific tests

in their immediate families
among their closest relatives

brain scans

medical tests that involve using special technology to measure and record brain activity

backed up

confirmed the results of

brain dominance

the widely held, but scientifically unproven belief that one half of the brain is more active than the other, making it either right- or left-handed

corpus callosum

the part of the brain through which information between the two halves passes

difficult to recall

not easy to remember

Preventing crop shortages

Read the text below and decide which word A, B, C or D best fits the space :

The United Nations is concerned that fewer and fewer varieties of crops (1) _____. Roger Harrabin reported on the start of talks to ensure crops remain available for all.

The number of crop varieties (2) _____ by farmers has plummeted by more than seventy-five percent over the past hundred years, as superstrains have come to dominate the global market. But (3) _____ increases the vulnerability of crops to a major outbreak of pests or diseases; so the old breeds (4) _____ for their valuable genetic material. The UN's (5) _____ a proposal today to safeguard that gene pool for the future, (6) _____ making seeds in seed banks available to all who need them - from farmers to commercial breeders and researchers.

The proposed treaty would (7) _____ credit to peasant farmers who developed the crops in the first place and force firms using genetic material from the seed banks (8) _____ a levy to promote crop diversity in developing countries. Most nations support the treaty, but the USA is voicing strong opposition, (9) _____ with Canada and Australia. US officials fear that the treaty might undermine the commercial protection afforded to gene tech companies through the World Trade Organisation deal on intellectual property rights. The US wants all agreements to remain voluntary.

BBC News

| | | | | | | | | |
|---|---|-------------|---|------------|---|----------------|---|------------|
| 1 | A | are selling | B | are sold | C | sell | D | sold |
| 2 | A | grown | B | grew | C | grown | D | growing |
| 3 | A | this | B | they | C | those | D | there |
| 4 | A | need | B | is needs | C | needed | D | are needed |
| 5 | A | discussed | B | discussing | C | are discussing | D | discuss |
| 6 | A | in | B | for | C | by | D | on |

| | | | | | | | | |
|---|---|-------|---|---------|---|--------|---|---------|
| 7 | A | give | B | gave | C | giving | D | to give |
| 8 | A | paid | B | pay | C | to pay | D | paying |
| 9 | A | along | B | through | C | long | D | beside |

WORDS

plummeted: if an amount or price plummets, it decreases quickly and suddenly

superstrains: a strain of a plant is a variety of it; these superstrains are the most resilient or strongest variety of crops

vulnerability: weakness and lack of protection

outbreak: a sudden occurrence of disease

pest: an insect or small animal which damages crops or food supplies

genetic: concerned with genes : genes are parts of cells which control the growth and development of living things. They are passed on from one generation to another

to safeguard: to protect

gene pool: the available genes that could be used

in the first place: originally; first of all

seed banks: a central place where seeds are kept ready for use

a levy: money that must be paid to a government or official organisation, like a tax

crop diversity: to have many different kinds of wheat or rice or other food plants

voicing strong opposition: if someone voices strong opposition to something they strongly disagree or oppose it

undermine: if you undermine something then you make it weaker or destroy it bit by bit

afforded: if you afford protection to someone then you give protection to them

intellectual property rights: the legal right to own scientific or creative ideas

Quarter of Mammals Face Extinction

Summary: Almost a quarter of the world's mammals face extinction within thirty years, according to a United Nations report on the state of the global environment.

The United Nations Environment Programme report identifies more than eleven thousand endangered animal and plant species, including more than a thousand mammals, a quarter of the world's total. One in eight bird species is also in danger of extinction, and more than five thousand different plants.

The species likely to vanish forever within three decades include well-publicised cases, such as the black rhinoceros and the Siberian tiger, and less well-known animals such as the Philippine eagle and the Asian Amur leopard.

The UN report is a review of the past thirty years of environmental damage.

Based on that assessment, the UN says all the factors which have led to the extinction of species in recent decades continue to operate with "ever-increasing intensity".

The encroachment of human settlement into wilderness regions, rainforest and wetlands destruction, and the impact of industry, have had a dramatic impact on the survival of threatened animals and plants.

The report says many problems could be rectified if governments implement the treaties and conventions passed since the Rio Earth Summit of 1992 - including the Kyoto protocol on climate change and the Convention on Biodiversity.

BBC News

Vocabulary

Match the words below to their meaning

endangered
species
mammals
extinction
factors
continue to operate with 'ever-increasing intensity'
encroachment
human settlement
rectified
treaties and conventions

the _____ of a species is the death of all its remaining members

different types of official agreements between countries

causes, reasons

place where people have come to live and build their homes

if you _____ something, you do something that may damage it or destroy it

the result of _____ - if something _____ on an area of land, it gradually covers more and more of it

corrected, put right

_____ to increase more and more

types (of plant, animal or bird) with the same main characteristics

types of animals, which when young are fed on milk from their mother's body

Saving Venice

Read the text below and decide which word A, B, C or D best fits the space :

Summary: A team of British scientists (1) _____ work in the Venice Lagoon in (2) _____ international effort to protect the city from high tides and floods (3) _____ struck again this week.

Led by Professor David Paterson of St Andrew's University, the British team have begun a three-year project to map tidal flows and marine life, using satellite technology and the latest remote sensing techniques. The work, (4) _____ by the European Union, (5) _____ finding out exactly how the Lagoon functions before the construction of (6) _____ Thames-style barrier of steel gates. They'll be raised from the sea bed to shut off high tides. That two billion pound engineering project remains (7) _____ controversial and years behind schedule.

Professor Paterson thinks there's merit in another plan (8) ____ floating artificial marshes in the Lagoon to help break up the most destructive waves. Twice this week, St Mark's Square has been engulfed by high tides. Some scientists fear that sea levels (9) _____ by over eighteen inches this century which could prove catastrophic.

BBC News

| | | | | | | | | |
|---|---|-------------|---|-------------|---|--------------|---|--------------|
| 1 | A | has began | B | has begun | C | begin | D | began |
| 2 | A | the latest | B | the later | C | later | D | late |
| 3 | A | how | B | what | C | that | D | who |
| 4 | A | founded | B | funded | C | funding | D | finding |
| 5 | A | is aimed on | B | is aimed at | C | is aim in | D | is aiming on |
| 6 | A | an | B | ___ | C | the | D | a |
| 7 | A | intensely | B | intense | C | very intense | D | more intense |
| 8 | A | in | B | for | C | on | D | per |
| 9 | A | rise | B | rising | C | will rise | D | are rising |

Vocabulary

to map tidal flows

to study and make a record of the way the water moves up and down and through an area

marine life

animals and plants that live in the water

remote sensing techniques

ways of finding out information automatically

funded by

paid for by

Thames-style barrier

A gate, like the one on the River Thames in London, which goes up and down to stop too much water coming into the river

sea bed

the bottom of the sea

intensely controversial

if something is intensely controversial many people have very strong feelings that it is a bad idea

merit

if there is merit in something, then it is worth doing, it has value

engulfed by high tides

the high tide is the time of day when the water level is at its highest and this has caused a lot of water to flood the area

catastrophic

disastrous, causing a lot of damage and destruction

World Heart Federation obesity warning

Summary: The World Heart Federation is warning that obesity will overtake tobacco smoking as the biggest cause of heart disease unless the current trend of unhealthy lifestyles stops. At least a billion people across the globe are now extremely overweight, putting a massive strain on the world wide healthcare systems.

Obesity, which can cause heart disease, strokes and diabetes is on the increase across the globe. According to the World Heart Federation, an estimated twenty-two million children under five years old are now severely overweight. Nearly one in three children in the United States between the ages of five and fourteen is obese, compared to one in six, thirty years ago.

But obesity is not a condition which solely affects the Western World. Increasingly, low and middle income countries are suffering from the condition, often due to a change in their diets, as they substitute fibre intake for a much higher consumption of saturated fats and sugar. In Beijing, for example, one in five children of school age is now obese.

The World Heart Federation says obesity can also be blamed for spiralling health costs. The US spends almost a tenth of its national healthcare budget on overweight patients, and in Western countries as much as two point eight percent of the total sick care costs is attributable to obesity. The Federation warns that unless the world's population acts now to eat a healthier diet and to take more exercise, obesity will rapidly overtake smoking as the leading lifestyle risk factor for heart disease and strokes.

BBC News

Match these words from the text to their meanings

- 1 on the increase
- 2 condition
- 3 low and middle income countries
- 4 substitute
- 5 fibre intake
- 6 higher consumption of saturated fats
- 7 spiralling
- 8 attributable to
- 9 overtake
- 10 lifestyle risk factor

- a growing
b likely to be caused by

- c something people choose to do which can badly affect their health
- d poorer countries
- e eating of more fats that are considered bad for you
- f the amount of fibre they eat
- g medical problem
- h here, become a bigger problem than...
- i here, increasing rapidly
- j you use it instead of the other thing

Space Tourism

Fill in the missing words

Summary: The Russian-owned company, MirCorp wants (1) ___ launch (2) ___ world's first private space station (3) ___tourists by 2004.

It's to be called Mini Station 1 (4) ___ the idea is to create a money-spinner to finance Russia's floundering space programme. MirCorp vice president Gert Weyers says the station (5) ___ cost a hundred million dollars and (6) ___ it will be manufactured by Russia's RKK Energiya, the same company that designed and built the Mir space station. He says customers are already queuing (7) ___. Mini Station 1 will be able to take three people (8) ___ a time and for a maximum (9) ___ twenty days. The Russians broke (10) ___ space tourism in April this year, when California millionaire Dennis Tito paid them twenty million dollars for a rocket ride to fame and the International Space Station. But in doing (11) ___ they angered the Americans, who argued the trip could have endangered the crew (12) ___ board the station. But this, say the Russians, is different. The Mini Station will be a separate, entirely commercial project which will not interfere with the scientific exploration of space.

BBC News

Vocabulary

money-spinner

idea that will make a lot of money

floundering

has many problems and may fail soon

manufactured

made, usually in a factory

space station

spacecraft which goes around the earth and is used as a base for people travelling in space or doing research

broke into

entered the space tourism market

endangered
put into a dangerous situation

crew
the people who work on a spacecraft, ship, plane or train

on board
on a spacecraft, ship, plane or train

entirely commercial project
project completely for business

interfere with
have a bad effect on

Atoms joining together

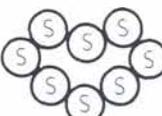
The world is not made up of separate atoms floating about – atoms stick together. Sometimes just a few join up: sometimes thousands are linked together in some way. When two or more atoms join together as a single unit, the new particle is called a molecule.

Molecules of elements

Many elements are made up of molecules which contain two or more identical atoms linked together. Air consists mainly of the elements nitrogen and oxygen: both gases have molecules made up of two atoms strongly bound together. The yellow, powdery element sulphur consists of molecules having eight atoms each.

The nitrogen molecule is shaped  : it is written as N₂.

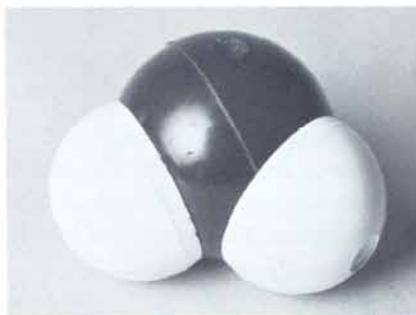
The oxygen molecule is shaped  : it is written as O₂.

The sulphur molecule is shaped  : it is written as S₈.

Molecules of compounds

Molecules made from two or more different atoms linked together form *compounds*. Water, perhaps the most common compound of all, has simple molecules in which two atoms of hydrogen are joined to one atom of oxygen. The molecule is represented by the formula H₂O.

The *formula* of a compound shows exactly the numbers of all atoms present in the molecule. Note that the formula for water is H₂O and not H₂O₁. If only one atom of any kind is present the symbol alone is shown without the figure 1. The formulae of some common compounds are shown in the following table.



A water molecule model.

| Compound | Molecule | Formula |
|-------------------|---|--------------------------------|
| carbon dioxide |  | CO ₂ |
| ammonia |  | NH ₃ |
| methane |  | CH ₄ |
| sulphuric acid |  | H ₂ SO ₄ |
| hydrogen chloride |  | HCl |

Equations

When substances combine together to form different materials, a *reaction* or *chemical change* has taken place. The burning of a match is a good example of a chemical reaction. *Equations* are a shorthand way of describing chemical reactions, using symbols and formulae to show how atoms and molecules rearrange themselves.

When coke (a form of carbon) burns in air (containing oxygen) to form carbon dioxide the equation would be written:

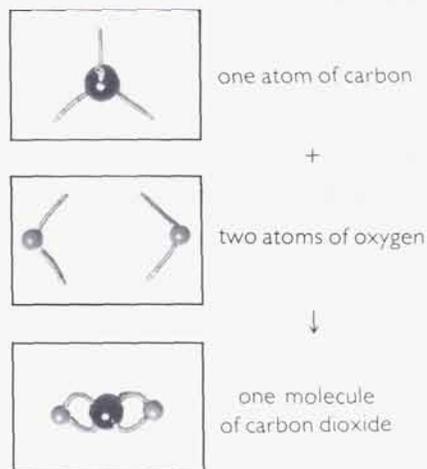


The equation shows that one atom of carbon combines with one molecule of oxygen to give the molecule of carbon dioxide.

The equation for the burning of natural gas (methane) is:



The equation shows that one molecule of methane combines with two molecules of oxygen to give one molecule of carbon dioxide and two molecules of water.

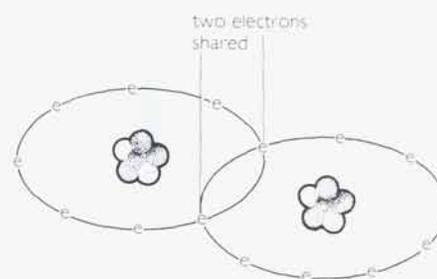


Covalent bonding

The way in which atoms join to form molecules is related to the number of electrons in their outermost shells.

A full shell of eight electrons is a stable state. Atoms will share pairs of electrons between them if, by doing so, they can achieve full outer shells. Thus two chlorine atoms, both having seven electrons in their outer shells, will share two electrons, one from each atom, to make up shells of eight.

The shared pair of electrons acts as a 'glue' sticking the two atoms together. It is called the *covalent bond* and is sometimes drawn as a line between atoms:



Atoms of chlorine showing outer shells of electrons only.

Questions

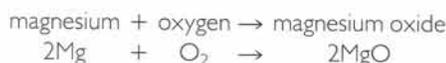
1. What is a molecule? Give two examples of molecules of elements.
2. What are compounds composed of? What does the formula of a compound show? Give the formula for sulphuric acid.
3. What is meant by a 'chemical reaction'?
4. What do equations represent?
5. Write the equation for the burning of natural gas.
6. What part of an atom is involved in bond formation?
7. Show how two chlorine atoms combine to form a chlorine molecule.
8. What is the covalent bond?

Reactions

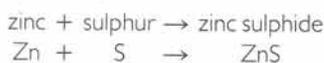
When substances join together, break up, or form new materials chemical reactions are said to have occurred. Reactions can happen quickly or slowly and they all give out or take in heat.

Types of reactions

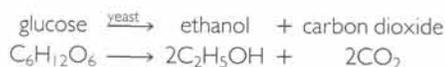
Joining reactions (synthesis) Magnesium burns very brightly in oxygen: the two elements link up to form magnesium oxide ash. This is an example of a synthesis in which two substances (sometimes more) join to make a single *new* substance.



When zinc dust and powdered sulphur are heated together, they suddenly combine with a bright flash to form a mushroom cloud of zinc sulphide.

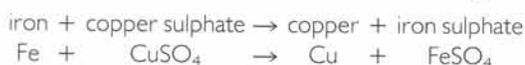


Breaking up reactions (decomposition) A warm solution of glucose, with a little yeast added, splits up to form the simpler substances ethanol and carbon dioxide.



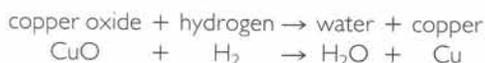
Calcium carbonate is decomposed by strong heat (see page 48).

Displacement reactions When an iron nail is held in a solution of copper sulphate, a little of the iron dissolves. It displaces some of the copper from the solution and this copper is deposited on the surface of the nail as a red-brown coating.

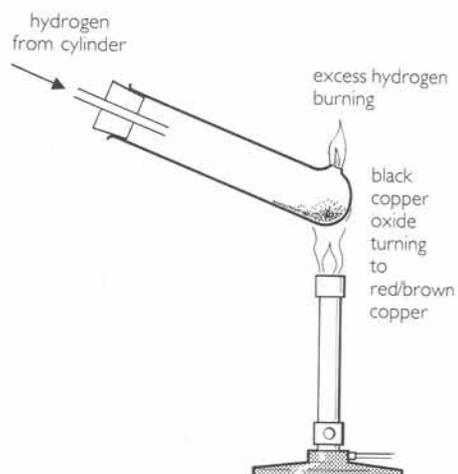


The displacement of hydrogen from acids by metals is shown on page 44.

Redox reactions When hydrogen gas is passed over heated copper oxide, the hydrogen joins up with the oxygen making water and leaving pure copper.

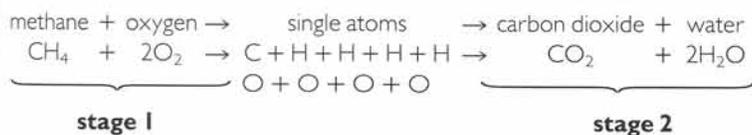


The hydrogen has gained oxygen and is said to have been *oxidised*. The copper oxide has lost oxygen and is said to have been *reduced*. Reduction and oxidation are two parts of the single process—redox. Oxidising agents are usually substances which contain oxygen and give some or all of it to a reducing agent. The oxygen does not always add on directly to the reducing agent: sometimes it removes hydrogen (as water) and sometimes it removes electrons.



Heat change in reactions

Put a light to natural gas (methane) and it burns, combining with oxygen in the air to give carbon dioxide and water. There are two stages to this process. First, the methane and oxygen molecules split up into single atoms. Energy is needed to break the bonds holding the molecules together so heat must be supplied (as a spark or a match) to start the reaction. Secondly, the single atoms join up making the new bonds of the carbon dioxide and water molecules. Heat energy is released in this new bond making.



In this reaction much more heat is given out in **stage 2** than is taken in during **stage 1**. Such a reaction gets hot and is said to be *exothermic*. Some reactions take in more heat in **stage 1** than is given out in **stage 2**. These become colder and are said to be *endothermic*.

Speed of reactions

Put two marble chips into dilute hydrochloric acid and they fizz. They dissolve away slowly and carbon dioxide is given off (see page 32). The reaction time can be taken by starting a timer when the chips are added and stopping it when the marble has all dissolved. Repeat the process using crushed marble and the reaction time is much less. You can also speed up the reaction if you use hot acid or concentrated acid.

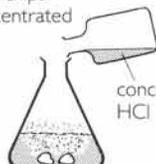
1. marble chips



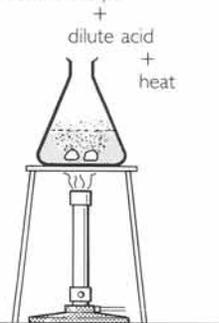
2. powdered marble



3. marble chips + concentrated acid



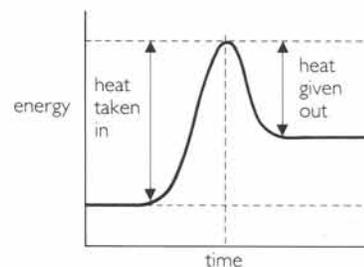
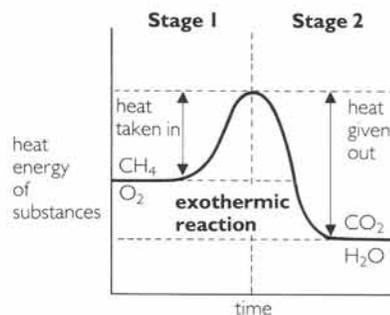
4. marble chips + dilute acid + heat



Some reactions are speeded up by light energy (as in photosynthesis), and some between gases are affected by increasing the pressure. Many are speeded up by adding small amounts of substances (*catalysts*) which are not used up in the reaction.

Questions

1. Explain what is meant by 'synthesis' and give one example.
2. What is meant by 'decomposition'? Name the products and write the equation for the decomposition of calcium carbonate.
3. What happens to an iron nail in copper sulphate solution?
4. What is an oxidising agent?
5. What are (a) exothermic and (b) endothermic reactions?
6. State four possible ways of speeding up a chemical reaction.
7. What is a catalyst? For what reaction is yeast used as a catalyst?



Water

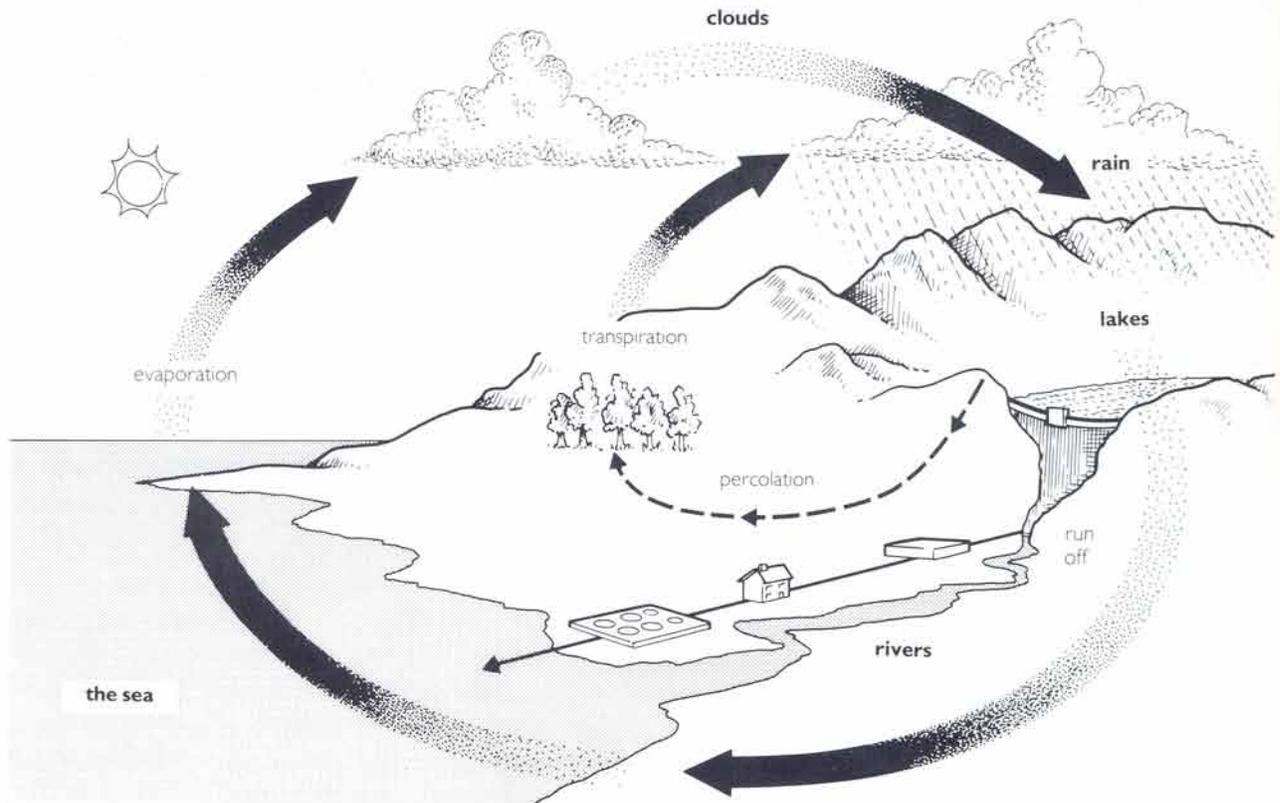
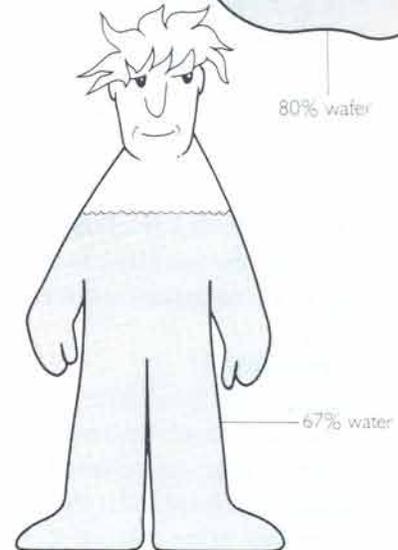
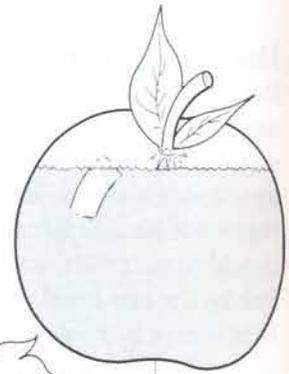
Life on this planet began in the water that covers much of its surface. Water and air together provide the conditions which support life as we know it. This section and the following three are concerned with that most essential substance – water.

Water in living things

Plants make their food and their own bodies from water and air. More than nine-tenths of a lettuce, for instance, is simply water. There is much more water than any other substance in the human body. It is present both combined in the materials that make up the cells and in the juices which carry out the body functions.

The water cycle

The sea is the source of all water in the world. The Sun heats the sea and some of the water becomes vapour. The vapour collects as clouds and when these are blown over high ground they release the water as rain. Rain seeps through the ground and runs as rivers back to the sea. Plants absorb water from the ground and return a lot of it to the air. Rain water is collected in reservoirs, supplied to houses and industries and returned after treatment to the sea. So water circulates over and over again.



Water as a dissolving agent

One of the most important properties of water is its ability to dissolve things. If you shake a sugar cube with water, the sugar vanishes. It is still there of course – you can taste it – but it has *dissolved*: it has mixed in with the water. The millions of sugar molecules which made up the cube are now evenly spread among the billions of water molecules. The mixture of sugar and water is called a *solution*. Substances which dissolve in water are said to be *soluble*. All sorts of things are soluble in water to some extent.

The sea This is a gigantic solution of nearly all the substances found on the Earth. Rain water dissolves compounds from the rocks and soil and carries them into the sea. Common salt (sodium chloride) is the most abundant dissolved solid and makes up 2.7% of the sea. The percentage varies because the sea evaporates at different rates at different times and places.

Dehydration

Potatoes are nearly eight tenths water. When they are carefully warmed they lose their water and a solid is left. This is *dehydrated* potato. It will keep for a very long time because the bacteria and moulds which cause food to go bad cannot work without water. Powdered dried potato can be made into mashed potato by simply adding water. Other foods commonly dehydrated are: milk (for babies), peas and fruit; whilst hay is dried grass.

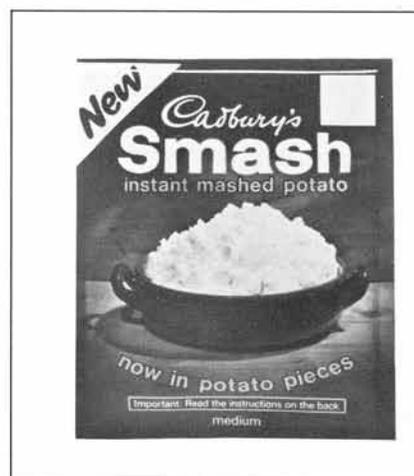
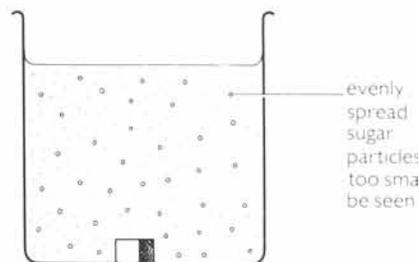
Tests for water

Pure water freezes at 0 °C and boils at 100 °C.

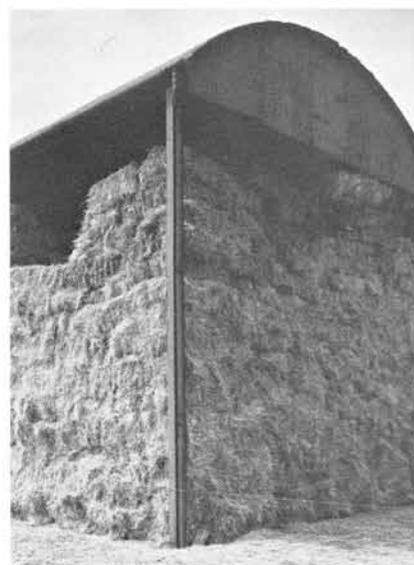
Blue copper sulphate crystals turn white when they are dehydrated by heat. The dehydrated copper sulphate turns blue again when water is added.

Questions

1. How much water is there in (a) a lettuce, and (b) the human body?
2. Explain what happens in the water cycle.
3. What happens to sugar when it dissolves in water?
4. Explain what is meant by the term 'soluble'.
5. What is the main dissolved substance in sea water? How did it get there?
6. What is meant by 'dehydration'? Name 3 dehydrated foods.
7. Give the boiling point and freezing point of water and one other test for water.



Dried potato.



Another form of dried food.

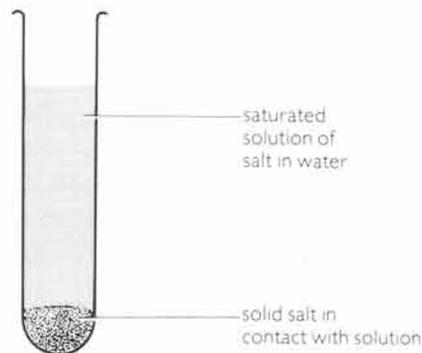
Solutions

Blood, saliva and urine are just three of the many solutions produced by the body. All the processes of living depend upon the ability of water to carry substances round the body as various kinds of solutions.

Aqueous solutions

A uniform mixture of the molecules of two different substances is a *solution*. The substance forming the bulk of the solution is called the *solvent*, and the dissolved substance is the *solute*. Solvents are usually liquids. The most common solvent is water and its solutions are given the name *aqueous*.

Solubility Usually there is a limit to how much solute will dissolve in a fixed amount of solvent. When no more solute will dissolve, the solution is *saturated*. The *solubility* of a substance in water is the mass in grammes which will dissolve in 100 g of water to produce a saturated solution. Hot water often dissolves more of solids than cold water: the temperature has to be stated when solubility figures are quoted.



Solutions of gases Most gases will dissolve in water although their solubilities are much lower than those of solids. Oxygen, for instance, dissolves very little, but there is enough of it in water for fish to breathe using their gills.

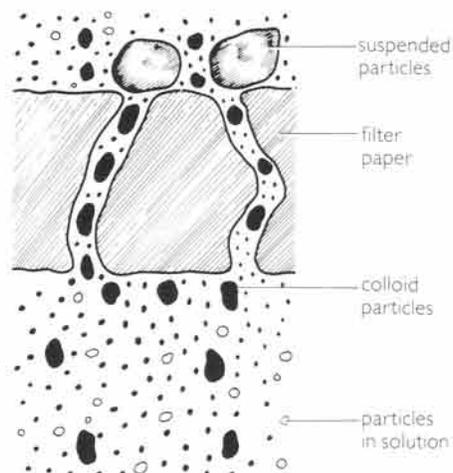
| Solubilities – grams of solute in 100 g of water at 20 °C | | | |
|---|------|-------------------|-------|
| Solids | | Gases | |
| sodium chloride (salt) | 36.0 | nitrogen | 0.002 |
| sodium carbonate (soda) | 21.5 | oxygen | 0.004 |
| ammonium sulphate | 71.0 | carbon dioxide | 0.169 |
| calcium sulphate | 0.2 | hydrogen sulphide | 0.385 |

Suspensions and colloids

The particles of a solute in a solution are about the same size as the molecules of the solvent. Particles many times larger than the solvent molecules will not dissolve to form solutions: they are either *suspensions* or *colloids*.

Suspensions These consist of particles large enough to be seen, mixed with water. The particles are not dissolved and will settle to the bottom if the suspension is allowed to stand. Powdered calcium carbonate shaken with water forms a milky liquid. This can be separated quickly by filtering. The large particles of the suspended solid will not pass through the fine holes in filter paper.

Colloids A little concentrated iron (III) chloride solution poured into a beaker of hot water produces a brown, cloudy liquid. This will not clear on standing nor by filtering. It is a colloid. Its particles are bigger than those of a solution but smaller than those of a suspension. A beam of light from a strong torch will show up the particles.



Colloidal solutions

Many natural substances are colloidal. Blood contains colloidal particles as well as substances in solution. Common colloids are glue, butter, potter's clay, ink, smoke and fog.

Pastes These are concentrated suspensions of colloidal solids in liquid solvents. Paints, putty, dough and toothpaste are examples.

Jellies These are colloidal solutions even though they are semi-solid. They melt easily when warmed.

Emulsions Cooking oil, shaken with water and a few drops of detergent, produces a milky liquid consisting of tiny oil drops suspended in water. This is an emulsion and it does not separate. Common emulsions are milk, salad cream and ointments.

Other kinds of solution

Water is by no means the only liquid solvent. Many liquids have good solvent properties for particular solutes. Oil paint dissolves in white spirit, grease dissolves in petrol and nail varnish is dissolved by acetone.

All the examples of solutions considered so far have been of solid, liquid or gas solutes in liquid solvents. However, the solvent can also be a solid or a gas. Solder does not seem to be a solution, but it is actually solid tin dissolved in solid lead. Other examples of unusual solutions are shown in the photographs.



Brass is a solution of zinc metal in copper.

Questions

1. Explain the terms 'solution', 'solvent' and 'solute'.
2. What is the commonest solvent? Name three other solvents.
3. When is a solution said to be saturated?
4. Explain what is meant by 'solubility'. How does temperature affect it? Give the solubilities of salt and oxygen.
5. How is a colloidal solution recognised? What size are its particles?
6. Give examples of four different kinds of colloidal solutions.
7. Name a good solvent for grease.
8. Give two examples of solutions with non-liquid solvents.



Some common colloids.



Smoke is a colloidal solution of solid in air.



Air is a solution of oxygen in nitrogen.

Separating mixtures

Good cooks sieve flour to remove large lumps; keen gardeners sift stones from the soil of seed beds; in limestone quarries the crushed rock is graded into piles of the same-sized chippings. In the home and in industry, mixtures (including solutions) often need to be separated into their component parts.

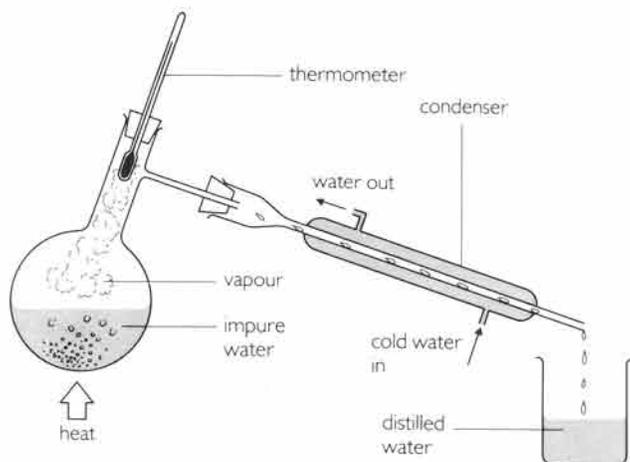
Filtering

A *filter* is a very fine sieve made from interlocking fibres or from solid particles packed closely together. Gauze pads will filter dust and liquid sprays from air. Large, suspended solids can be removed from water by fine filter paper or by a pad made of fine powder. The smaller particles of a dissolved solid will, however, pass through a filter paper.

Separating salt from sand Rock salt can be purified by dissolving it in water and filtering off the insoluble sand and mud. The salt solution which passes through the fine pores of the filter paper can be evaporated to give purified white salt.

Distilling

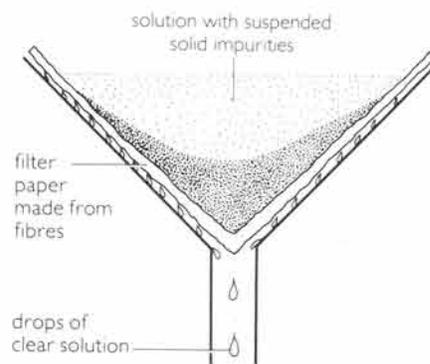
Distilling separates and recovers the solvent from a solution. Distilled water, needed for car batteries, is obtained by boiling water and condensing the vapour. All the dissolved impurities are left behind and the distillate is absolutely pure water. Sea water can be made fit for drinking by distillation.



Fractional distillation This separates mixtures of liquids. Whisky is distilled by boiling a fermented mixture of barley, water, yeast and some ethanol. The water and ethanol become gases. Much of the water condenses in the long necks of the boiling vessels and runs back. Some of the water and all of the ethanol vapour pass into the condensers to form a spirit much richer in ethanol.

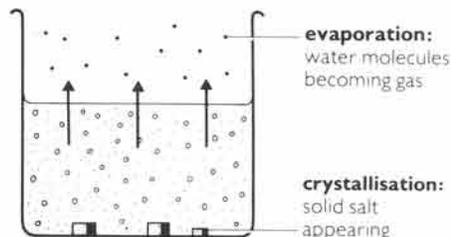


A gauze mask will filter dust from air.



Crystallising

If a little sodium chloride is stirred with water in a beaker, the salt will dissolve easily to produce a *dilute* solution. It tastes only slightly of salt. Left standing in a warm place for several days, the water gradually *evaporates* – it passes into the air as water vapour. The remaining salt solution becomes more and more *concentrated*. Eventually it becomes saturated and any further evaporation causes solid salt to be deposited on the bottom of the beaker. This is *crystallisation*. The slower the rate of evaporation, the larger are the crystals that form.

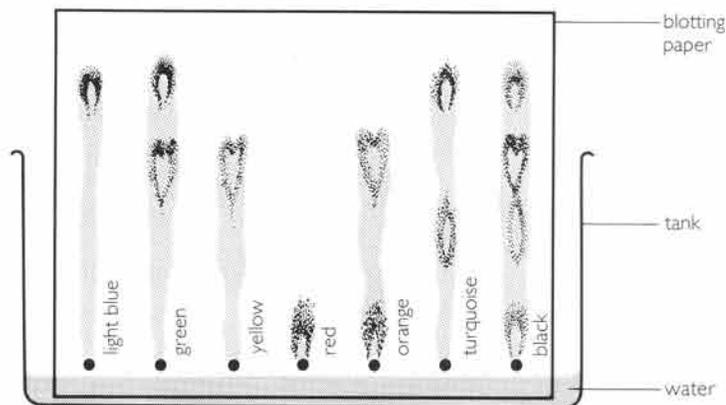
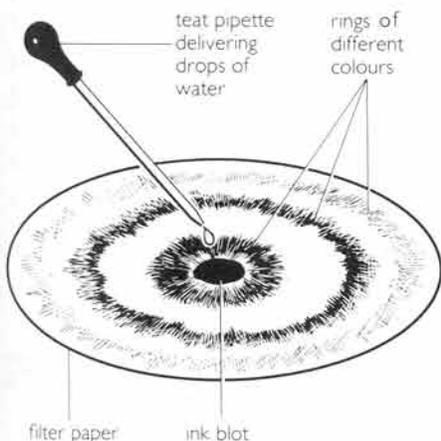


Chromatography

Mixtures of solids can be separated by carrying away the lighter particles with water, oil or air. Water is used to wash sand and dirt away from gold dust and from tin ore. A similar idea is used in *chromatography* to separate mixtures of dissolved substances. Dyes in a spot of black ink on a filter paper can be separated by dripping water slowly on to the blot. As the water spreads out it carries the dyes with it. The dyes are slowed down by the filter paper by different amounts and separate into bands of colour. The dyes in different coloured felt tip pens can be compared by marking a series of dots on blotting paper which is then dipped in a bowl of water. Water soaks up into the paper drawing the dyes up to different heights. The same dyes in different inks will rise to the same heights. Non-coloured substances can also be identified by this method which is used a great deal in medical work.



Panning for gold. If there is any, the gold stays whilst other less dense substances get washed away.



Questions

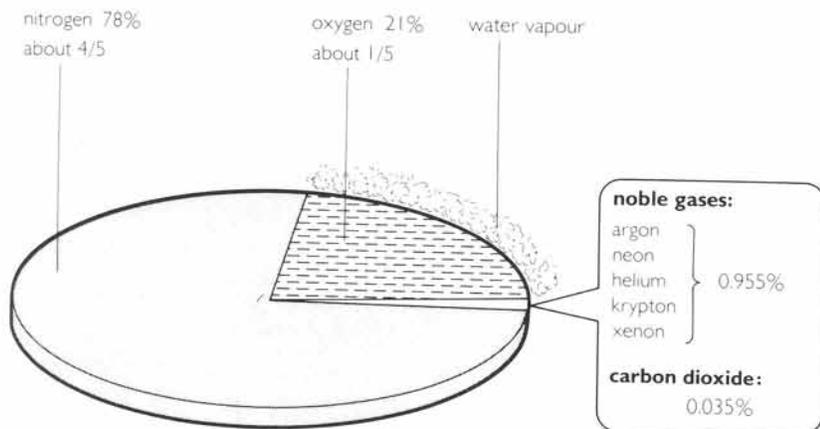
1. What is a filter? Give examples of two different kinds.
2. Explain how rock salt can be purified.
3. Explain how distilled water is made.
4. What is 'fractional distillation'? Give an example.
5. Explain the terms 'evaporation' and 'crystallisation'.
6. What is meant by 'chromatography'? How can you show that black ink contains a number of different dyes?
7. In what kind of work is chromatography used?

Air

We cannot see air but there is a lot of it about – 5000 million million tonnes in all. Apart from keeping us alive – a useful function – the gases in the atmosphere have many other uses.

Gases in the atmosphere

Air is a mixture of gases, mainly nitrogen and oxygen, with small amounts of many others. Water vapour is always present but no percentage is given because the amount varies so much.



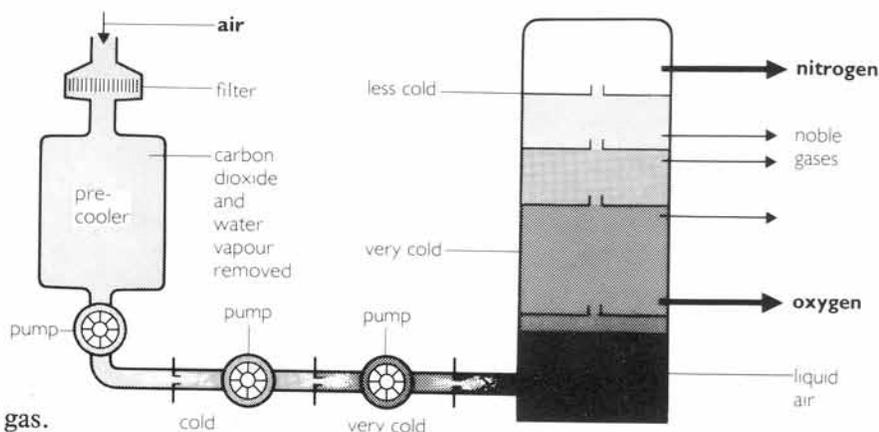
Air distillation.

Oxygen

Oxygen is the reactive part of the air. Oxygen enables living things to breathe – it is the gas that combines with materials when they burn. Pure oxygen can be separated from the other gases in air and used to assist breathing in hospitals, aircraft and submarines. Huge quantities are also used in the making, cutting and welding of steel.

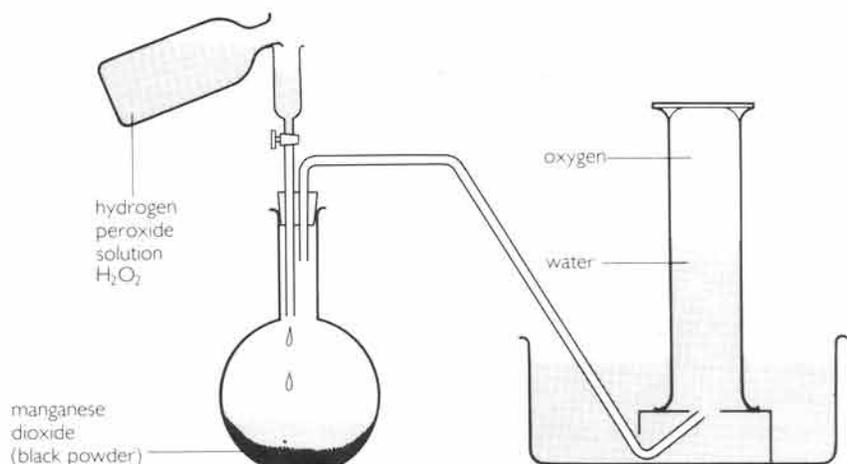
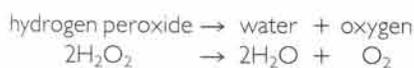
Separating oxygen from the air Air is pumped through a filter to remove dust and then carbon dioxide and water are removed. The air is compressed, and then allowed to expand through a narrow jet. This makes it very cold. This cooling process is repeated until the air gets so cold that it changes to liquid.

The extremely cold liquid air contains liquid oxygen, liquid nitrogen and the noble gases in liquid form. This mixture is allowed to warm up slowly and the nitrogen boils away first leaving the others. As the temperature rises the noble gases boil away one by one leaving the oxygen as liquid. The product finally piped away may be high quality gas or liquid or medium purity oxygen gas.



Making oxygen in the laboratory

Some compounds containing a lot of oxygen will release it when they are decomposed (broken down into simpler substances). A solution of hydrogen peroxide gives off oxygen easily and safely. Manganese (IV) oxide is used to make the hydrogen peroxide decompose more quickly. The manganese (IV) oxide is not used up: it acts as a *catalyst*. The reaction is:



Nitrogen and the noble gases

Originally the nitrogen produced by liquefying air was wasted because it does not react much. However, this unreactiveness can be a positive advantage. Nitrogen is pumped into oil storage tanks when they are empty, to prevent the possibility of fire.

Liquid nitrogen is very cold. It is used for quickfreezing and transporting food. It can also be used for “shrink fitting”. In this process, one very cold metal part is slipped inside another. As it warms up, it gets bigger and fits tightly in place.

Nitrogen can be combined with hydrogen to make the gas *ammonia*, which in turn is used to make nitric acid.

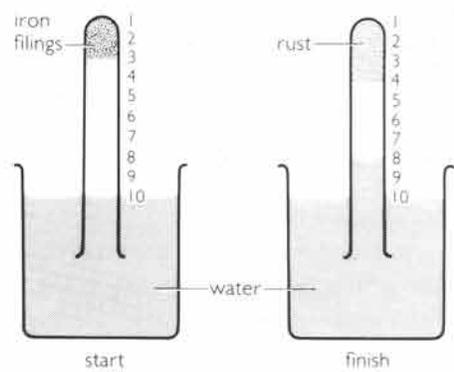
The noble gases These have no natural reactions at all. Precisely for this reason they find uses in electric light bulbs, in strip lights and in electric arc welding. Helium, being very light, is used for filling balloons.



Producing frozen peas.

Questions

- List the gases in dry air and give their percentages.
- What other gas is always present? Why is no percentage given for it?
- The diagram shows what happens when iron filings are left in a tube with damp air for some days. How far has the water risen in the tube? What proportion is this? What does it show?
- How is oxygen obtained from the air? Give three uses of pure oxygen.
- How is oxygen made in the laboratory?
- Give two uses of liquid nitrogen and two uses of the gas.
- Give the names of the noble gases and some of their uses.



Burning

When a match is lit, the flames give out heat and light energy and the match burns away. Only a thin piece of charcoal is left. Or is anything else formed that we cannot see?

Burning

Burning is the rapid combining of a substance with oxygen, making flames and heat. Air usually provides the oxygen. The main products of burning are *oxides* – the compounds formed when oxygen joins with the elements in the burning substance. These oxides are often invisible gases.

The diagram shows a burning candle in a basin floating on lime water. When covered by a large jar, the candle continues to burn for a short while and then goes out. The lime water rises up the jar – and also turns milky. This shows that only part of the air is used in burning (the one-fifth which is oxygen) – and that carbon dioxide is formed.

Increase in weight on burning This can be shown by weighing a bundle of magnesium ribbon in a crucible and then heating it. The lid must be raised from time to time to let air in. Gradually the magnesium changes to the grey ash, magnesium oxide. On reweighing, the magnesium oxide is found to weigh more than the magnesium.

Corrosion

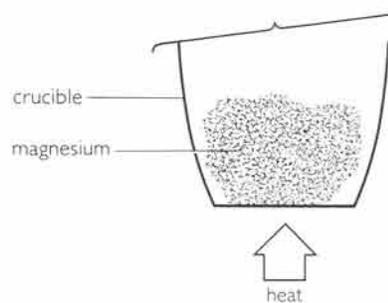
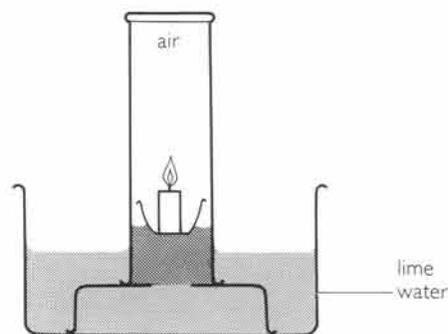
Many metals *corrode* in air: they react slowly with oxygen to form oxides and the surface becomes eaten away. The presence of water greatly assists corrosion. Iron becomes coated with rust in a few days if exposed to both air and water. Dry air or air-free water alone will not cause iron to rust.

Fuels

Fuels are substances which burn easily and release a lot of heat energy. Most fuels are compounds of carbon and hydrogen which give carbon dioxide and water as the main products of combustion. Natural gas is an excellent fuel.



Respiration of the body This is a kind of 'slow burning' or combustion which does not involve flames. The fuel is mainly glucose made from the sugars in food. In the body cells this reacts with oxygen dissolved in the blood to give carbon dioxide and water. Most of the energy released heats the body.



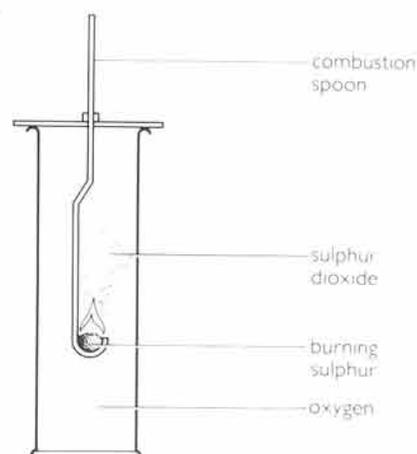
Using one fuel to make another one suitable for use.

Burning of elements in oxygen

Yellow sulphur powder held in a combustion spoon burns with a feeble blue flame when heated. Lowered into a jar of pure oxygen, it burns much more brightly and gives off a gas with a sharp, choking smell. This gas is sulphur dioxide and it will turn a piece of damp litmus paper red.

Many other elements also burn vigorously in oxygen to form *oxides*. Oxides may be put into three groups according to their effect on litmus paper. One group turns litmus red: these are always oxides of non-metals. Another group turns litmus blue: they are oxides of metals. The third group does not affect litmus at all. Water, the oxide of hydrogen, belongs to this group.

Page 39 explains in more detail how the 'litmus red' oxides when dissolved in water make *acids*. 'Litmus blue' oxides, called *bases*, are the 'chemical opposites' of acids.



| Element | How it burns | Oxide formed | Effect on litmus |
|-------------------|--------------|-----------------------------------|------------------|
| Non-metals | | | |
| SULPHUR | blue flame | sulphur dioxide – gas | RED |
| CARBON | glows red | carbon dioxide – gas | RED |
| PHOSPHORUS | yellow flame | phosphorus(V) oxide – white smoke | RED |
| HYDROGEN | blue flame | hydrogen oxide – water | PURPLE |
| Metals | | | |
| MAGNESIUM | bright flash | magnesium oxide – grey ash | BLUE |
| CALCIUM | red flash | calcium oxide – white solid | BLUE |
| SODIUM | yellow flash | sodium oxide – yellow solid | BLUE |
| IRON | glows red | iron oxide – black solid | PURPLE |

Testing for oxygen

Things which burn in air will burn much more fiercely in pure oxygen. A smouldering wood splint will burst into flames when put in the gas. This reaction is used as the test for oxygen.

Questions

1. What is meant by burning?
2. How can it be shown that a candle uses up oxygen when it burns and produces carbon dioxide?
3. Why does magnesium weigh more after burning than before?
4. Name two compounds formed when a fuel burns.
5. Write the equation for the burning of natural gas.
6. Give an example of combustion without flames. Name the fuel.
7. What happens when metals corrode?
8. Name two metal oxides and two non-metal oxides and state how they affect litmus.
9. What is the test for oxygen?



Using pure oxygen gas, this diver can produce a flame hot enough to cut metal underwater.

Carbon dioxide

There is only a very small proportion of carbon dioxide gas in the air – 3 parts in 10 000 – and yet all plant and animal life depends on it. Why is it so vital? Will there always be enough of it? How else is it used?

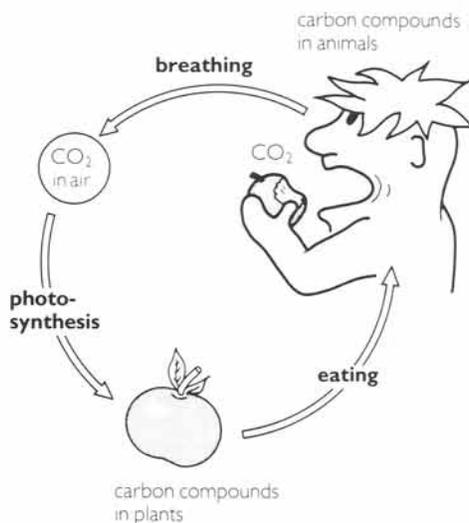
The vital gas

The many different compounds which make up living things are all based on chains of carbon atoms. These are all made from the carbon dioxide in the air. Plants make their food and body cells by absorbing carbon dioxide (through their leaves) and water (through their roots) and changing them into glucose. Oxygen is given off at the same time. Sunlight and the green substance chlorophyll are needed to help the process which is called *photosynthesis*.



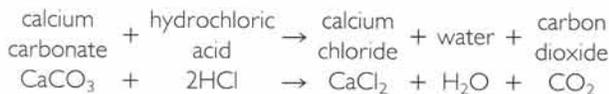
Some of the glucose is changed into more complex substances, often combined with nitrogen and other elements. Animals eat plants, using the carbon compounds to grow their own bodies.

All living things breathe, turning some of the compounds back into carbon dioxide. All fuels produce carbon dioxide when they burn. The amount of carbon dioxide in the air remains roughly the same because breathing and burning replace the carbon dioxide removed by photosynthesis.



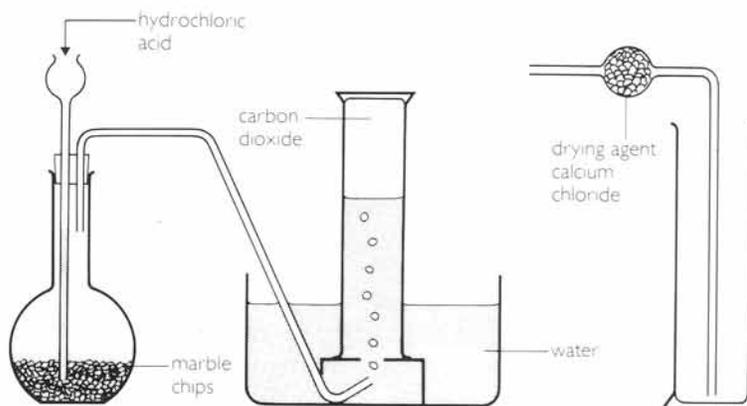
Making carbon dioxide

In the laboratory You can make carbon dioxide by adding moderately dilute hydrochloric acid to chips of marble (a form of calcium carbonate) using the apparatus shown.



To obtain dry gas it is passed through a tube containing lumps of calcium chloride. It then pushes the air out of a gas jar.

All carbonates will give off carbon dioxide when treated with acid. Most naturally occurring carbonate rocks will also give off the gas when strongly heated, as explained on page 48.



Industrially Large quantities of carbon dioxide are obtained during the manufacture of hydrogen from natural gas. Carbon dioxide is also made during the production of ethanol (alcohol) when sugar solution is fermented by yeast.

Properties and uses of carbon dioxide

Carbon dioxide has six main properties.

It has no colour or smell. This makes it difficult to detect.

It does not let things burn in it. It also changes to a liquid when pressurised. Cylinders of liquid carbon dioxide are used for inflating life rafts, for serving drinks and as fire extinguishers. Being a heavy gas, it forms a blanket over the flames. It is more effective and much less messy and damaging than the liquid produced by the soda-acid type of extinguisher.

Carbon dioxide can solidify when cooled. The solid is called *dry-ice* and is used for refrigeration. It is especially good during the transport of ice-cream and frozen foods because it keeps them very cold (-79°C) and changes directly back into gas leaving no mess.

It dissolves in water to give carbonic acid. This has a pleasant tingling taste and is used to make soda water and fizzy drinks. The same acid, present in rain water, slowly eats away rocks. It can be made to react with a solution of common salt and ammonia to give *bicarbonate of soda* (sodium hydrogencarbonate.) This white powder is used in baking, in health salts and in making washing soda.

Lime water turns milky when carbon dioxide is bubbled through it. This is used as the test for the gas.

Carbon dioxide changes into carbon monoxide when heated with carbon. This highly poisonous gas is present in the exhaust fumes of cars which do not have catalytic converters. Carbon monoxide burns in air; it is used as a fuel and in separating iron from the iron ore dug out of the ground.

Questions

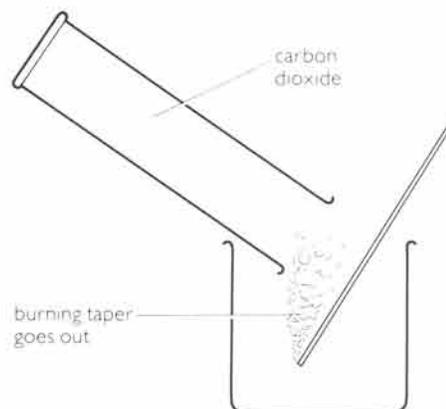
1. What is the proportion of carbon dioxide in the air?
2. How do plants make their food? What is the name of the process?
3. Why is the carbon dioxide in the air not used up?
4. What is marble and what does it give off when hydrochloric acid is added? Write the equation for the reaction.
5. Give two ways of making carbon dioxide industrially.
6. What two properties of carbon dioxide are shown in the diagram?
7. What is 'dry-ice'? Why is it good for keeping things cold?
8. What acid is in fizzy drinks? What is bicarbonate of soda made from?
9. Give the test for carbon dioxide.



Carbon dioxide gas may be stored under pressure in cylinders.



Carbon monoxide is still present in the exhaust fumes of some car engines.



22

Acids and bases

The sour taste of unripe fruit, stiffness in tired muscles and the stings of nettles and bees are all due to the presence of natural acids. These acids, and other more powerful ones, can be made artificially. The chemical opposites of acids are called bases.

Acids

Acids can exist as syrupy liquids or solids, but they are most useful as solutions in water. Many oxides of non-metals react with water to give acids, for example:

carbon dioxide + water → carbonic acid
 $\text{CO}_2 + \text{H}_2\text{O} \rightarrow \text{H}_2\text{CO}_3$

Acids can be recognised by their reactions with magnesium metal or washing soda (sodium carbonate). Both materials dissolve in acids with a vigorous fizzing.

Acids are corrosive, attacking many materials including flesh! Concentrated acids are very dangerous and should never be handled. Even dilute acids must be treated with care. Keep them well away from the eyes, mouth and any broken skin.

All acids contain hydrogen. Some, or all of this hydrogen is given up when an acid reacts. *Strong acids* release hydrogen very easily whilst *weak acids* release hydrogen with difficulty.

Bases

These are the chemical 'opposites' of acids. Mixed with acids they react strongly, and the acids lose hydrogen. Many oxides of metals are bases. Many bases are insoluble solids; the few which do dissolve in water are called *alkalis*.

Bases are also commonly found in the home and their alkaline solutions are just as corrosive as acids. You should take care not to get alkalis on your skin or clothes. Wash off any splashes with plenty of water.

Frequently-used bases include ammonia solutions in bath and sink cleaners; potassium hydroxide (caustic potash) in oven cleaners; calcium hydroxide (lime) for adding to acid soils; and sodium hydrogencarbonate (bicarbonate of soda) in cooking and medicines.

Some common bases. Sodium carbonate is sometimes used when washing clothes; magnesium hydroxide is used to relieve stomach upsets; sodium hydroxide is used to make soap and potassium hydroxide is used in oven cleaners.



Vinegar contains acetic acid.



Some more acids in use. Sulphuric, citric, tannic, and tartaric acids are present. Can you sort out which is present in which?



Neutralisation

Acids will react with bases to form water and compounds with the general name of *salts*. This reaction is called *neutralisation*.



Neutralisation is common in everyday life: tooth decay is caused by acids from food and sugar residue; toothpaste is slightly alkaline and counteracts the acid. When the hydrochloric acid in the stomach gets out of balance, sharp pains result. These may be relieved by doses of mild alkali such as bicarbonate of soda or milk of magnesia. Bicarbonate of soda eases acidic bee stings, whereas vinegar (acetic acid) will neutralise the alkaline sting of wasps.

Indicators

Many natural materials have different colours depending on whether they are in acidic or alkaline solutions. These dyes are called *indicators*. You can make one in the laboratory by warming red cabbage leaves with a mixture of water and industrial methylated spirits. Other indicators can be made from beetroots and coloured petals. The most common indicator, litmus, is extracted from lichen. Its colours are:

red – acid; purple – neutral; blue – alkaline.

pH paper This is a sensitive indicator. The paper contains a mixture of dyes which give a range of colours when the paper is dipped into different acids and alkalis. The paper turns red in a strong acid and blue in a strong alkali. Each colour is given a number on the scale 1 to 14. Thus concentrated hydrochloric acid has a $\text{pH} = 1$ and is strongly acidic, whilst acetic acid which has $\text{pH} = 4$ is weakly acidic. Water is neutral and has $\text{pH} = 7$. Sodium hydroxide is a strong alkali and a concentrated solution is about $\text{pH} = 14$. Sodium hydrogencarbonate is very weakly alkaline at $\text{pH} = 8$.

Questions

1. Name the acid formed when carbon dioxide reacts with water.
2. Name four acids found in foods or drinks.
3. Give two reactions by which acids may be recognised.
4. What element is present in all acids? What is the difference between strong acids and weak acids? How should all acids be treated?
5. What is a base? What is a soluble base called?
6. Give the names and uses of two alkalis found in the home.
7. What are formed when an acid is neutralised by a base?
8. Give two examples of neutralisation.
9. What is an indicator? Give the colours of litmus.
10. What kind of solution has a pH of 4 or 5?



This substance is useful for easing acidic bee stings. What substances shown on the left hand page would be useful for alkaline wasp stings?



Using universal indicator to test for acidity or alkalinity. The colour of the indicator is matched against a printed colour chart.

Salts

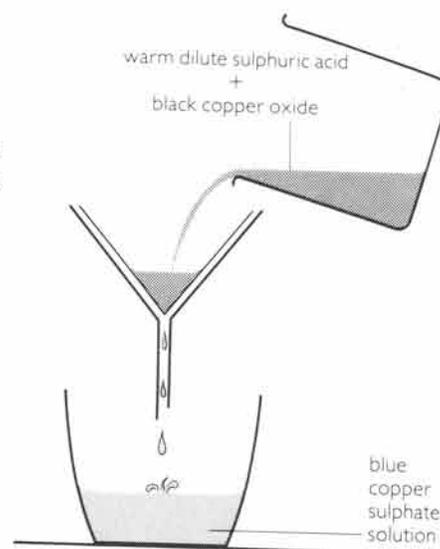
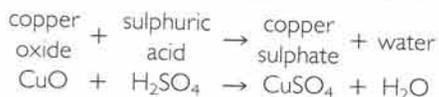
The salt that we use on our food is sodium chloride. We eat it because it makes food taste better and because our bodies need it. There are hundreds of similar compounds, all called salts. Many are necessary in our diet and others have important industrial uses.

Making salts

All acids contain hydrogen. A salt is formed when hydrogen in an acid is replaced by a metal. Some of the substances which will neutralise acids in this way are shown below.

| Acid | Neutraliser | Salt formed | Common name | Other products |
|--|---|--|---|---|
| sulphuric sulphuric hydrochloric | magnesium sodium hydroxide sodium bicarbonate | magnesium sulphate sodium sulphate sodium chloride | Epsom salts Glauber's salts common salt | hydrogen water water + carbon dioxide |
| nitric | ammonia | ammonium nitrate | nitram | — |

Making copper sulphate Copper sulphate can be made in the laboratory by warming dilute sulphuric acid and stirring in small amounts of black copper oxide. The copper oxide dissolves, neutralising the acid and changing it into blue copper sulphate solution. The blue colour darkens until all the acid is used up and no more copper oxide will dissolve. The mixture is then filtered and the clear blue solution is collected in an evaporating basin. Left to stand for several days, the water gradually evaporates off leaving blue crystals of copper sulphate in the dish.



Natural salts

Rain water dissolves a little carbon dioxide from the air and becomes a very dilute, weak acid. It gradually dissolves rock as soluble salts. Small amounts of these salts are essential to plant growth. Plants absorb them through their roots from the water that is trapped in the soil. Most of the salts are washed away in streams and rivers and collect in the sea. The large deposits of natural salts found in many parts of the world were formed when seas dried up millions of years ago.

Quite often natural salts are found as beautifully coloured and shaped crystals. The photograph shows a strange formation of calcium carbonate crystals. On the opposite page, gypsum crystals are shown, magnified 1000 times.



Properties of salts

Most salts consist of ions (see pages 16–17). Positive (+) ions are provided by the metals, and negative (–) ions come from the acids. For instance, sodium chloride consists of the ions Na^+ and Cl^- . Their ionic nature causes all salts to behave in similar ways.

They are solids with distinct crystal shapes.

Most of them dissolve in water.

When melted or dissolved in water, they conduct electricity.

Because of this they are called electrolytes.

Crystals

Crystals of a salt have a definite shape, which varies with the salt. For example, common salt crystals are simple cubes, and alum crystals are double pyramids. Salts often seem to be powders. If you look at them under a microscope, however, the crystals show up. The picture shows powdered gypsum magnified 1000 times.

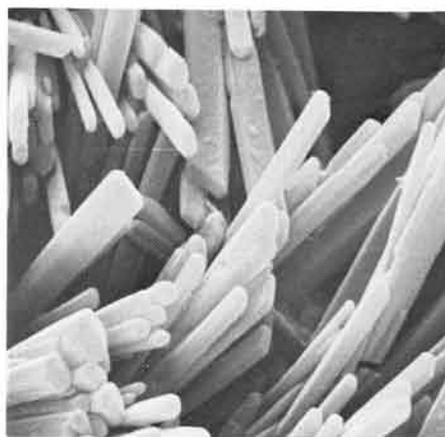
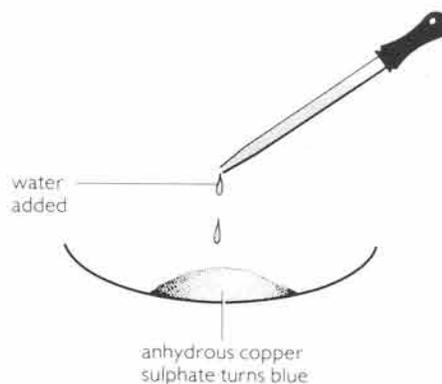
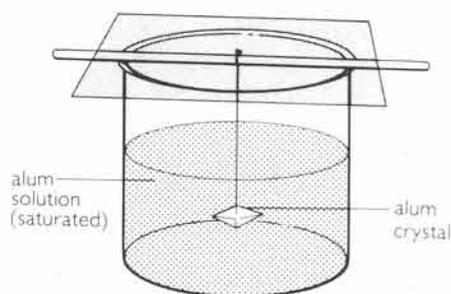
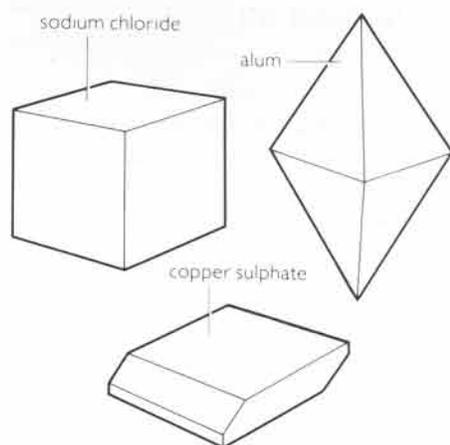
Growing crystals Crystals form when a saturated solution of a salt evaporates. The more slowly the water evaporates the larger will be the crystals formed. A crystal of alum can be made larger by hanging it on a thread in a beaker of saturated alum solution. The beaker must be loosely covered to slow down the evaporation and it should be kept at an even temperature. Crystals 2 to 3 cm long will form after several weeks.

Water of crystallisation Many salt crystals contain water: they are called *hydrated* crystals. They give off steam when heated and change to powder. Blue crystals of copper sulphate are hydrated. When heated, they give off their water and turn to a white powder. This is *anhydrous* (dehydrated) copper sulphate. If a few drops of water are added to anhydrous copper sulphate, it goes back to the blue form. This is used as a test for water.



Questions

1. Name three kinds of substances which replace hydrogen in acids.
2. Name the acids from which (a) Epsom salts and (b) washing soda come.
3. Give the chemical names for the two salts in Question 2.
4. Describe how copper sulphate can be made in the laboratory.
5. How are the salts essential to plant growth formed?
6. Why are salts classed as electrolytes?
7. How can large alum crystals be grown? What shape are they?
8. What is dehydrated crystal? What happens when it is heated?
9. Describe a test for water.



Limestone

Limestone is perhaps the commonest rock in the British Isles. In no way a precious stone, it is still an extremely valuable raw material. This section gives some of the reasons why this is so.

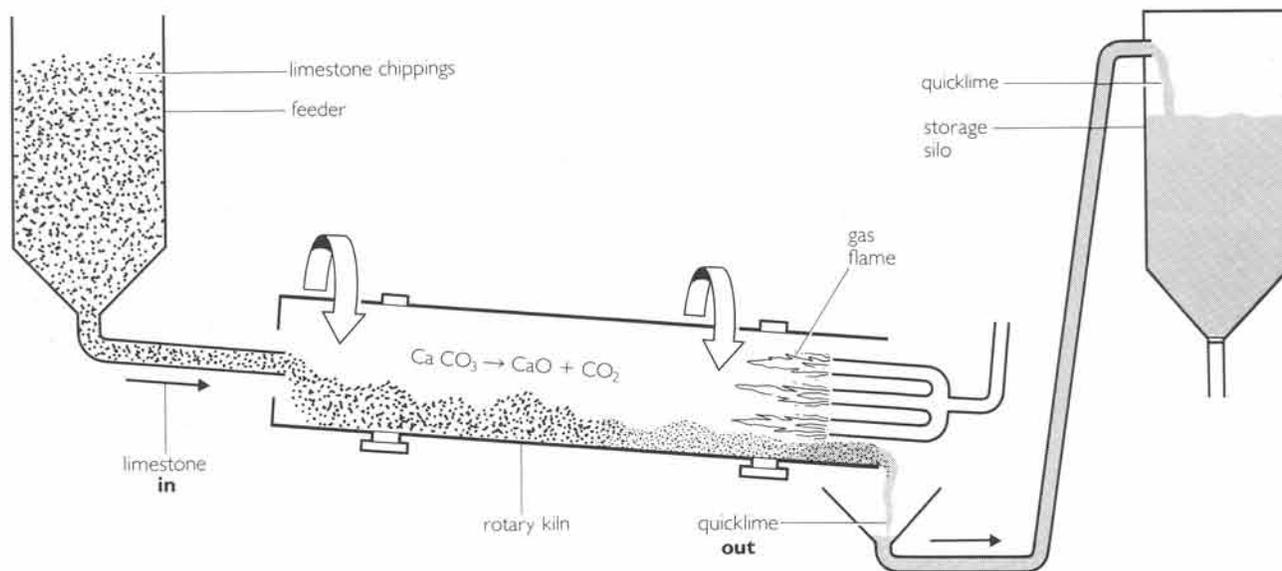
Calcium carbonate rock

The term limestone covers all types of calcium carbonate rock. These rocks formed millions of years ago from the shells and bones of creatures which lived in deep, warm seas. You can often see the imprints of shells in limestone rocks: these are called *fossils*. The shell beds were compressed, lifted and folded by later earth movements. They now appear in different forms: carboniferous and oolitic limestones, chalk, marble and calcite.

Quarrying Carboniferous limestone is quarried by removing the soil and blasting the exposed rock with explosives. The large rocks are crushed and graded. Smaller chippings are used for making concrete, iron and glass, and as roadstone and railway ballast. Larger pieces are made into quicklime by heating them strongly in a lime kiln:



A limestone quarry.



Calcium oxide – quicklime

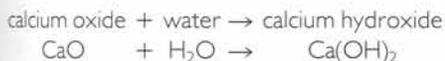
Heated to 1100 °C, calcium carbonate loses carbon dioxide and changes to the white solid calcium oxide (also called quicklime).



Large quantities of pure quicklime are needed for making steel and other metals. Sodium hydroxide and calcium carbide (from which ethyne (acetylene) gas is made) are also produced from quicklime.

Calcium hydroxide – slaked lime

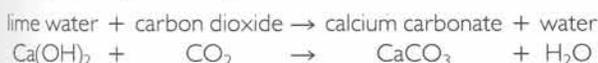
Calcium oxide reacts vigorously with water, giving off heat and crumbling to a powder called calcium hydroxide or slaked lime.



Slaked lime, like quicklime, is strongly alkaline. It is used by farmers to neutralise acid soils, to lighten clay soils and to kill pests. Lime is used to absorb acid gases in the chemical industry and for softening water. Combined with chlorine it forms bleaching powder which is used in the cotton industry.

Lime water

Calcium hydroxide only dissolves slightly in water giving the mild alkali, lime water. This solution absorbs carbon dioxide forming a milky precipitate of pure calcium carbonate.



This reaction is the test for carbon dioxide. The ‘precipitated chalk’ formed is used in paper-making, in toothpaste and in pills.

The building industry

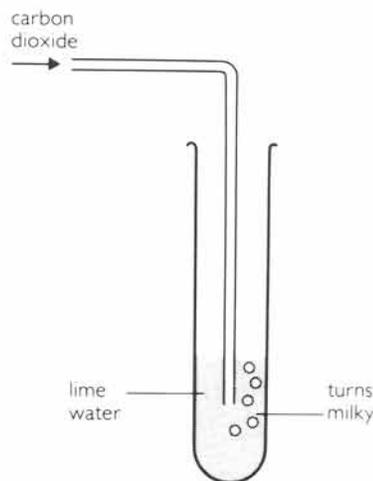
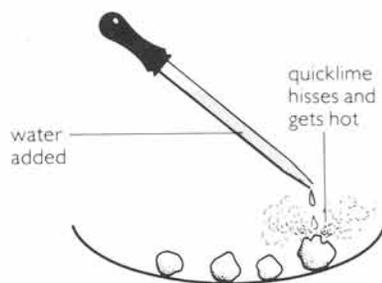
The building industry depends entirely upon limestone and limestone products. The stone, particularly the oolitic type, has been used for centuries for buildings of all kinds, from cottages to cathedrals. Roads are made from chippings coated with tar.

Cement This is a grey powder made by burning limestone, clay and sand in a rotary kiln and grinding the clinker formed with gypsum. Mixed with sand, limestone chippings and water, it sets hard to form concrete, the foremost building material of this century.

Mortar Brick and stone walls are held together by mortar – a varying mixture of slaked lime, sand, water and cement. Lime mortar sets hard by absorbing carbon dioxide from the air.

Questions

1. What is the chemical name for limestone? How is it formed?
2. Name three kinds of limestone. What are fossils?
3. Describe how small chippings of limestone are produced.
4. What is quicklime and how is it made? Write the equation.
5. What happens when water is added to quicklime? What is formed? Write the equation for this too.
6. Give three uses each of quicklime and slaked lime.
7. Why does carbon dioxide turn lime water milky?
8. How is cement made? What is mortar?



The Guggenheim Museum in New York was designed by the famous architect Frank Lloyd Wright. The whole structure is of concrete and steel.

Business Communication: Telephoning

Telephone Etiquette

How good are your telephone manners?

Every time you make or receive a call at work you are representing yourself and the company, so the impression you create is extremely important. A good knowledge of proper telephone etiquette will help you make the right impression and maintain successful business relationships. In fact, your phone technique can make or a break deal for the company. Here are some guidelines to help you use the phone as a power tool.

After you read each of the guidelines, check your telephone etiquette by ticking on the appropriate answers

- Always answer the phone promptly. Then be sure to identify yourself and the company and department. Make sure you get the caller's name right from the start of the conversation and use it as much as possible.
- 1 You are very busy. The telephone keeps ringing and interrupting your work. You:
- a let the phone ring; if it's important the person will phone back
 - b answer the call with an abrupt "Yes? Who is it?"
 - c respond immediately, letting the caller know who and where they have come through to.
- If you need to leave the line to obtain information, it is courteous to give the caller the option of waiting or being called back. You might ask "Would you prefer to hold?" or "Shall I call you back?" If the caller decides to wait, give progress reports every 30 seconds or so. This lets the caller know that he/she has not been disconnected or forgotten.
- 2 You don't have all the information you need to respond to a client's enquiry. You:
- a ask the client to phone back; it's not polite to ask someone to wait.
 - b offer the client the chance of holding the line or being called back.
 - c tell the client to hold on for about 30 seconds while you get the necessary information.
- Do not make commitments for other people if you have to handle a call for another colleague. You should say "I'll give her your message as soon as she gets back to the office" rather than "She'll call you as soon as she returns"

- 3 You answer a call to your business colleague who is at a business meeting. You:
- explain where your colleague is and that you don't know when she will be back.
 - promise to get your colleague to return the call.
 - assure the person that you will let your colleague know about the call.
- When you are the person making the call, be sure to use proper phone etiquette from the start. A greeting such as "Good afternoon, this is Belinda Bright of Dreamakers, I'm returning a call from Richard Jones, is he available?" is a bit of etiquette well spent in the long run. It would also be wise to learn and use the names of your business contacts' assistants, their secretaries or receptionists, and make them feel noticed and important.
- 4 When you make a call, you should:
- introduce yourself before asking to speak to someone.
 - deal directly with your client's assistant, this will make her feel important.
 - always call people by their first names; they will remember how friendly you are.
- When you get through to the person you want to speak to, remind them of any previous communication between you. This helps to jog a busy person's memory and gives your call an immediate context. If your call is not expected, ask them if they have the time for you. Calling unannounced is much like "dropping in" and you shouldn't overstay unless invited. If the other person does not have time, briefly state the purpose of your call and ask for an appointment to follow up at a later time.
- 5 When you get through, you should:
- check that the person has time to speak to you.
 - make an appointment to speak to the person another time.
 - invite the person to call you back.
- Employ active listening noises such as "yes" or "I see". This lets the other person know that you care about what they have to say. Remember to smile while you're speaking. Believe it or not, people can "hear a smile" over the phone!
- 6 While you are talking you should:
- Make a lot of noise so that the person can hear you.
 - Smile so that your voice has a friendly quality.
 - Make the person laugh; everyone appreciates hearing a joke.
- Keep a pencil and pad near the phone and jot notes during phone conversations. Recap at the end of the call, using your notes and repeat any resolutions or commitments on either side to be sure that you both have the same information.
- 7 While you listen, you should:
- make notes about what you have to do in the office so that you don't waste time.
 - take notes of the conversation so that you can point out any mistakes your client makes.

c write down the details to help you go over what you and your client have agreed.

- End the call on a positive note by thanking the other person for their time and express an interest in speaking with them again. If not, just let them know you appreciated them speaking with you and end the call. A gracious good bye leaves the door open for further communication and in this day of mergers and acquisitions you never know who you will be doing business with in the future. Remember, in this global marketplace, some of the most powerful business relationships that a company has built up have been between people who have never seen each other.

8 Finishing a conversation on a positive note is important because:

- a you never know if you might want to apply for a job with another company.
- b it leaves the door open for future business relations.
- c powerful business relationships can only be forged on the telephone.

Quiz Check

How did you get on?

8 correct answers:

Your telephone manners are perfect. Well done!

5/6/7 correct answers:

Pretty good. Read the guidelines again before making any phone calls!

Below 5:

Your telephone manners need to be improved. They could lose a company vital business.

Making arrangements on the telephone

Study the Useful language below. Then do the exercises that follow it.

Making arrangements

Could we meet on Monday at 10.30?

Are you free sometime next week?

How about next Friday?

What about April 10th?

Would Wednesday at 2pm suit you?

Is 11.15 convenient?

Changing arrangements

I'm afraid I can't come on Friday/then.

We've got an appointment for 11.00, but I'm afraid something's come up.

Could we fix another time?

Responding

That'll be fine.

That's OK.

No sorry, I can't make it then.

My diary's rather full that day /week.

Sorry, I've already got an appointment at that time.

Role play these two telephone situations.

- 1 One of you is a company employee who has arranged to meet a colleague (your partner) from one of your subsidiaries. Explain that you cannot keep the appointment, and give a reason. Suggest an alternative time.
- 2 You are on a business trip and you want to stay an extra day. Telephone the airline office to arrange a different flight.

Getting through 1

Underline the best response

Switchboard: Good morning, Cape Installations, Glenda speaking. *How can I help you? / What do you want? / Who is that?*

Francesca Baggio: Hello, *I'm / this is / here is* Francesca Baggio speaking. *I'll speak / I'd speak / I'd like to speak* to Sharon Bennett please.

Glenda: I'm sorry, could I *have / hear / listen* your name again please?

Francesca Baggio: Yes, *it's / I'm / she's* Francesca Baggio, *I call / I am calling / I called* from Sidel, Italy. Could you *put me through / connect me through / pass me through* to Sharon Bennett, Mr Green's secretary, please?

Glenda: Oh, you need extension 524. *Hold / Stay / Wait* the line please and *I'll connect you / I'd connect you / I connect you*I'm afraid the line's *blocked / occupied / engaged*, Ms Baggio. Shall I ask her to call you back*?

Francesca Baggio: No, don't worry, I'll try again later, thank you, goodbye.

Glenda: Goodbye.

* to *call back* : to telephone again later

Note the difference in the two expressions:

Shall I ask her to call you back?

Will you call back?

Getting through 2

Here's an unsuccessful attempt at getting through to a client. Underline the best words to complete the text.

1. Your boss asks you to **telephone / call to / ring** in a new client.
2. You pick up the **cornet / receiver / transmitter**.
3. You listen for the **dialling / engaged / busy** tone.
4. You **make / push / dial** the number and the switchboard answers.
5. You ask the switchboard to **connect / link / join** you to your client's extension.
6. The switchboard asks you to **hang / hold / attend**.
7. The line goes **off / dead / silent**.
8. You ring again. The switchboard explains that you were **switched off / turned off / cut off**.
9. You can't hear the switchboard very well. It's a very **noisy / bad / weak** line.
10. You shout to the switchboard that you can't hear very well; she thinks you are shouting *at her* **and hangs up / throws up / holds up**.

Test your telephone skills 1

Read the extracts from different telephone conversations. Which set expression would you use to complete each one? Tick the best alternative.

Situation 1

Caller: Well, what we'd really like to know is whether you would be prepared to give us a 15% discount on our order. We are regular clients of yours as you know and this year's prices are well up on last year's. What do you say?

- You:
- a I'm sorry, I didn't catch your name.
 - b I'm sorry, I'll have to go. I've got someone on the other line.
 - c I'll have to get back to you on that.

Situation 2

You: Is that you Karen? Could you check last month's sales figures for me? I need to.....oh just a minute.

- a I'm sorry I'll have to go, I've got someone on the other line.
- b I'm afraid he's off sick at the moment.
- c I'm rather tied up at the moment. Could you call back?

Karen: Don't worry, ring me back when you've finished taking your call.

Situation 3

Caller: Good morning, this is Anna Sluszkiewicz of Polskie Elektro Energetyczne here, I'd like to speak to Mr Fisher please.

- You:
- a I'm afraid he's off sick at the moment.
 - b I'll have to get back to you on that.
 - c I'm sorry I didn't catch your name. Could you spell it please?

Caller: Yes, it's Anna Sluszkiewicz, that's S - L - U - S - Z - K - I - E - W - I - C - Z.

Situation 4

RF: Customer Services, good morning. Rosie French speaking.

- You: Rosie? This is Alessandro Miani.
- a Is this a convenient time to call?
 - b I'm sorry, I didn't catch your name.
 - c I'm rather tied up at the moment. Could you call back?

RF: Oh Alessandro, hello! Perfect timing! I've just finished sorting out your order. I was going to ring you, as a matter of fact.

Situation 5

RM: Good afternoon. This is Ralph Mooney speaking. I'd like to speak to Peter Sellars please.

PS: Oh hello Ralph. How are.....oh hang on just a moment.....Ralph? Are you still there?

RM: Is this a convenient time to call?

- PS:
- a I'm rather tied up at the moment. Could you call back?
 - b I'll have to get back to you on that.
 - c One of our clients has just arrived in the office.

RM: Of course! No problem I'll ring you back this afternoon.

PS: Thanks. I'll speak to you later then. Bye.

Situation 6

ET: This is Emily Tennant of Greiger & Co. I'd like to speak to your Sales Manager please.

Switchboard: Oh, that would be Mr Granger, but

- a I'm sorry, I'll have to go. I've got someone on the other line.
- b I'll have to get back to you on that.
- c I'm afraid he's off sick at the moment.

ET: Oh dear, nothing serious I hope?

Switchboard: No, he should be back next week.

Telephone Language

It is useful to learn set expressions to help you handle telephone calls efficiently.

Look at the set expressions in A. Match them to the sentences in B.

| A | B |
|--|--|
| 1. Is this a convenient time to call? | a) I'm not sure, I'll phone you back when I can give you an answer. |
| 2. I'll have to get back to you on that. | b) You can't speak to him: he's away ill. |
| 3. I'm sorry, I'll have to go. I've got someone on the other line. | c) Am I disturbing you? |
| 4. I'm afraid he's off sick at the moment. | d) I didn't hear your name clearly. |
| 5. I'm sorry, I didn't catch your name. | e) I'll have to stop speaking to you now; I have to answer another call. |
| 6. I'm rather tied up at the moment. Could you call back? | f) I can't speak now; I'm too busy. Would you mind phoning me again at another time? |

Complaining and Apologising

Check your comprehension. Tick the correct answers.

Transcript

RF: Robert Frost speaking

CP: Good morning Mr Frost. This is Carlo Ponte in Treviso.

RF: Oh good morning Mr Ponte. What can I do for you?

CP: I'm calling about the machines we ordered from you last month. We're not at all happy with them.

RF: Oh? What exactly is the problem?

CP: Well, according to your technician, the machines should be turning out 200 plates an hour, but we're not getting anywhere near that figure. We're lucky if we get half that number. Production has slowed right down and we're having problems in getting our orders out on time. .

1. The problem is that:
 - a the machines have broken down.
 - b the rate of production is down.
 - c the number of orders are down.

RF: I see .I'm sorry Mr Ponte. I can understand your difficulty. I'll talk to one of our technicians and get back to you this afternoon.

CP:I'm afraid that's not good enough Mr Frost. I want one of your technicians out here by Friday morning. I want those machines working to full capacity on Monday morning!

RF: I think that might be difficult because all our technicians are working off site at the moment, but I'll see what I can do. Perhaps I could arrange for someone to fly over at the beginning of next week? Would that be acceptable?

- 2 Mr Ponte wants a technician:
 - a by this afternoon
 - b by Friday morning
 - c by the middle of next week
- 3 Mr Frost's technicians are not available because:
 - a they are all busy.
 - b they are all on strike.
 - c they are all off sick.

CP: Well, I suppose that will have to do. But if we don't have the machines working to full capacity by the middle of next week I'm afraid I will have to cancel our contract.

RF: I'm sure that won't be necessary Mr Ponte. I'll deal with the problem immediately and I'll get back to you as soon as we have organized the flight.

CP: Thank you, I expect to hear from you this afternoon then.

RF:I'll do my best. Again I do apologise Mr Ponte.

CP: Thank you Mr Frost, goodbye.

RF: Goodbye Mr Ponte.

- 4 Mr Ponte threatens to:
 - a send the machines back.
 - b break off business relations.
 - c sign a new contract.
- 5 Mr Frost resolves the situation:
 - a by agreeing immediately to Ponte's demands
 - b by talking to the firm's technicians

c by promising action in the near future

Test your telephone skills

Complete the telephone conversation by underlining the best response.

A T: Angela Trevisan speaking.

ZK: Good morning Ms Trevisan. This is Zoe Knight of Fashion Focus.

AT: Ah yes Ms Knight. What can I do for you?

ZK: I'm calling you about the rolls of material we ordered last month.

AT: (1) *What's wrong? / What exactly is the problem? / Tell me.*

Haven't you received them yet?

ZK: Oh yes, they were delivered on time, but unfortunately ten of the rolls are very badly damaged. Could you contact your shipping agent and find out why they were delivered in such bad condition?

AT: (2) *I'm sorry, but we've had a lot of trouble with our shippers recently / I'm sorry, I find that hard to believe / I'm sorry, I'll contact him straight away.*

I'll get back to you after I've spoken to him.

ZK: Thank you Ms Trevisan. The problem is that we are trying to get our spring collection out on time and we will have to halt production unless you can replace the rolls immediately.

A T: (3) *I can understand your difficulty / How unfortunate for you / That's terrible.*

ZK: Do you think you could send us some replacements by the end of the week?

A T: (4) *Of course / That's a good idea / I'll see what I can do.* We might be able to send you five by the end of this week and a further five in ten days. (5) *Would that be acceptable? / Take it or leave it / What do you say?*

ZK: Yes, that would be fine. Thank you Ms Trevisan.

A T: (6) *Please accept my sincerest apologies / Again, I do apologise / I do beg your pardon.* I'll do my best to confirm everything this afternoon.

ZK: Thank you. Goodbye.

GRAMMAR REVIEW

Introduction

Tense in English

Tense is the way grammar expresses time through different verb forms. At least, that is what we normally think. Tense in English, however, is sometimes not directly related to time in the real world. The Present Simple can be used to talk about other times:

The future:

We leave at six tomorrow morning. (a plan)

The present:

I take two eggs, beat them, then mix in the flour. (a demonstration)

The past:

So - just as we agreed - I ring her. I do my best to be nice to her. And what thanks do I get for it? Nothing! Just told never to ring again! (a person telling a story)

All time:

I love my wife. (a statement which we hope will always be true!)

The difference between two tense forms, for example, the Past Simple and Present Perfect. You can look at the same event using both forms. For example:

I became a teacher 15 years ago.

I've been a teacher for 15 years and I'm still enjoying my job!

The Past Simple form looks at the event as a simple fact in the past whereas the Present Perfect form looks back on the event from a point of view in the present. You can see the link. That is why it is called the *Present Perfect*.

The following is a list of the tenses you should know.

The Present Simple

The Present Continuous

The Simple Past (regular verbs)

The Simple Past (irregular verbs)

The Past Continuous

Past Simple / Continuous

The Present Perfect 1

Present Perfect / Past Simple

The Present Perfect Continuous /The Past Perfect / The Past Perfect Continuous

Will / going to

Present used for future

The Future Continuous

Used to

Have / have got
The Imperative

1 Comparisons

1 Many adjectives use *more* and the most for the comparative and superlative form

e.g. *more intelligent > the most intelligent*
more useful > the most useful

The exceptions to this are all adjectives of one syllable (see table below), and adjectives that end in -y or -ow.

e.g. *easy > easier > the easiest*
happy > happier > the happiest
narrow > narrower > the narrowest
yellow > yellower > the yellowest

| | | |
|---|--|---|
| Most 1-syllable adjectives <i>small, great</i> | Comparative +er <i>smaller, greater</i> | Superlative + est <i>the smallest, the greatest</i> |
| 1 vowel + 1 consonant <i>big, wet</i> | double final consonant + er <i>bigger, wetter</i> | double final consonant + est <i>the biggest, wettest</i> |

Note also the following irregular adjectives:

| Adjective | Comparative | Superlative |
|---------------|--------------------------|--------------------------------|
| <i>good</i> | <i>better</i> | <i>the best</i> |
| <i>bad</i> | <i>worse</i> | <i>the worst</i> |
| <i>little</i> | <i>less</i> | <i>the least</i> |
| <i>much</i> | <i>more</i> | <i>the most</i> |
| <i>far</i> | <i>further / farther</i> | <i>the furthest / farthest</i> |

2 To compare two people, things, or events use a comparative adjective + *than*.

Microsoft is bigger *than* Amazon.

A Ferrari is *more expensive than* a Fiat.

3 To make an equal comparison (to say that things are the same), you can use *as ... as*.

Canada's GDP per head is *as big as* Italy's. Sweden's inflation rate is *not as low as* Japan's.

4 To compare adverbs (you usually make adverbs by adding *ly* to the verb, e.g. *slow > slowly*) use *more* and *less*.

I work *more efficiently* if I remember to take short breaks.

5 Comparisons can be made stronger or weaker by using modifiers such as: *a lot, a little, considerably, much, slightly.*

This *one* is *much / slightly / a lot bigger than that one.*

A Form the comparative and superlative of the following adjectives.

| | | | | | |
|------|-------|----------|------|-----|-----|
| Fast | late | cheap | good | fat | bad |
| far | happy | feasible | | | |

B Read this report comparing the use of online investment facilities in Canada and the US. Underline the correct form in italics.

Nearly half (48%) of Canadian Internet users who have been online for less *than/that* a year have already banked online, while just 13% of American Internet newcomers have done so. Active Internet users in Canada and the United States who have not yet banked online agreed they favour *more / most* traditional methods of banking and have concerns about privacy or security.

15% of active Canadian Internet users have invested online compared to 10% of American users. In both Canada and the United States, the *bigger / biggest* users of online banking are aged 18 to 34. Internet users aged 55 and older are *less/the* least likely to do their finances over the web.

Clearly the use of online banking and investing will only increase in the future as the *younger / youngest* generation, who are the *more / most* comfortable using the web for these purposes, ages and moves into *more / most* complex financial dealings.

While Canadians are *more / most* likely to take their finances online, active Internet users in the United States are far more *likely / likelier* to shop online *than / as* Canadian Internet users, and subscribe to three times *as/so* many online newsletters *than / as* their Canadian counterparts. For example, *more / most* American Internet users (77%) have bought a product or service online *than / as* Canadian Internet users (68%). In the last year, American online shoppers have made more than twice as many online buys *as / that* Canadians, 14 purchases compared to 6.5.

Exercise 1

Underline the correct words.

- 1 The new line should be *so profitable as / as profitable as* the old one.
- 2 This handset is *the most profitable / the more profitable* we've ever made.
- 3 This version of the programme is the most *recent / recenter*.
- 4 The guarantee is a year longer *than / that* with our older models.
- 5 Nothing is *worse / worst* than missing a flight because of traffic.
- 6 This printer is one of the *best / better* on the market.
- 7 The meeting wasn't *long as / as long as* I thought.
- 8 Today the share price is *more bad / worse* than it was yesterday.
- 9 I'm sorry, the journey took *longer than / the longest* we expected.
- 10 We'll be there soon. It's not much *farer / further*.

Exercise 2

Complete the sentences with a comparative or superlative form of the adjective in brackets. Include

any other necessary words like *the, more, less, as* or *than*.

- 1 Coca-Cola is(big) soft drinks manufacturer in the world.
- 2 This keyboard is quite difficult to use. It's(small) the one I'm used to.
- 3 The conference was a little disappointing. It was(interesting) I expected.
- 4 Yesterday was one of (hot) days of the year.
- 5 I think this suggestion is(good) the other one.
- 6 It's impossible to choose between these two products. One is(good) the other.
- 7 The first round of negotiations was easy. The next will be(difficult).
- 8 We're only a small company. We're not(large) the market leader in our sector.
- 9 This year our sales figure are(bad) last year.
- 10 This is(bad) case of corruption we've seen for years.

Exercise 3

Put one suitable word in each space.

- 1 We are biggerGNC but Satco are biggest in the market.
- 2 I can see you either day. One day isgoodthe other.
- 3 Nobody knows more about electronicsTina
- 4 Of course I'll speak to him. It's the I can do after all your help.
- 5 Sorry, 5% discount is my best offer. It's the I can do.
- 6 He is one of the difficult customers I have ever dealt with.
- 7 Everyone else had worked a lot longer on the projectI
- 8 I don't think that this market isriskyit was.
- 9 The restaurants are the same. This one isas expensivethat one.
- 10 This restaurant is better for us. It's as expensive.....that one.

2 Conditionals

1 First conditional

if + present simple + will

We use this form to say what we believe the result will be of a future action.

If you don't finish the report by lunchtime, the boss won't be pleased.

It is often used in negotiations to state conditions.

If you order more than ten, we'll give you a discount.

It is also used for threats and warnings.

You'll get an electric shock if you touch that.

You can use *unless* to mean 'if not' in the condition clause.

You'll miss the flight unless you leave immediately.

2 Second conditional *if* + past simple + *would*

We use this form to talk about future situations that we don't think are likely to happen or are imaginary.

If I behaved like that, the boss would sack me. (But I never have behaved in this way in the past and it's very unlikely I will start now.)

*If I were the CEO of the company, I would completely restructure it.
(But I am not, and never will be.)*

Compare this with a real possibility, which would be

expressed in the first conditional.

If I don't get promoted, I will probably leave the company.

We use the second conditional in negotiations to make tentative offers, or when we want to show we are not sure about the situation or are less willing to make a concession.

Would you accept my offer if I agreed to lower the price by 1%?

(I am not sure this will be acceptable to you; 1% may not be enough.)

The second conditional is also used to make a request sound more polite.

Would you mind if we postponed the meeting till tomorrow?

NB In conditional sentences we can change the order of the 'if' clause and the main clause.

I'll help you if you want. / If you want, I'll help you. I wouldn't work here if the salary wasn't so good. / If the salary ... , I wouldn't work here.

A Match the beginnings with appropriate endings.

1 If I bought that many

2 If I go to my English lesson today

3 If I had time

4 If I have time

5 If I passed the exam

6 So if I buy in bulk

a I will finish the report today.

b I will get a discount.

c I will learn more words.

d I would be very happy.

e I would spend too much.

f I would study more.

B Underline the correct form

1 If you press / will press too hard, it will / *would* break.

2 I will / would tell her if I see / *will* see her.

3 If I am / *were* CEO I will / would float the company.

4 I *worked* / would work in London if I *had* / would have the chance.

5 I will / would buy a new house if I *win* / won the lottery.

C. Put the verbs in brackets into appropriate tenses and then complete the sentences.

1 If my boss (*ask*) me to do some overtime today, I.....

2 I probably (*get*) promoted if.....

3 If my company (*as*) me to study English for a month in London, I.....

- 4 If (be) more relaxed at work if.....
 5 If I (can) live anywhere in the world I.....

Exercise 1

Underline the correct words.

- 1 If *we're/we would be* late, *they'll start/they'd start* without us.
- 2 If we *will take/take* a taxi, *we'll arrive/we arrive* sooner.
- 3 If we *worked/would work* for ADC, *we'll get/we'd get* a better salary.
- 4 When inflation *will go/goes* up, there *would be/is* usually pressure on salaries.
- 5 If we *don't hurry/won't hurry*, we *would be/we'll be* late.
- 6 If you *change/are changing* your mind, *give me/you will give* me a ring.
- 7 Unless you *click/would click* on that icon, *it didn't/it won't* print out.
- 8 If you *ordered/order* on the Net, we always *will send/send* an email confirmation.
- 9 If I *lend /will lend* you this book, when *do you return/will you return* it?
- 10 If you *heard / hear* anything in the next few days, *let me / letting* me know.

Exercise 2

Read these sentences and decide if the events are likely or imaginary. Complete the sentences by putting the verbs in brackets into the present simple + *will* or the past simple + *would*. Use contracted forms where possible.

- 1 It's not far. If you _____ (follow) this road, you _____ (come) to the station.
- 2 If I _____ (be) on the Board of this company, I _____ (argue) against the merger.
- 3 If you _____ (have) any questions, I _____ (deal) with them at the end of my presentation.
- 4 If the council _____ (ban) all cars from the city centre, there _____ (not be) so much pollution.
- 5 A: I have no idea what the other side are going to propose in the negotiation tomorrow.
 B: Neither do I. If I _____ (know), I _____ (tell) you.
- 6 A: My train leaves in forty minutes.
 B: It only takes ten minutes to the station by taxi. If you _____ (leave) now, you _____ (catch) it.
- 7 A: Is that the time? I really should be going.
 B: If you _____ (wait) a moment, I _____ (give) you a lift.
- 8 A: Would you like to go to English evening classes with me?
 B: I'm sorry, but I can't. I'm really busy. If I _____ (have) more time, I _____ (love) to.

Exercise 3

Complete the sentences with the correct pair of possible forms, a) or b).

- 1 If the bank lends us the money, _____ it in new machinery.

- a) *we'll invest/we're going to invest* b) *we'd invest / we were investing*
 2 When _____ a lot of orders, we always employ extra staff in the factory.
 a) *we'll get / we got* b) *we get/we've got*
 3 If _____ this project again, I think I'd do it differently.
 a) *I was starting/I started* b) *I'll start / I've started*
 4 If the computer crashes, _____ someone from the IT department.
 a) *you'd call / you are calling* b) *call / you'll have to call*

Exercise 4

Underline the correct words. This exercise includes imaginary futures.

- 1 If you *phoned/had phoned* me yesterday, I *had told/would have told* you.
 2 If you *took/would have taken* more exercise, you *might feel/had felt* better.
 3 If Tim *would have listened/had listened* more carefully, he *wouldn't have made/didn't make* that mistake.
 4 If *we'd found/we found* suitable premises, *we'd have moved/we had moved* earlier.
 5 If people *kept/had kept* their offices more tidy, it *might present/presented* a better image to our visitors.
 6 If *I'd known/I would know* about their financial problems, I *wouldn't do/wouldn't have done* business with them.
 7 If our side *had been/was* better prepared, we *succeeded/could have succeeded* in the negotiations.
 8 I *wouldn't/won't worry* if I *am/were* you.

Exercise 5

Complete the sentences with the words from the list below. Each word is used twice.

when as long as in case unless

- 1 I'll speak to you again _____ I've looked at the contract in detail.
 2 Leave your return flight open _____ the negotiations take an extra day.
 3 We can start the project next week _____ everyone agrees.
 4 We can start the project next week _____ anyone disagrees.
 5 The Board will be happy _____ our share price remains high.
 6 Keep your receipt _____ you need to return the goods.
 7 The new stock will arrive _____ the Christmas sales are finished.
 8 We'll probably make a loss this year _____ sales improve in the last quarter.

Exercise 6

Underline the correct words.

- 1 I wish I *hadn't drunk/didn't drink* so many whiskies last night.
 2 There's so little space in here. I wish I *have/had* a bigger office.
 3 I don't feel well. I wish I *could stay/will stay* in bed this morning.
 4 I hope you *enjoyed/enjoy* yourselves at the theatre tonight.

- 5 I've been waiting thirty minutes for the bus. I wish I *took/had taken* a taxi.
 6 I must get in touch with Sue. If only I *know/knew* her number!
 7 I'm not a good typist. I wish I *could type/would type* better.
 8 I wish Jim *didn't interrupt / doesn't* interrupt so often in meetings.
 9 I have to finish this report by tomorrow. If only I *would have/had* more time.
 10 Enjoy your holiday. I hope you *have/could have* a good time.
 11 That presentation was a disaster! I wish I *could do/would do* it all again!
 12 I'm disappointed with this camera. I wish I *didn't buy/hadn't bought* it.

3 Countable and uncountable nouns

1 Countable nouns are things we can count. They can be made plural using an s and can be preceded by *a / an / one*.

e.g. *a book, one book, two books a plan, one plan, several plans*

2 Uncountable nouns are things we cannot count. They cannot be made plural using an s and cannot be preceded by *a / an / one*. They are often materials, liquids, and abstract things.

e.g. *water, gold, health*

3 Some words may be uncountable in English but countable in other languages.

e.g. *accommodation, advertising, advice*

In some cases (e.g. *business, experience, glass, paper*) nouns can be both countable or uncountable depending on their use.

Paper is becoming an expensive commodity.

She reads the paper (ie. newspaper) *every day*.

4 You can use *some* with plural countable and uncountable nouns.

There are some new computers in the stockroom. (C)

There is some new information about the problem. (U)

We use *some* in questions with both plural countable and uncountable nouns when the question is an offer or request (when we can see what it is that we want and know it is there).

Would you like some beer / advice / information? (U)

Can you give me some books? (C) (I can see the books I want on the shelf.)

5 *Any* is used in questions with both plural countable and uncountable nouns to ask if something is available or if it exists.

Do you have any books on the subject? (C) (I don't know if you have any books.)

Is there any beer left? (U)

We use *any* in negative statements with both plural countable and uncountable nouns to express the idea of nothing.

We don't have any pans. (C)

There isn't any money. (U)

6 Below are some quantifiers you can use with countable and uncountable nouns.

many

with countable nouns in questions and negatives

(for positive statements use *a lot of*)

e.g. *How many people are there in your department? Not many.*

much

with uncountable nouns in questions and negatives
(for positive statements use *a lot of*)
How much time have you got? Not much.

lots of / a lot

with countable and uncountable nouns in negative and positive statements *There are a lot of people in the department and we have got lots of time for this project. We don't have a lot of (much) money, though.*

A few/few

with countable nouns
A few letters of my friends are coming. (means a small number; but is neutral or positive)
Few people come to the meeting. (means 'not many' and is negative)

a little / little

with uncountable nouns
We have spent a little of the money already. (means a small amount, but is neutral or positive)
You have little chance of succeeding. (means 'not much' and is negative)

A Write countable (C) or uncountable (U) after the following nouns.

- | | | | | | |
|-----------|-------------|--------------|------------|----------------|-------------|
| 1 baggage | 2 behaviour | 3 suggestion | 4 evidence | 5 function | 6 furniture |
| 7 help | 8 insurance | 9 job | 10 idea | 11 merchandise | 12 news |

B Underline the correct form.

The Internet search engines are *some / any* of the largest and most commonly used search engines on the World Wide Web. Their huge databases of millions of web pages typically index *each / every* word on *each / every* one of these pages. By using them, searchers hope to find *every / all* page that contains an occurrence of their search term.

Several / Enough search engine companies have boasted for years of the millions of pages indexed in their data base, and *much / many* others gladly announce the latest total number of pages, or URLs, in their data base. However, not *all / every* search engines can actually deliver the total number of results that they claim to find, and for the moment there aren't *any / some* that can make really intelligent searches which always find what the searcher was looking for. Despite this, most generate *enough / several* information for the general public but for serious researchers this may be too *little / few*.

Exercise 1

Underline the correct words.

- 1 *How much/How many* pages are there on your website?
- 2 *Is/Are* there *many/much* banks with a head office in Geneva?
- 3 *Is/Are* there *many/much* traffic in Geneva?
- 4 *How much/How many* information have we got about this company?
- 5 Where *is/are* the goods we ordered?

- 6 There *is/are* some people waiting for you in reception.
- 7 We bought some new *equipment/equipments* last month.
- 8 We bought some new *machine/machines* last month.
- 9 This is *an equipment/a piece of equipment* that controls the speed of rotation.
- 10 This is a *machine/a piece of machine* that controls the speed of rotation.
- 11 He gave me *an/some* advice which *was/were* really useful.
- 12 I'm afraid we haven't got *much/many* time.
- 13 The news *is/are* on at nine. There may be *an/some* information about Davos.
- 14 We have *some/any* blue ones in stock, but we don 't have *some/any* red ones.
- 15 You can choose *some/any* colour you want.

Exercise 2

Complete the sentences with the word *a, an, some, much or many*.

- 1 That's _____ good idea.
- 2 Well, that's _____ progress, I suppose.
- 3 We do some business in Poland, but not _____ .
- 4 We have a few customers in Poland, but not _____ .
- 5 I'd like to make _____ inquiry about training courses you offer at your college.
- 6 Can I have _____ information about trains to Paris?
- 7 I'll see you in an hour. I don 't have _____ more emails to write.
- 8 I'll see you in an hour. I don 't have _____ more work to do.
- 9 Do you have _____ trouble with the unions in your factory?
- 10 Do you have _____ difficulties with the unions in your factory?
- 11 I need to claim _____ expenses for my trip last month.
- 12 We didn't study _____ economics at university, just a little.

Exercise 3

How many possibilities are there with the phrases below. Put a tick (X) if the phrase is possible.

| | | car | food | clothes | work | job | money | dollars | expenses | idea |
|---|--------------------|-----|------|---------|------|-----|-------|---------|----------|------|
| 1 | I haven't got any | | | | | | | | | |
| 2 | I haven't got much | | | | | | | | | |
| 3 | I haven't got a/an | | | | | | | | | |
| 4 | There are some | | | | | | | | | |
| 5 | There is a/an | | | | | | | | | |
| 6 | There's | | | | | | | | | |
| 7 | They're | | | | | | | | | |
| 8 | It's a/an | | | | | | | | | |
| 9 | There is some | | | | | | | | | |

Exercise 4

Match each phrase 1-6 with the best phrase a-f.

1 a cup of, 2 a glass of, 3 a bottle of, 4 a barrel of, 5 a sheet of, 6 a slice of,

- a) wine is acceptable at a business lunch, but no more.
- b) coffee is a good way to start the day.
- c) paper can sometimes get stuck in the photocopier.
- d) whisky costs less at the airport.
- e) wholemeal bread goes well with tomato soup.
- f) oil can cost US\$50-55 on the commodity markets.

Future forms

There are three main forms which we use to talk about the future.

1 *be + going to + infinitive*

We use *be + going to* to refer to plans and intentions which we decided before the time of speaking.

He's *going to change job next year*. (He has already decided to do this.)

Are you *going to see the Louvre while you're in Paris*?

(Is this part of your planned itinerary?)

We also use this form to make predictions based on present or past evidence. In some cases we can already see that something is starting to happen. *Look - it's going to rain*. (The clouds are black.)

They're *not going to like these changes* to the schedules. (past experience shows they don't like changes.)

2 Present continuous

We use the present continuous to talk about personal plans and arrangements in a very specific way, particularly when we mention the time and place.

I *am meeting Catriona at 4.30*.

They're *flying on Wednesday*.

Compare:

We *are opening a new office in New York next year*. (We have already started looking for premises.)

We *are going to open a new office in New York one day*. (This is only an intention, no plans have been made yet.)

3 *will + infinitive*

We use this form to express a spontaneous decision or an offer to do something made at the moment of speaking.

The phone's ringing. OK I'll answer it.

I've lost my wallet. I'll help you find it.

In emails and letters we use *will* to refer to attachments or say what action we intend to take. As you

will see *from the attached copy ...*

I'll *contact our sales manager and ask her to mail you.*

I'll be *in touch soon.*

We also use the will form to make predictions based on personal intuitions (rather than visible evidence).

Interest rates will probably go down if the Democrats win the election.

I'm sure England won't win the World Cup.

The will form is also used to talk about future states and events with verbs that don't take the present continuous.

She will be 30 *next May.*

We will *know tomorrow.*

Underline the most appropriate form of the verb in italics. In some cases more than one may be possible.

The year is 2097 and some space scientists from around the world are meeting to discuss what they have already prepared for future projects.

'We *are preparing / will prepare* to send a rocket to Pluto,' announced the *Americans*. '*It is having / will have* six men aboard and *is staying / will stay* for a whole month before making the long trip back to Earth.'

'That's nothing,' said the Russians. 'Next week we *are launching / are going to launch* our spaceship containing 200 men and women to Uranus we *will probably start / are probably going to start* a colony there.'

'Our country *is beating / will beat* you both,' said the British *scientist*, '*We will / are going to send* a rocket straight to the Sun.'

'How *are you going to do / are you doing* that?' said the American and Russian scientists. 'The rocket *is going to / will melt* before it gets there. 'No, *it isn't / won't*,' replied the British scientist. '*We will / are going to send it up at night*'

B Complete the sentences using will, going to, or the present continuous of the verb in brackets.

1 'Could I speak to Mr Yo, please?' 'Yes of course, I _____ (fetch him)

2 I'm afraid I can't come to the office dinner next week because I... (go on holiday)

3 We've finally made a decision about the product launch. We ... (go ahead May)

4 'We're running out of envelopes.' 'I _____ (order more)

5 'The photocopier doesn't work.' 'OK. I _____ (call technician)

6 He's resigned from the company and he ... (take job in New York)

C Underline the correct form on the basis of the comment in brackets below.

1 We will sell / *are selling* the company. (We've found a buyer.)

2 I will meet / *am meeting* Jo at the airport. (Jo knows about this arrangement.)

3 I will help / *am helping* her. (I've just decided.)

4 Shares in BMX will / *are going to fall*. (I have some inside information.)

5 Jo is going to teach / *is teaching* me Chinese. (Our lessons have already begun.)

Exercise 1

Match sentences 1-6 with their uses a)-f).

- | | |
|--------------------------------|--|
| a) a future fact | d) a future plan or intention |
| b) an opinion about the future | e) a prediction with evidence in the present situation |
| c) an instant decision | f) a future arrangement |

- 1 I'm going to ask my boss for a pay rise next week.
- 2 I'm sorry to hear that. I'll find out what the problem is right now.
- 3 I'm sorry, but I won't be here tomorrow. I'll be in Paris.
- 4 I'm meeting Angela for lunch. Do you want to join us?
- 5 Their share price will probably rise when the market recovers.
- 6 With so much competition it's going to be difficult to increase sales.

Exercise 2

Underline the correct words in each mini-dialogue.

- 1 A: Are you free next Tuesday morning?
B: Sorry, *I'll have/I'm having* a meeting with Sue.
A: Oh, right. Well, what about Thursday?
- 2 A: What are your plans for next year?
B: *We'll open/We're going to open* a new factory in Hungary.
A: That sounds interesting.
- 3 A: What do you think about their new marketing campaign?
B: I think *it'll probably succeed/it's probably succeeding*.
A: Do you really?
- 4 A: What about tomorrow at around five thirty?
B: OK, I'll *see you then./I'm seeing you then*.
A: Bye.
- 5 A: So as you can see, I've been thinking about this problem quite a lot.
B: Yes, I see. So, *what are you going to do? /what are you doing?*
A: Resign!
- 6 A: It would be nice to see you next week.
B: Yes, it would. *Are you doing anything/Will you do anything* on Wednesday?
A: No, I'm free.

Exercise 3

Complete the sentences by putting the verbs in brackets into the most appropriate future form. Choose between *will*, *going to* and the present continuous.

- 1 Have you heard the news? Vivendi _____ (buy) Seagram.
- 2 I _____ (meet) Andrea at nine next Thursday morning outside the station.
- 3 I've just had a call from Richard – he _____ (be) late.
- 4 Next year _____ (be) the company's centenary year.
- 5 This taxi driver is terrible. He _____ (have) an accident.
- 6 In the future video-conferences _____ (probably replace) many international meetings.

- 7 We _____ (test) the new machine sometime next week.
 8 I _____ (go) to Manchester on Friday.
 9 Would you mind waiting for a moment? I _____ (not be) long.

Exercise 4

Complete this email from a PA to her boss by putting the verbs in brackets into the future. Choose between *will* and the present continuous. Use contractions where possible.

From: Mira Melisse
 To : Pierre Gaudard, Technical Director
 Subject: Visit to Slovenia

14 March 2004

I've booked your flight to Slovenia. You (1) _____ (leave) on Tuesday 3rd at 8.45 in the morning, so you (2) _____ (arrive) in Ljubljana before lunch. Someone (3) _____ (be) at the airport to meet you. Your first meeting is with Aleksander Presekar, and you (4) _____ (see) him at 1 pm at our local office. He (5) _____ (probably/take) you out to lunch. After lunch you (6) _____ (not/ do) anything until 4 pm, so you (7) _____ (have) time to go to the hotel. You (8) _____ (stay) at the Intercontinental, which is in a very central location. I (9) _____ (go) to the travel agents to pick up the tickets this afternoon, so I (10) _____ (give) them to you tomorrow.

5 The gerund and the infinitive after verbs

There are some verbs which are always followed by the gerund or *ing* form, and others which are followed by the infinitive with *to*.

There are some rules that can help you work out these verb patterns.

1 The gerund

We use the *ing* form:

- a after verbs and expressions of emotional attitude towards something, e.g. *like, love, dislike, enjoy, hate, stand, mind*.
Working Americans enjoy spending time with their families.
- b after certain other verbs, e.g. *risk, avoid, spend time*.
I don't want to risk losing their custom.
- c when the activity is the subject or object of a sentence.
Using a computer all day can be bad for your back.
We don't encourage drinking on the premises.
- d after verbs that express ideas or advice, e.g. *recommend, propose, suggest*.
Health experts recommend taking much longer lunch breaks.
(Also The experts recommend that we take longer breaks.)
- e We also use the gerund immediately after prepositions e.g. *before, after, since, by, about*,

on, for, in, to.

An MP3 is generally *used for* listening to *music*. *Before* using it you need to *attach* the *headphones*.

I *look forward to hearing from you*.

2 The infinitive

We use the infinitive:

- a after verbs that focus on a purpose or objective e.g. *would like, want, plan, promise, decide, hope*. We *would like to inform you that* we have decided to *accept your proposal*
- b after verbs that tell someone what they can do or what we want them to do, e.g. *allow, ask, enable, expect, help, instruct, permit, persuade, tell*.
This *program allows you to write spreadsheets*.
I *persuaded* him to let me use his mobile.
- c as the subject of the sentence to indicate an objective.
To learn English (objective) *you need to study hard*.
Compare with: Learning English (activity) is *easy*.
- d after adjectives and with *how*.
It's *easy to use*.
If you like I'll show you how to use one.

Some verbs take either the *ing* form or the infinitive depending on their meaning.

I *stopped to look at* the website. (I interrupted what I was doing before.)

I stopped looking *at* the website *when* the boss *came* in. (I was looking at the website before he came in.)

A Underline the correct form.

FAQ (frequently asked questions): Document that answers the most common questions in a newsgroup or mailing list. It may be a good idea *studying / to study* the FAQ document before *posing / to pose* a question to a mailing list or newsgroup in order to avoid *repeating / to repeat* a common question.

log on: This term means *connecting / to connect to* a computer *gaining / to gain* access to its programs or information. Often this is done by *writing / to write* one's user identity and password.

B Put the verbs in italics into the *-ing form* or the infinitive.

A company thought it would help *continue* its perfect safety record by *show* its workers a film aimed at *encourage* the use of safety goggles while *work*. Unfortunately the film's depiction of industrial accidents was so graphic that 25 workers suffered minor injuries when they were trying *leave* the screening room. Thirteen others fainted and one man required seven stitches after *cut* his head when he fell off a chair while *watch* the film.

6 Link words

1 Meaning

- a Link words used for ordering and sequencing include:
 informal or neutral: *first, then, next, at the same time, finally, in the end*
 formal: *firstly, secondly, simultaneously, subsequently, lastly*
- b Link words used for adding information include: informal or neutral: *and, also, too, besides, what is more, as well*
 formal: *moreover, in addition, furthermore*
- c Link words used for contrasting include: informal or neutral: *although, though, even though*
however, despite this, instead, on the other hand, even so, then again
 formal: *by contrast, nevertheless, on the contrary, nonetheless, conversely*
- d Link words used for correcting or giving different emphasis to previous statement include:
 informal or neutral: *actually, in fact*
 formal: *as a matter of fact, in reality*
- e Link words used for giving parallel, informal or neutral information: *again, in the same way, similarly, equally*
 formal: *by the same token, likewise*
- f Link words used for giving examples and specifying include:
 informal or neutral: *such as, like, this means that*
 formal: *for example (e.g.), for instance, that is to say, i.e.*
- g Link words used for indicating a result include: informal or neutral: *so, consequently, as a result*
 formal: *therefore, thus, hence, thereby, accordingly*
- h Link words used for concluding include: informal or neutral: *to conclude*
 formal: *in conclusion, in summary*

2 Word order

Most of the words and expressions above can appear at the beginning or in the middle of the sentence. Many writers follow them with a comma. *We have lost our main customer. As a result, we will have to make some drastic cuts.*

You have shown no initiative. In addition, your work has been of substandard quality.

We will, however, still require 600 copies of the CD ROM.

We have thus decided to cancel our order.

Too and *as well* are generally found at the end of the sentence.

She has been to Paris and to Berlin too / as well. although, though, and even though can be placed in two positions.

Although he has worked here for years he has never been promoted.

He has never been promoted even though he has worked here far years.

A Underline the most appropriate word or expression in italics. Check with a dictionary if you are not sure of the exact differences in meaning between words.

- 1 I still remember my first day at work. *Similarly / On the other hand* I can't remember anything at all about my first project.
- 2 I don't think she's ever been to New York. In *addition / fact* I don't think she's ever been to the US.
- 3 I have worked in Asia. I have *also / too* worked in the Middle East.
- 4 We have still not received payment for our invoice. *As well / Moreover*, the contract for the

current order has still not been signed.

- 5 She doesn't speak Japanese very well. However / *On the contrary*, she speaks Chinese fluently.

B Complete the extract from the report using these words:
also, although, consequently, finally, however, moreover

Sales are running at a lower rate than last year. _____ stocks have grown. _____, the general decline in the steel industry has meant that there have _____ been job losses. _____, this trend may be offset by the growth in new technologies involving steel, _____ we may not see the results of this for several years. _____, the appointment of the new sales manager...

7 Modals

Modal verbs are auxiliary verbs - they are usually used in a sentence with another main verb. We use them to express concepts such as ability, advice, obligation, necessity, and possibility. We also use them in offers, requests, and suggestions.

Form

Modals have no s in the third person singular.

e.g. She should *study more*.

He *might* give the *presentation*.

Modals do not use the auxiliary verb do / *does* to make questions and negatives (because modal verbs are auxiliary verbs themselves).

e.g. He *can't* come tomorrow. *Shall I* help you?

Modals do not usually have a past or future form. This means that a different verb often needs to be used when expressing past or future ideas.

e.g. I *can't* do it *today* and I *won't* be able to do it *tomorrow*.

You must work harder! We *had* to work very hard last year.

1 Ability, possibility: *can, could, may, and might*

Use *can(not)* to express a general ability to do something.

She *can't* speak *English* very well.

I *can* play *golf*.

Use *can* to express certainty (when something is 100% possible) and *cannot (can't)* to express 100% impossibility.

I *can* come tomorrow. (I am certain.)

She *cannot* come to the *meeting*. (It is impossible for her to come.)

Use *may* and *might* (not) in situations when you are not certain. *Might* is usually less definite than *may*. *I may / might* come to the *meeting*. (It is possible that I will come, but it's not definite.)

You can also use *may*, *might*, and *could* to speculate about the future or talk about probability.

We *may* decide to open a new office in *Warsaw*. (50% probability)

They *might not* come to the *meeting* if they *don't* have enough time. (Less than 50% probability)

I *could* be *wrong*. (but not necessarily)

Interest rates could / might even go up by another 5%. (I am speculating.)

A Underline the correct form.

- 1 We will / *may* go the US next year but I'm not sure.
- 2 In five years' time inflation will / *could* be at over 15%.
- 3 I will / *may* tell him as soon as I see him.
- 4 It *could* / will rain, so we should take our umbrellas.

B Complete these sentences about your work environment using *can (not)* and *may / might not*.

- 1 I _____ get a rise in salary this year.
- 2 I _____ eat while working.
- 3 I _____ arrive and leave at a certain time.
- 4 I _____ wear whatever I want.
- 5 I _____ play music while I work.
- 6 I _____ take frequent coffee breaks.
- 7 I _____ play the piano.
- 8 I _____ look for a new job in the next few years.

2 Advice and obligation: *have to, must, need, and should*

When we tell someone that we think something would be good or useful for them we use *should*, and *must* when we want to give them a very strong recommendation.

You should try using another search engine - it would be much quicker. You must go and see that mouse - you would love it.

We use *should* when ethics are involved.

I think the Third World debt should be cancelled.

Companies should give more of their profits to charity.

When talking about our general work responsibilities (to show that an obligation probably comes from some one else) we use *have to*. When we want to say that something is not necessary or is not our responsibility we use *don't have to* or *don't need to*.

We have to arrive before nine in the morning but we don't have to clock in.

Although I work in Finland I don't need / have to use Finnish in my job because everyone speaks English.

We tend to use *have to* and not *must* when giving instructions - *must* sounds impolite.

Alternatively we use the imperative (with *please*). *Please visit our website where you will find details of all our prices.*

We use *must* when we give ourselves orders. *Must* is also found in warnings and notices.

I must answer all those emails.

We must get ourselves a new filing system.

Helmets must be worn on the building site at all times.

We use *must not* to prohibit something.

You mustn't smoke in a non-smoking compartment.

A Underline the correct term in italics.

- 1 We *don't have to* / *mustn't* work tomorrow because it's a public holiday.
- 2 You *don't have to* / *mustn't* touch that. It will give you an electric shock.
- 3 We generally *have to* / *must* be at work before 09.30.
- 4 You *have to* / *must* visit this website. It's really interesting.
- 5 You *have to* / *should* try this new version; it's much more reliable.

B Compare these sentences about your own work environment using (*don't have to*, *must(n't)*, *should(n't)*, or (*don't need*). Try to use each form at least once.

- 1 I contact clients by phone.
- 2 I go on specialization courses.
- 3 I go to frequent meetings.
- 4 I make written reports of my work progress.
- 5 I spend several hours a week studying English.
- 6 I travel frequently for work.
- 7 I use the Internet for my own personal use.

3 Offers, requests, invitations, and suggestions:

can, may, could, would, shall, and will

Use *can, may, and shall* to offer to do something. *May* is more formal.

May / Can / Shall I help you?

Use *can, could, will* and *would* to request something. *could* and *would* are more polite.

Can / Could / Will / Would you help me?

Use *would you like* to invite someone.

Would you like to come out for dinner tonight?

Use *shall* to make a suggestions.

Shall I open the window?

Shall we go to the bar?

Make offers, invitations, and requests using the prompts.

- 1 You need to send a fax.
- 2 You need a taxi.
- 3 You want to know if you can smoke.
- 4 At lunch, you can't understand the menu.
- 5 Invite a client to dinner.
- 6 Offer to help client with his luggage
- 7 Suggest having a break.
- 8 You want the bill.
- 9 You need help with your luggage.
- 10 You want to know when breakfast is served.

Exercise 1

Complete the sentences with *must* or *have to*. Both are possible each time, but one is more natural in a spoken context.

- 1 I _____ remember to email Steve and thank him for all his help.
- 2 Sorry, I _____ go now, the meeting begins in five minutes.
- 3 You _____ send your tax form by 31 January.
- 4 You _____ try to be more diplomatic when you're speaking to Tim.
- 5 I _____ go the dentist next Friday morning, so I'll be a little late.
- 6 I really _____ go the dentist. I've had this awful pain for two days.

Exercise 2

Decide whether each pair of sentences has the same meaning. Write I for identical or nearly identical, S for similar or D for completely different. At the end there will be nine of I, two of S and three of D.

| A | B | |
|------------------------------------|-------------------------------------|--|
| 1 You'd better go now. | You should go now. | |
| 2 We don't have to cut the budget. | We mustn't cut the budget. | |
| 3 You should have a rest. | You ought to have a rest. | |
| 4 You can't smoke here. | You're not allowed to smoke here. | |
| 5 We must sign the contract. | We should sign the contract. | |
| 6 You must be here before 8.30. | You have to be here before 8.30. | |
| 7 You mustn't touch that key! | You don't have to touch that key. | |
| 8 You didn't have to give a tip. | You didn't need to give a tip. | |
| 9 We have to work harder on this. | We must work harder on this. | |
| 10 I ought to leave now. | I have to leave now. | |
| 11 You shouldn't worry so much. | You ought not to worry so much. | |
| 12 I must write these letters now. | I'd better write these letters now. | |
| 13 I couldn't use the email. | I didn't need to use the email. | |
| 14 We don't have to decide yet | We don't need to decide yet. | |

Exercise 3

A businessman is describing his trip to Lagos. Complete the text with *had to*, *didn't have to*, *couldn't*, *should have* or *shouldn't have*. Each phrase is used twice.

"I (1) _____ travelled on the 10 am flight, but when I got to the airport they told me that the flight was overbooked and I (2) _____ catch a later flight. Then at the check-in desk they told me that I (3) _____ take both my bags as hand luggage, so I (4) _____ let one of them go in the hold, which was very annoying as I had my diary in it, and it delayed me by nearly an hour at baggage reclaim at the other end. When I got on the

plane I wanted to use my laptop, but of course I (5) _____ until after take off. The flight attendant told me to turn it off and said that I (6) _____ known not to use it. To be honest I'd just forgotten, and he (7) _____ been so rude. Er, it was quite late when I finally left Lagos airport, so it was lucky I (8) _____ go to any meetings that afternoon. And, looking back at what happened, I (9) _____ travelled with that airline - they have a lot of problems with overbooking. And my company was paying for the flight so I (10) _____ choose the cheapest option.”

Exercise 4

Match each sentence 1-12 with one of the formal sentences a)-l).

| | |
|------------------------------|-----------------------------------|
| 1 I can do it. | a) It's necessary. |
| 2 I mustn't do it. | b) It's not necessary. |
| 3 I don't have to do it. | c) It's allowed. |
| 4 I have to do it. | d) It's not allowed. |
| 5 I couldn't do it. | e) It was necessary. |
| 6 I didn't have to do it. | f) It wasn't necessary. |
| 7 I had to do it. | g) It was allowed. |
| 8 I could do it. | h) It wasn't allowed. |
| 9 I should have done it. | i) Doing it would be a good idea. |
| 10 I shouldn't have done it. | j) Doing it would be a bad idea. |
| 11 I shouldn't do it. | k) Doing it was a bad idea. |
| 12 I should do it. | l) Not doing it was a bad idea. |

8 Numbers, dates, and measurements

1 Cardinal and ordinal numbers

213 *two hundred and thirteen (UK)*

two hundred thirteen (US)

2,130,362 *two million, one hundred and thirty thousand, three hundred and sixty-two*

13th *thirteenth*

31st *thirty-first*

2 Calendar dates

UK: day / month / year - 10.03.01

the tenth of March, two thousand and one

or *March (the) tenth, two thousand and one*

US: month / day / year - 03.10.01

October third, two thousand one

1996 *nineteen ninety six*

or *nineteen hundred and ninety six*

1701 *seventeen oh one*
or *seventeen hundred and one*

3 Fractions, decimals, percentages

$\frac{1}{4}$ *a quarter / one quarter*
 $\frac{1}{2}$ *a half / one half*
 $\frac{3}{4}$ *three quarters*
0.25 *(zero) point two five*
0.056 *zero point zero five six*
37.9 *thirty seven point nine*
10% *ten per cent*
100% *one hundred per cent*

4 Money

€678 *six hundred and seventy-eight euros*
€1.50 *one euro fifty (cents)*
\$450,617 *four hundred fifty thousand six hundred and seventeen dollars*
\$1.90 *one dollar ninety*

5 Measurements

1 m 70 *one metre seventy*
3.5 kg *three point five kilos*
3 m x 6 m *three metres by six*
10° *ten degrees*
-10° *minus ten degrees or ten degrees below zero*

6 Sport

3-0 *three nil (football)*
30-0 *thirty love (tennis)*

7 Phone numbers

00441619804166 *zero zero four four one six one nine eight zero four one double six*
or *oh oh four four ..., etc.*
ext.219 *extension two one nine*
0800 *oh eight hundred*

Write down the following information about yourself and then find out the same information about your partner: Take it in turns to ask questions.

e.g. *When did you get your first job?*

- 1 The date you got your first or current job.
- 2 Your weight in kilos when you were eighteen.
- 3 Your ideal temperature for a summer's day.

- 4 The price of a square metre of flat / house space in your town.
- 5 The percentage of your day that you spend on the phone.
- 6 Your home telephone number.
- 7 The name and email of a friend.
- 8 What you think the ratio of work to leisure should be.
- 9 The ideal length of a business lunch.

9 Passive form

Correct form of *be* + past participle

1 We use the passive:

a when we are more interested in the person or object that experiences an action than the person or object that performs the action.

The *New York stock exchange was founded in 1792*. (The stock exchange is the most important element in this sentence, the identity of the person who founded it is irrelevant.)

b when we don't know or cannot express who or what performed the action.

Four hundred thousand credit cards are stolen every year. (We don't know exactly who steals the cards.)

The photocopier was left on all night. (We don't know who was the last person to use it.)

c to describe processes. We use *by* to say who or what performs the action.

The chemicals are transported by lorry and are then delivered to the factory.

d to report formal decisions or to make announcements.

It has been decided to lay off 1,000 workers.

It was agreed to spread the redundancies over six months.

2 Verbs often used in the passive:

a to describe processes: *is transported / is collected / is transferred / is analysed*

b to describe creation and discovery: *was produced / was invented / was discovered*

c to describe damage and injury: *was harmed / was damaged / was killed*

3 We don't use the passive when:

a we want to be more informal, e.g. in emails and spoken English.

A comparison was made of the two products. (formal, scientific)

We compared the two products. (neutral, spoken English)

b it is important to be direct and easy to understand, e.g. in manuals and instructions.

It is essential that the disk drive unit is switched on before use. (indirect)

Make sure you switch on the disk drive unit before using it. (direct)

A Underline the correct form in italics.

1 Fifty thousand copies *sold / were sold* last year.

- 2 He *has promoted / has been promoted*.
- 3 They *have promoted / have been promoted* the movie all over the world.
- 4 It *decided / was decided* that the service *should discontinue / should be discontinued*.
- 5 The inflation rate *is / has gone up*.
- 6 He *is / has bought* himself a car.
- 7 Your taxi *is / has arrived*.
- 8 She *was / had taken* to the airport.
- 9 The machine *was / had stopped* for repairs.
- 10 An important document *had lost / had been lost*.

B Put the verbs in italics into the active or passive form of the past simple.

An incredible mistake *occur* in a hospital. A nurse *notice* that many of their dying patients had one thing in common: they had all stayed in same room in intensive care. A team *bring* in to investigate the possible causes, and many precautionary measures *take*: the room *fumigate*; the air conditioning unit *check*; and all medical equipment serviced. More patients died and criminal involvement of some kind *suspect*. The doctors *decide* to monitor the room even more closely. What they discovered late that night was that a cleaner *come* into the ward every night with an electric floor polishing machine. There was only one electric socket in this ward, however, and she therefore *unplug* the life support system each night in order to provide power for her polisher, obviously without thinking about the terrible consequences.

C Complete the second sentence so that it means the same as the first.

- 1 Your email has been forwarded to the Marketing Department.
I have ...
- 2 The form should be completed in black ink.
Please ...
- 3 An analysis was carried out of the samples.
We ...
- 4 The following points should be borne in mind when dealing with complaints.
Remember ...

Complete the following table:

| | Active | Passive |
|--------------------|------------------------------|-------------------------|
| Present simple | Someone makes the pizza | The pizza is made |
| Present continuous | | The pizza is being made |
| | | The pizza has been made |
| Past simple | Someone made the pizza | |
| | Someone was making the pizza | |
| Past perfect | | The pizza had been made |
| <i>Going to</i> | | |
| <i>Will</i> | Someone will make the pizza | |
| <i>Must</i> | | The pizza must be made |
| <i>Have to</i> | | |

Exercise 1

Complete each sentence with a passive verb. You may need a negative form.

- 1 Somebody damaged the goods in transit.
The goods _____ in transit.
- 2 Thousands of people see this advert every day.
This advert _____ by thousands of people every day.
- 3 They will not finish the project by the end of the month.
The project _____ by the end of the month.
- 4 They have closed fifty retail outlets over the last year.
Fifty retail outlets _____ over the last year.
- 5 We are reviewing all of our IT systems.
All of our IT systems _____.
- 6 We cannot ship your order until we receive payment.
Your order _____ until we receive payment.

Exercise 2

Decide if it is necessary to say who does the action. If it is not necessary, cross it out. If it is necessary, put a tick.

- 1 I don't think your proposal will be accepted by people.
- 2 The company was founded by the father of the present chairman.
- 3 All our machines are serviced by highly trained technicians.
- 4 This machine isn't working again! It was repaired yesterday by a technician.
- 5 The conference was opened by someone from the London Business School.
- 6 I'll be shown round the factory by someone, and then I'll meet the sales team.

Exercise 3

A marketing manager is writing a training manual that explains how the company uses questionnaires to do market research. Complete the text by putting the verbs from the list below into the present simple passive.

design send back distribute offer outsource analyse put

First, we carefully select a sample of people to ask. Then the questions _____ by a small team within the department. Next, the questions _____ into sequence and grouped together by topic. After that, we print the questionnaire and it _____ to everyone in the sample. Of course, not all the forms _____ to us, but we try to collect as many as possible.

Sometimes a small gift _____ to people who return the forms, as an incentive. Finally we enter all the results onto a spreadsheet, and the information _____ by the marketing department. If we are using a very large sample the distribution and collection _____ to an external company.

10 Past simple

infinitive + *ed*

For irregular verbs, see end of this grammar section.

We use the past simple to talk about completed actions in the recent past (even one second ago) or the distant past.

She founded the company in 1969.

They went to the bar a few minutes ago.

If you say *when* something happened (e.g. *yesterday*, *last week*, *when she was at university*, *many years ago*) you must use the past simple and not the present perfect.

Time expressions which are typically associated with the past simple are: *yesterday*, *last night*, *a few minutes ago*, *in 1945*, *then*, *before*, *after*

11 Past continuous

was / were + verb + ing

1 We use the past continuous to describe an event that was in progress when it was interrupted by a shorter event. The past simple is used for the shorter completed event.

I met Jo when I was coming to work.

While I was surfing the Internet the boss walked in.

It also describes an event that was in progress around a particular past time.

What were you doing at 4.00 p.m.?

I was taking part in a meeting.

We can use the past continuous to make tentative suggestions or requests.

I was wondering if you could help me with a problem?

I was thinking about taking next week off

2 The past continuous is not used to talk about past habits or to refer to how often something happened.

We didn't sell many products in our first years of business.

I phoned them several times yesterday.

A Underline the correct form in italics.

1 *I slept / was sleeping* when the fire alarm *went / was going* off.

2 A: Then we went to the pub.

B: What *did you do / were you doing* after that?

3 We *did / were doing* business with them on a few occasions.

4 They lived / *were living* in Paris first, then Bonn and then they moved / *were moving* to Prague.

B Underline the correct tense in italics on the basis of the information in the sentence below.

1 I didn't know he *used / was using* Powerpoint.

(I didn't know he knew how to use Powerpoint.)

- 2 I *left* / *was leaving* the room when my boss came in.)
(I probably didn't want to see my boss.)
- 3 As I *told* / *was telling* you yesterday.
(I probably have something more to tell you.)
- 4 They asked me what I did / *was doing*.
(They wanted to know what my job was.)

12 Past perfect

had + past participle

- 1 We use the past perfect when we are already talking about the past and we want to talk about an earlier past.
When I arrived at the casino I realized I had lost my keys.

We don't use the past perfect when we describe simultaneous or sequential events.
I lost my *keys when I went* to the casino.

- 2 Certain time expressions are typically associated with the past perfect. They are used when one completed action happened before another. e.g. *by, by the time that, when, as soon as, before, after*
The meeting had already started when I arrived.
After he had discussed the current projects he went on to talk about future plans.

B Underline the correct tense in italics on the basis of the information in the sentence below.

- 1 I remembered that Jo worked / *had worked* for IBM.
(Jo doesn't work for IBM now.)
- 2 I realized the boss *was* / *had been* in the next room.
(I could hear the boss's voice.)
- 3 They asked me if I *came* / *had come* from Beijing.
(They wanted to know about my journey.)
- 4 When her husband *left* / *had left* for work she phoned her mother.
(She often phoned her mother.)

C Put the verbs in italics into the past simple, past perfect, or past continuous. In some cases both forms are possible.

It *be* the first time that three friends *find* a job. They *work* on a building site, building a wall. After they had been there for a few hours the foreman *come* to see them. He was surprised to find one of them already *build* a complete wall, while the other two *stand* doing nothing. They said they not *work* because they were both lamp posts. The foreman *sack* the two men immediately. As soon as his two friends had gone home, the man digging the hole also *stop* work! It's OK: said the foreman I haven't sacked you. You *work* very well, so carry on: The man *reply*: 'That's all very well saying I can keep my job, but how do you expect me to work in the dark?'

Exercise 1

Underline the correct words. This exercise includes examples of the past perfect, *used to*, the past simple and past continuous.

- 1 While I *looked / was looking* for my keys, I suddenly remembered I *left / had left* them at home.
- 2 In those days the unions *used to / had used to* go on strike whenever there *was / was being* a problem.
- 3 After they *were buying / had bought* the company, they *started / were starting* to make a lot of people redundant.
- 4 Jack *used to have / was having* a Mac, but then he *used to change / changed* to a PC.
- 5 I asked about my package in reception, but they *said / were saying* that it still *hadn't arrived / wasn't arriving*.
- 6 I was sure that I *used to lock / had locked* the door to my office last night, but it *was / had been* open this morning.
- 7 I'm sure that the winters *used to be / had been* colder when I was a child. I remember that we *used to walk / were walking* to school in the snow every winter.
- 8 I *had gone / went back* to the restaurant to look for my umbrella, but *found / was finding* that someone *took / had taken* it.
- 9 When George *saw / was seeing* Diane at the seminar, he *knew / was knowing* that he *met / had met* her somewhere before.
- 10 While I *had / was having* breakfast I *looked / was looking* at the financial pages to see the share prices. I *saw / was seeing* that my original investment *grew / had grown* by over 40%.

Exercise 2

Complete the sentences with the best form of the verb in brackets. In each sentence one verb will be in the past simple and the other in the past perfect.

- 1 After she _____ (make) a few notes, she _____ (start) writing the introduction to the Annual Report. .
- 2 Gary _____ (be sure) that he _____ (set) the alarm before leaving the office.
- 3 I _____ (call) my wife on my mobile because the meeting _____ (still not finish).
- 4 Once I _____ (speak) to him, I _____ (realise) there had been a misunderstanding.
- 5 After Jill _____ (give) her first presentation, she _____ (feel) much less nervous.
- 6 Before Edite _____ (become) Michael Edward's personal assistant she _____ (already work) in the company for two years.
- 7 I _____ (not see) the figures before the meeting, so it _____ (put) me at a disadvantage during the discussion.
- 8 Sorry it took so long. I _____ (have to) go down to the store room because we _____ (run out of) paper for the photocopier.
- 9 The rain _____ (stop) by the time I _____ (get out of) the taxi.
- 10 I _____ (be) surprised to find that she _____ (already leave).

13 Present perfect

have/has + past participle

- 1 The present perfect often connects the past to the present. The action took place in the past but is not explicitly specified because we are more interested in the result than in the action itself.

I've bought so many books that I don't know where to put them.
I can see that you've made a lot of progress.

We use the present perfect for:

- a actions that took place during a period that has not yet finished.
The stock market has crashed twice this year. (It's only August.)
 - b actions which took place at an indefinite or unknown time.
I've taken part in three video conferences.
 - c actions that began in the past and continue into the present.
I have worked here for six months.
We've made a lot of progress in this project so far.
 - d to announce news.
My email address has changed.
We have redesigned our website.
 - e in emails and on the phone to indicate what actions have been taken.
I have spoken to Invoice Processing and they have forwarded your request to the manager.
- 2 *For* and *since* are often used with the present perfect. When talking about an action's duration we use *for* if we talk about the period of time, and *since* if we say when the action began.
e.g. for six years, for a long time, for more than an hour.
since 2001, since January, since he joined the company.

Other time expressions typically associated with the present perfect are:
ever, never; just, already, yet; in the last few days / months etc., all day, all week, all my life etc., how long, once, twice, several times, etc.

Many of the above expressions can also be used with the past simple, if they refer to a completed period of time:

We've made a lot of money this first quarter. (Said in March - the first quarter of the year hasn't finished.)

We made a lot of money this first quarter. (Said in April or later - the first quarter is complete.)

- 3 The present perfect is used to talk about past events when no specific time is given.
However, if we go on to give more specific information about the subject and start talking about a specific date, we have to use the past simple.

I've bought a lot of stuff from Amazon. (not very specific information)
What exactly did you buy? How long did it take to receive your orders? (specifying)

A Complete the expressions with *for* or *since*, as appropriate.

- 1 _____ the company was founded
- 2 _____ more than a year;
- 3 _____ the introduction of the euro
- 4 _____ the last six weeks
- 5 _____ she got her degree
- 6 _____ I've known you

B Put the verbs in italics in the news report into the present simple, present perfect, or past simple.

Devco *announced / have announced* that they are going to buy their competitors QXT. QXT *is / has been* in serious financial problems for over a year - last quarter's profits */ have been* down again by 60%. In a statement released earlier today Devco's CEO, Alfonso Fuego, *said / has said*; *'We had / have had* a lot of support from QXT shareholders and I *assured / have assured* them at the shareholders' meeting last week that Devco will do everything to turn the situation around within at most six months. QXT union members *are not / have not been* so confident. In a meeting last Friday they *revealed / have revealed* that they *are / have been* worried about their jobs since news of a possible takeover *has been / was* leaked to the press earlier this year.

C Match the beginnings with the correct endings.

- 1 She's been in Paris for six weeks ...
 - a she's learning French there.
 - b she learnt French there.
- 2 They've gone to NY for a year ...
 - a they'll be back next Spring.
 - b they came back last Spring.
- 3 She was his project leader for six months and he ...
 - a learnt a lot from her.
 - b has learnt a lot.
- 4 I am here for six months ...
 - a it will be a great experience.
 - b I have really enjoyed it.
- 5 I have been responsible for the Asian market ...
 - a among other markets.
 - b and then after the African market.

Exercise 1

Complete the sentences by putting the verbs in brackets into a form of the present perfect. Use contractions where possible.

- 1 Are you sure it isn't working? (you/try) it?
- 2 I (never /see) such a boring presentation.
- 3 Luckily, our customers (not/complain) about the price rise.
- 4 We (already/spend) quite a lot of money on this project.
- 5 (they/reply) to your last email?
- 6 I (not/get) the figures to hand - can I call you back later?
- 7 Unemployment (go/up) by 2% since January.
- 8 I'm sorry, she's not here. She (just/leave).
- 9 Their shares (fall) by 15% since the merger.
- 10 (you/ever/take) the Eurostar to Brussels?

Exercise 2

Complete the sentences with a suitable time expression from the list below.

already never since yet ever just for always

- 1 The goods will be with you soon. They've left our warehouse.
- 2 I've had a great idea! Why don't we launch a new range of colours?
- 3 We've known each other more than twenty years.
- 4 I've used my credit card on the Internet. I don't think it's safe.
- 5 I haven't had a chance to speak to Magda, but I'm sure she'll agree.
- 6 I've worked in insurance, ever since leaving university.
- 7 I'm sorry he hasn't called you back. He's been in a meeting lunchtime.
- 8 Have you been to Sao Paulo? It's completely different from Rio.

Exercise 3

Read this email from Steve, the Purchasing Manager of a UK importer, who is in Poland on a business trip. Complete the email by choosing the correct alternative from A, B, C or D below.

From: Steve McGinlay

To: Mike Evans

Subject: Poland

Mike

Sorry I haven't contacted you (1)last week, but I've been very busy. I've (2).....to Katowice in the south west of Poland (3).....a few days, and I've (4)returned to my hotel in Warsaw, from where I'm sending this email. I visited several firms when I was in Katowice and one of them looks quite promising. I've (5)..... seen their factory, and I've got some product samples to show you.

Unfortunately I haven't met the guy in charge (6)..... He wasn't there - he's (7)to Gdansk and should be back next week.

So, the trip has been quite successful (8) Have you (9).....been to Central Europe? Everything is changing very fast - I've (10).....seen so much building work going on. Anyway, I'll email you again later in the week to let you know what's happening.

Regards, Steve

- | | | | |
|------------|-----------|-----------|----------|
| 1 A for | B since | C just | D so far |
| 2 A going | B gone | C being | D been |
| 3 A for | B since | C already | D so far |
| 4 A now | B been | C just | D so far |
| 5 A yet | B already | C been | D gone |
| 6 A just | B already | C now | D yet |
| 7 A going | B gone | C being | D been |
| 8 A so far | B yet | C just | D now |
| 9 A yet | B since | C ever | D never |
| 10 A yet | B since | C ever | D never |

Exercise 4

Underline the correct words.

- 1 Yesterday *I phoned / I've phoned* the bank about my overdraft.
- 2 I *work here / I have worked here* since the end of last year.
- 3 Your taxi *has just arrived / just arrived*.
- 4 We're enjoying our trip. We *have made / made* a lot of useful contacts.
- 5 *I've seen / I saw* Hugh Hopper a few days ago - he sends his regards.
- 6 We *went / have been* to an interesting seminar last week.
- 7 Today *has been / was* really busy - and it's only lunchtime!
- 8 Today *has been / was* really busy. It's 7 pm - I'm going home.
- 9 I'm afraid Patrizia *left / has left* the office an hour ago.
- 10 I'm afraid Patrizia isn't here - *she left / has left* the office.

Exercise 5

Complete the sentences by putting the verbs in brackets into either the present simple, past simple or present perfect.

- 1 The company is doing very well. Last year sales (go up) by 15%, and so far

this year they (go up) another 12%.

2 We.....(operate) all over Latin America. Recently we.....(set up) branches in Peru and Ecuador.

3 This.....(not look) like the right block. Are you sure we.....(come) to the right address?

4(you/see) my laptop? I'm sure I.....(leave) it here earlier.

5 I.....Just/met) Andrew from Sales(you/know) him?

6 I(never/speak) to him, but I(speak) to his assistant on the phone yesterday.

7 I(work) for WorldCom now – I(be) there for more than five years(you/know) WorldCom?

8 I(work) for WorldCom since last year, but now I(want) to change jobs(you/hear) of any vacancies?

Exercise 6

Complete each mini-dialogue by putting the verbs in brackets into the correct form. One verb will be in the present perfect and the other in the present perfect continuous. Use contractions where possible.

1 A: What's the matter? You look worried!

B: Yes, I am I.....(look at) the contract in detail, and I
.....(notice) a lot of potential problems.

A: Oh, such as?

2 A: I(phone) Carol all day, but there's no reply.

B: I expect she(go) to Head Office.

A: Oh, yes, I forgot.

3 A: 'Tosca' is coming to the Opera House(you see) it?

B: No, not yet. Shall we go? I(look forward) to it for ages.

A: So have I. What about next week?

4 A: How long(you produce) cars at this site?

B: About four years. We(invest) twenty million dollars in plant and machinery.

A: Oh, and how long will it take to recoup your investment, do you think?

14 Present perfect continuous

have / has + been + past participle

1 We use the present perfect continuous:

a to describe actions and trends that started in the past and continue in the present. We are interested in the process as well as the result.

How long have you been working here?

I've been writing the report all morning.

b to talk about the effect of recent events.

Why *are you covered in ink?* I've been repairing the *photocopier*.

He's *been working for fourteen hours non-stop* *that's why* he looks so tired.

c in emails and on the telephone to outline problems or to introduce a topic.

I *gather you have been* experiencing problems in ordering *our products*.

I've *been talking* to Jim about the fault in your computer but I *can't find your email* describing.... ..

2 The present perfect continuous is not used:

a for completed actions - compare:

Interest rates *have reached* 8%. (a completed action)

Interest rates *have been going up all year*. (and have not stopped going up)

b To specifically quantify an action, e.g. talk about the number of times it happened. Use the present perfect simple instead - compare:

He's *been talking* on the *phone all morning*. (and he is still talking now)

He's *made a least 25 phone calls* this morning.

A Underline the correct form in italics.

1 I have *written / been writing* emails all morning - I have *written / been writing* 20 so far.

2 We have *received / been receiving* no reply to our request for information.

3 He has *worked / been working* too hard that's why he's always so tired.

4 He has *worked / been working* for several different companies. He has *worked / been working* for his current company for six months.

5 They have *known / been knowing* each other since they were at school together.

B Read these extracts from emails and letters. Put the verbs in italics into the past simple, present perfect, or present perfect continuous.

1 I hear you *have* problems with the new system. Sorry about this. I *speak* to the Systems Manager and she *promise* to get back to you by lunchtime. She also *ask* me if you could send her the log file.

2 Thanks for buying me lunch yesterday. Great to see you. It *made* a nice change as I *be* so busy lately. By the way, I *forget* to ask you if you could give me your boss's email address. We *work* on a project recently which I think she would be interested in. Anyway take care and speak to you soon.

3 We note from our records that we still not *receive* any payment for our invoice dated 3 March, reference number ZX45791. I would like to point out that this is the third time we *request* payment. I would be grateful if you would contact me about this as a matter of urgency. I *try* to ring you several times and I *leave* several messages with your secretary. I enclose a further copy of our invoice.

C For 1 and 2, choose the correct answer

1 She's been *living* here *for six months*.

When did she arrive?

a six months ago b we don't know

2 I've *been reading* a computer manual.

Does this mean that I have completed the manual?

a yes b probably not

15 Present simple

I work -he works we try - she tries

you catch -she catches you go -she goes

1 We use the present simple:

a to describe states and situations that are permanent and always true.

The President lives in the White House.

The earth revolves around the sun.

b to talk about habits and things that we do regularly.

I work for an Internet service provider.

She leaves home at 6.30 every morning.

c in formal emails and letters to say why we are writing, what we are attaching, etc.

I write to complain about the poor service ...

I enclose the budget estimates you requested.

I look forward to hearing from you in the near future.

Time expressions typically associated with the present simple *are: frequently, often, occasionally, etc. every day, on Saturdays, each week, once a year.*

2 The present simple is not used

a to make suggestions, ask for advice, or offer to do things. Use *shall* or *will* instead.

Shall we go out for dinner tonight?

Shall I ring you to confirm the arrangements?

I will let you know the results of the tests tomorrow.

b for actions or situations that began in the past and continue into the present. Use the present perfect instead.

I have lived here for six months. (Not: I live here for six months.)

16 Present continuous

be (are / is / are) + verb + ing

1 We use the present continuous:

a to describe an incomplete action that is going on, now at this moment.

You are reading an explanation of the present continuous.

The sun is shining outside.

b to talk about an incomplete action that is going on now, in this present period. Here *now* has a wider sense than now, this moment.

We're working on a new project.

The number of people using the Internet is growing constantly.

- c to talk about a temporary event or situation.

*I usually work in my own office, but today I'm working in Carol's office.
She's staying in a hotel until she finds a flat to rent.*

- d in emails and letters to give a less formal and more friendly tone, particularly with verbs such as *write, enclose, attach, look forward to*.

*I am attaching those photos of the kids I told you about.
I'm really looking forward to seeing you again.*

- e to talk about future arrangements (see *future*).

Time expressions typically associated with the present continuous are: *currently, now, at the moment, for a few weeks, in this period, this week, next month*.

- 2 Some verbs are never used in the continuous form. The majority of these are verbs that describe a state rather than an action.

- a verbs which describe an opinion or mental state: *believe, forget, imagine, know, mean, notice, recognize, remember, think (i.e. have an opinion, not the activity), understand*.

I understand you have had some problems with the new machine.

- b auxiliaries and modals: *be, have, can, must, should*

There is a meeting on Friday, can you come?

- c senses and perception: *feel, hear, see, seem, look, smell, taste*.

This room smells of gas.

- d emotions and desires: e.g. *hate, hope, like, love, prefer, regret, want, wish*.

We regret to inform you that ...

- e measurement: e.g. *contain, cost, hold, measure, weigh*.

This package contains the start-up software.

- 3 In cases where these verbs are used to refer to actions rather than states, they may be used in the continuous form.

*We are having dinner with the president on Friday. (have means 'eat' not 'possess')
We were thinking about opening a new office. (think means 'consider' not 'have an opinion')*

- A Put the verbs in italics into the correct tense.
- 1 It's *raining / rains* very hard. Can you give me a lift home?
 - 2 I *don't have / am not having* much spare time at the moment. I'm *studying / study* to pass an exam.
 - 3 The price of shares *varies / is varying* according to economic conditions.
 - 4 I *speak / am speaking* French fluently because I grew up in Paris, but I'm *forgetting / forget* my German because I never use it.
 - 5 Anne normally *deals / is dealing* with enquiries from overseas, but I'm *dealing / deal* with this one.

- B In each of the following sentences, put one of the verbs into the present simple and one into the present continuous.
- 1 What he (talk) about? I (not understand)!
 - 2 I'm afraid Mr Passos is (have) lunch at the moment. (Have) an appointment?
 - 3 We (interview) candidates for a new managerial post at the moment, but we urgently (need) more secretarial staff.
 - 4 The new model (perform) very well in all weather conditions. It's not surprising that it (become) more and more popular.
 - 5 I (think about) applying for the post in the Accounts Department. It (depend) what the salary is.

17 Verb + -ing or infinitive

Verb + -ing

Some verbs are followed by an -ing form. Some of the commonest verbs follow below:

As manufacturers consider automating their distribution channels, they should not lose sight of the effectiveness of personal contact.

Auto manufacturers are concerned consumers will postpone buying cars until after next July, when the current 22% sales tax on autos is expected to fall.

Van der Hoeve, CEO of Royal Ahold, spends 50 per cent of his time travelling and getting onto the sales floor as much as possible. As he explains: "I usually get a good feel for the store as I walk around".

| | |
|----------------------|---|
| saying and thinking | admit*, consider*, deny*, describe, imagine*, mention*, suggest* |
| liking and disliking | dislike, enjoy, fancy, (not) mind |
| phrasal verbs | carry on, give up, keep on, put off |
| phrase with can't | can't bear, can't help, can't resist, can't take, can't stand |
| other common verbs | avoid, delay, finish, involve, keep, miss, postpone, practise, risk |

With used to, be going to, be able to, be allowed to, have to, need to and ought to.

Verb + object + to + infinitive

The following verbs are followed by an object + to + infinitive.

Advise*, allow, ask, cause, encourage, expect, forbid, force, help, invite, order, pay, prefer, persuade, remind*, teach*, tell*, train, want, warn*

(* see verb + that clause below)

Russia will **ask the Paris Club of creditors to postpone** the signing of bilateral agreements on the repayment of debt.

Li also **persuaded four banks**, including HSBC Holdings and Bank of China, **to lend** him \$11 billion, a record in Hong Kong.

Make and Let

After **make and let** we use the bare infinitive without **to**.

I made them **check** everything very carefully.

They **let us have** all these free samples.

Verb + that clause

The verbs marked with an asterisk* in sections can also be followed by a **that clause**. In everyday speech we can leave out the word **that**.

I suggested **speaking** to Eliza about it.

We decided **to cancel** the meeting.

They told us **to wait**.

I suggested **(that) we could** speak to Eliza about it.

We decided **(that) we would cancel** the meeting.

They told us **(that) we should wait**.

Exercise 1

Underline the correct words.

1 We can't afford *to miss/missing* this opportunity.

2 Do you fancy *to go/going* for a drink after work?

3 Are you waiting *to use/using* the phone?

4 It's not worth *to spend/spending* any more time on this.

5 We decided *to close down/closing down* the factory in Belgium.

6 You promised *to deliver/delivering* by April, and it's now May.

7 I considered *to call/calling* him, but I decided it was better to write.

8 If we don't decide soon, we risk *to lose/losing* the whole contract.

9 She agreed *to prepare/preparing* some figures before the next meeting.

10 I'm sorry, there seems *to be/being* a misunderstanding here.

11 Is Mr Messier busy? OK, I don't mind *to wait/waiting* for a few minutes.

12 He refused *to sign/signing* the contract until he'd spoken to his boss.

13 May I suggest *to postpone/postponing* the meeting until next week?

Exercise 2

Complete these sentences with the verbs from the list below. Choose either the *-ing* form or *to + infinitive*.

give write fly receive make recognise advertise help think
speak

- 1 They agreed _____ us thirty more days to pay the invoice.
- 2 He pretended _____ me, but I don't think he knew who I was.
- 3 There's no point _____ this brand on TV, it would cost too much.
- 4 We're expecting _____ some more stock early next week.
- 5 I'll join you later. I need to finish _____ this report.
- 6 I learnt _____ Portuguese when I worked in Brazil.
- 7 I work in public relations. My job involves _____ contact with the media.
- 8 I can't help _____ that something is going to go wrong.
- 9 I can't afford _____ business class all the time.
- 10 I can't promise _____ you with this problem, but I'll do my best.

Exercise 3

Complete the following sentences with verbs from the list below. Include an object in every case.

advise remind persuade expect help encourage force

- 1 I'm sorry I missed work yesterday. The doctor _____ to stay in bed.
- 2 I tried to _____ come with us tonight, but he said he was busy.
- 3 Could you _____ call Head Office later? I might forget.
- 4 If you employ a secretary, it will _____ deal with all the paperwork.
- 5 She hasn't called yet, but I _____ contact me some time today.
- 6 I didn't feel very confident, but she _____ apply for the job.
- 7 The fall in demand has _____ make some of our best workers redundant.

18 Adjectives and Adverbs

An adjective describes a noun.

Last year we had a **significant increase** in profits.

Last year **profits** were much **better** than this year.

If you want **big gains** on the stock market you need a **long-term view**.

An adverb says how (*quickly*), when (*tomorrow*) or where (*over there*) something happens

Adverbs can come in different positions. 'How' adverbs usually come after the verb.

We **planned** everything **very carefully**.

The economy is growing **slowly**.

Frequency adverbs come after *be* and auxiliaries, but before other verbs.

She is **never** late.
She **has never** arrived late.
She **never goes** there.

Other 'when' adverbs can come before or after the verb.

Last year our profits rose slightly *Our profits rose slightly last year.*

If we have several adverbs together, the usual word order is:

HOW - WHERE – WHEN

Our profits rose slightly in Germany last year.

As well as describing verbs, adverbs can also describe adjectives and other adverbs

It's relatively expensive. (adverb + adjective)
He arrived extremely late. (adverb + adverb)

Form of adverbs

Many 'how' adverbs are formed by adding *-ly* to an adjective. A few add *-y* *-ally*, or *-ily*, depending on the spelling of the original adjective.

| | | |
|----------------------|--------------------------------|---------------------------|
| <i>slow – slowly</i> | <i>slight – slightly</i> | <i>careful- carefully</i> |
| <i>full – fully</i> | <i>dramatic - dramatically</i> | <i>steady - steadily</i> |

Some adverbs and adjectives have the same form. Examples include *fast, hard, early, late, high, low, right, wrong, daily/weekly/monthly/quarterly*.

This is a fast machine. (adj.) *This machine goes very fast.* (adv.)
It's a hard decision. (adj.) *He's working very hard at the moment.* (adv.)

Note that the adverb *hardly* is not related to the meaning of *hard*. *It's so noisy I can hardly think.* ('hardly' = almost not)

Note that *good* is an adjective and *well* is an adverb.

She's a good negotiator. *She negotiates well.*

Gradable and non-gradable adjectives

Look at these sequences:

| | | |
|----------------------------|------------------------------------|-----------------------|
| <i>boiling</i> | <i>hot, warm, mild, cool, cold</i> | <i>freezing</i> |
| <i>excellent/fantastic</i> | <i>good, bad</i> | <i>awful/terrible</i> |
| <i>enormous</i> | <i>large / big, small, tiny</i> | <i>minute</i> |

Adjectives in the middle of the sequence are 'gradable'. We can make them stronger or weaker with words like *very*, *a bit*, *quite*, *reasonably*, *relatively*, *extremely*.

*The weather was **quite** hot/cold.*

*The meal was **very** good/bad.*

Adjectives at the end of the sequence are 'non-gradable' or 'extreme'. With these adjectives we use *absolutely*

*The talk was **absolutely** excellent / awful.*

Order of adjectives

When we have more than one adjective we use this order:

| | |
|------------------------|--|
| Opinion | <i>wonderful, lovely, nice, difficult, important</i> |
| Size | <i>large, small, long, short</i> |
| Other qualities | <i>cheap, clean, quiet, fast</i> |
| Age | <i>new, old, second-hand</i> |
| Shape, pattern, colour | <i>circular, flat, striped, red, black</i> |
| Origin, nationality | <i>French, Japanese, American, Scandinavian</i> |
| Material | <i>wooden, metal, plastic, steel</i> |
| Type (what kind?) | <i>third-generation (phone), economic (policy), safety (device), investment (bank), face (cream)</i> |

Words in the final two categories can be nouns used as adjectives.

Here are some examples:

| | |
|---|---------------------------|
| <i>a 10-page American legal contract</i> | (size, nationality, type) |
| <i>a fast new sports car</i> | (quality, age, type) |
| <i>an efficient worldwide distribution network</i> | (opinion, size, type) |
| <i>a cheap clean energy source</i> | (quality, quality, type) |

Adjectives ending *-ing* and *-ed*

Adjectives ending *-ing* describe something we are reacting to (outside us).

Adjectives ending *-ed* describe our feelings and reactions (inside us).

*The meeting was very **interesting**. I was **interested** in your idea about outsourcing.*

Asia Online president Kevin Randolph says he does not concentrate on the number of customers because he is not really **interested** in mass marketing. "I am **interested** in quality marketing," Randolph says. "We have 100, 000 customers, which is an **interesting** number, but I am not managing the business based on that."

Other pairs like this are: *bored/boring, confused/confusing, excited/exciting, fascinated / fascinating, surprised / surprising, tired / tiring*

I found her comments quite **surprising**. I was **surprised** by her comments.

Exercise 1

Complete the second sentence so it has a similar meaning to the first sentence.

- 1 There was a slight fall in profits in April.
In April profits _____.
- 2 There was a dramatic improvement in our share price last month.
Last month our share price _____.
- 3 There has been a significant drop in demand for oil over the last few months.
Demand for oil _____ over the last few months.
- 4 Let's have a brief pause for coffee.
Let's _____ for coffee.
- 5 There has been a steady improvement in the inflation figures.
The inflation figures _____.
- 6 There was a slow recovery in consumer confidence last year.
Consumer confidence _____ last year.
- 7 There has been a gradual rise in unemployment.
Unemployment _____.
- 8 There has been considerable growth in Korean GDP over recent years.
Over recent years Korean GDP _____.

Exercise 2

Underline the correct adjective.

- 1 I couldn't do any more work last night. I was just so *tired/tiring*.
- 2 I don't think the audience liked the talk. They looked *bored/boring*.
- 3 I don't think the audience liked the talk. It was a bit *bored/boring*.
- 4 Your new multi media project sounds really *excited/exciting*.
- 5 You look *worried/worrying*. Is anything the matter?
- 6 Their profits last year were extremely *large/enormous*.
- 7 Their profits last year were absolutely *large/enormous*.
- 8 The sales figures last month were very *bad/terrible*.
- 9 Warsaw is absolutely *cold/freezing* at this time of year.

Exercise 3

Complete the sentences with one word from the list A and one word from list B.

A: badly completely easily extremely heavily quite unexpectedly well

B: delayed designed helpful illegal late made promoted recognisable

- 1 This suitcase is very _____. It will last for years and years.
- 2 The new product is being _____. You see the adverts everywhere.
- 3 This website is very _____. I can't find the information I need.
- 4 You've been _____. I really appreciate it.
- 5 Our offices are _____. Look out for the large flags at the front.
- 6 I'm sorry, my flight has been _____. I'll call you when I arrive.
- 7 Taking bribes is _____. You'll lose your job if they catch you.
- 8 I arrived at the presentation _____, and missed the first part.

Exercise 4

Put each group of words into the best order.

- 1 old-fashioned a large machine cutting
- 2 wooden square two cartons
- 3 new package an amazing software
- 4 period a transition three-month difficult
- 5 chips computer Taiwanese high-quality
- 6 a strategy well-planned investment
- 7 access cheap Internet high-speed
- 8 a new revolutionary computer handheld
- 9 a powder washing new wonderful
- 10 awful plastic cheap souvenirs

Exercise 5

Complete the sentences with a word from the list below. At the end of each sentence write *adj.* (adjective) or *adv.* (adverb) to show how the word in the gap is being used.

good well fast fast hard hard hardly late late monthly

- 1 We're going to introduce a _____ newsletter for all employees.
- 2 I'm sorry, your goods are going to arrive about a week _____.
- 3 That flight time is too _____. Haven't you got anything earlier?
- 4 Everything's fine. The meeting is going very _____.
- 5 I was so tired that I could _____ keep my eyes open.

- 6 The hotel was _____, but we didn't like the food in the restaurant.
 7 It's a _____ choice, but I think Carla is the better candidate.
 8 I had to work very _____ to get everything finished on time.
 9 I'm sorry, I don't understand. You're talking too _____.
 10 We'll have to make a _____ exit if things start going wrong.

19 Adverbs of degree

Adverbs of degree show how big or important something is. They make the meaning weaker (small degree) or stronger (large degree).

- Small degree: *a little, a bit, slightly*
 Medium degree: *quite, fairly, pretty, rather, reasonably, relatively*
 Large degree: *extremely, really, very, absolutely, completely*

*Marc Paber is noted as a **slightly** eccentric but often very accurate market tipster.*

Look at these examples.

- With adjectives: *It was a **little** expensive/**rather** strange/**very** professional*
 With adverbs: *It was done **a bit** late/**quite** quickly/**very** professionally*
 With verbs: *I **really** disagree. They've increased their offer **a little***
 With comparatives: *It's a **bit/slight/y/considerably/y/much/a lot** cheaper*

Too, enough, not enough

Too means “more than is necessary or good”. *Not enough* means “less than is necessary or good”. *Enough* means “as much as is necessary” or “sufficient”.

Adjectives: *The salary is too low. The salary isn't high enough*

Adverbs: *I'm sorry, it goes too slowly. I'm sorry, it isn't fast enough*

Nouns: *There's too much work. There isn't enough time*

Note the positions: *too* comes before adjectives, adverbs and nouns; *enough* comes after adjectives and adverbs, but before nouns.

We use *too many/few* + plural nouns and *too much/little* + uncountable nouns.

There are too many people involved in the project.
I think we spent too much money on the consultants.

We can leave out the noun if the meaning is clear.
Just a little milk, please. Not too much.

There are six chairs. Is that enough?

Other structures with too and enough

After *too* and *enough* we can use a phrase with *for*.

Their delivery times are too long for us.
Have we got enough chairs for everyone?

After *too* and *enough* we can use a *to* infinitive.

Sales are too slow to make much profit.
We don't have enough time to do everything.

So and such

We use *so* and *such* for emphasis

So with adjectives and adverbs: *The meeting finished **so quickly**.*

Such a with adjective + singular noun: *It was **such a quick meeting**.*

Such/So many/So few with plural nouns: *You have **such friendly colleagues***
*We sold **so many policies** last month!*

Such/So much/So little with uncountable nouns: *It was **such good advice**.*
*I have **so much work** to do.*

So/such and *too* are different. *So/such* express an opinion which can be either positive or negative. *Too* suggests a difficulty, that something cannot be done.

*There are **so many people** involved in the project.* (it's just my opinion)
*There are **too many people** involved in the project.* (we need to reduce the number)

So/such can be used with *that* to express a result. *Too* cannot be used with *that*.
*The meeting finished **so quickly that** I was home by 5.30.* (NOT too quickly that)

Quite, fairly, pretty or rather?

Quite, fairly and *pretty* mean "a medium amount". "*Like most businesses, we're **fairly** cautious about what might come in the next couple of years, mainly because of the Asian situation*"

In American English *pretty* is a common way of saying 'very'.

We can change the meaning of *quite* in British English by stressing the adjective in speech. The meaning changes to 'very'. This is called understatement.

The restaurant was quite good. (normal meaning: it was OK)

The restaurant was quite good. (understatement: it was very good)

Rather also means 'a medium amount', but it often suggests that something is bad, surprising or unusual. It is more formal.

It's rather late to do anything now. (It's a little too late, I'm afraid)

The restaurant was rather good. (I enjoyed it, surprisingly)

With a comparative we can only use *rather*, not *quite*.

*The meeting took **rather longer** than I expected.* (NOT quite longer)

With some adjectives *quite* means 'absolutely' or 'completely'. These include: *absurd, certain, different, hopeless, impossible, ridiculous, right, sure, true, wrong*.

I'm quite certain about this. (= absolutely certain)

*Are you sure that's **quite right**?* (= completely right)

Exercise 1

Match each phrase 1-8 with the phrase a)-h) with the closest meaning. Be careful - some are similar.

- 1 It's a bit slow.
- 2 It's quite slow.
- 3 It's rather slow.
- 4 It's relatively slow.
- 5 It's so slow.
- 6 It's too slow.
- 7 It's slow enough.
- 8 It's not slow enough.

- a) It's comparatively slow.
- b) It's slightly slow.
- c) It's fairly slow.
- d) It's a little too slow, I'm afraid.
- e) I want it to be even slower.
- f) There's a problem. I want it to be faster.
- g) It really is very slow.
- h) OK. That's as slow as it needs to be.

Exercise 2

Underline the correct words.

- 1 The salary they are suggesting sounds *so good/too good* to be true!

- 2 There were *so few/so little* customers that I went home early.
- 3 We can't pull out now. There's *too much/too many* money involved.
- 4 It was *such/so* a boring meeting that I nearly fell asleep.
- 5 The meeting was *such/so* boring that I nearly fell asleep.
- 6 I had to say 'no' - the cost was *so much/too much* for the budget I was given.
- 7 We had *so much/so many* new business that we needed extra staff.
- 8 I had *so much/so many* reports to write that I put the answering machine on.
- 9 We have *so few/so little* information that we can't make a decision.
- 10 The meeting was *so short/too short* to cover all the points properly.
- 11 Can you help me? I'm not *enough tall/tall enough* to reach the top shelf.
- 12 There isn't *enough money/money enough* in the budget for your idea.

Exercise 3

Complete the sentences with one of these words: *too, enough, so, such, much, many, little, few*.

- 1 Is your coffee _____ hot? Would you like a little more milk?
- 2 I had _____ trouble finding somewhere to park that I arrived late.
- 3 I had _____ problems finding somewhere to park that I arrived late.
- 4 There were _____ replies to the last mailing that we won't do another.
- 5 I had _____ cash on me that I couldn't even buy a sandwich.
- 6 The price of their shares is _____ high to buy any more right now.
- 7 We're making _____ progress that we should finish a week early.
- 8 We're expecting a lot of people. This room won't be large _____.
- 9 I couldn't do any work on the train. I was _____ tired that I fell asleep.
- 10 She speaks _____ quickly for me to understand.
- 11 They pay _____ late that we won't receive the money until June.
- 12 That's _____ a good idea. It'll save us thousands of dollars.

Exercise 4

Complete the second sentence so it has a similar meaning to the first sentence and contains the word in brackets.

- 1 I didn't buy that laptop because the screen was too small. (enough)
I didn't buy that laptop because _____.
- 2 The problem was so difficult that I referred it to my line manager. (such)
It _____ that I referred it to my line manager.
- 3 There weren't enough copies of the agenda. (few)
There _____ of the agenda.
- 4 There's not enough space on this spreadsheet for all the results. (little)
There's _____ on this spreadsheet for all the results.
- 5 It was such a good presentation that they gave us the contract immediately. (so)
The _____ that they gave us the contract immediately.

6 I sold too few units last month to get a bonus. (enough)

I _____ last month to get a bonus.

7 I've got such a busy schedule that I can't meet you until next Tuesday. (so)

My schedule _____ that I can't meet you until next Tuesday.

8 We've sent out lots of brochures and we'll need to print some more. (many)

We've sent out _____ we'll need to print some more.

9 I haven't got enough time to prepare for the meeting. (too)

I've got _____ to prepare for the meeting.

20 Definite and Indefinite article

Definite article *the*

Used with singular and plural countable nouns in specific context

I studied the program.

The programs are interesting.

The not used before uncountable nouns in generic context

Time goes faster as you get older.

Hardware is becoming less expensive

The not used before plural countable nouns in generic contexts

Philosophical texts can be hard to understand.

Computer hackers can cause a lot of damage.

Note the use of a clause can make something specific

The time (that) he spent at university.

Use **the** with singular noun for a class of animals or things

The dog is man's best friend.

The computer is very important in the financial world.

Use **the** with superlatives and ordinal numbers.

The biggest users of SMS are young people

The robotics department is on the 7th Floor.

The is not used with:-

Possessive adjectives

eg. This is my car

Names of meals

I had breakfast this morning.

if the meal is a specific meal then we use **the**

The dinner we ate last night was wonderful

Names of games

I enjoy watching and playing rugby.

Means of transport

eg I go to work by train

Names of people

I am meeting John in the restaurant at lunchtime.

Names of countries and Cities unless defined in some way or they are plural.

Italy is in the European Economic Union

The Netherlands has a large percentage of land below sea level.

Names of single mountains but used with mountain ranges

Ben Nevis is the highest mountain in Scotland.

Everest is in the Himalayas

Names of lakes

Lake Garda is in North Italy

Months, years, %

The indefinite article A/An

An is used with vowel sound.

Used with singular countable nouns

He is an Economist

Not used when referring to office of person

She became CEO in 2002.

No article with countable nouns in generic reference

They are students.

Indefinite article can be used with singular countable nouns for general classification

A dog is a faithful animal.

A doctor treats ill people

Used in expressions of frequency and ratios

Once a month 100 km an hour

Used after adverbs

Rather and quite

They had quite a good time (abbastanza)

He is rather a difficult person (piuttosto)

Exercise 1

Put *a* or *an* before the words below:

advert commercial concept USP (Unique Selling Point) university
VIP hour European exhibition MBA employee endorsement

The text below is about an unusual advertising campaign for a car. It uses a famous actor who died nearly 20 years before the advertisement was made. There are no articles in the text. Write in the articles *a*, *an*, or *the* where appropriate.

AN ADVERTISEMENT FOR THE NEW FORD PUMA

More than 6,000 famous advertising people from around world gathered in Cannes at end of last month for 44th International Advertising Festival.

Many of those looking through 4000-plus commercials were searching for multinational advertiser ideal: simple idea that crosses borders and appeals to people on same level in different markets. Unfortunately most of awards were for ads created specifically for local markets.

New Ford Puma campaign was created too late for this year's festival, but expect to see it shine at 45th. Designed to launch Ford's new sporty coupé across Europe, it contains that instantly recognisable idea that those multinational agencies' clients seek.

Essentially, late, great Steve McQueen drives Ford Puma through streets of San Francisco in manner in which he drove 1960s Ford Mustang in big classic movie *Bullitt*.

Footage from film, supplied by Warner Brothers, is combined through use of extraordinary computer technology with footage of Ford Puma. Car follows one of routes Mustang took in film.

As McQueen 'drives' around city, car receives admiring glances from passers-by ranging from traffic cop to attractive woman out walking. Finally he pulls onto his garage where he parks Puma alongside original Mustang.

Look at the underlined words in the text. Then answer the questions below.

- 1 In paragraph 4 which *streets* are we talking about?
- 2 In paragraph 5 which: a) *film* b) *car* c) *route* d) *Mustang* are we talking about?
- 3 In paragraph 6 which: a) *city* b) *car* c) *Puma* d) *Mustang* are we talking about?

Why do we use *the* to answer the questions in the above exercise?

Why do we use *a* or *an* instead of *the* before these words?

- 1 a Ford Puma (paragraph 4) 3 a traffic cop (paragraph 6)
- 2 a 1960s Ford Mustang (paragraph 4) 4 an attractive woman (paragraph 6)

Exercise 2

Underline the correct words.

- 1 Where's *a/the* fax they sent this morning? I can't find it.
- 2 I have *an/the* appointment at *a/the* bank.
- 3 I had *a/the* very good holiday. *A/The* weather was marvellous.
- 4 I've been working so hard that I need *a/the* break.
- 5 They are *a/the* largest manufacturer of light bulbs in *a/the* world.
- 6 *A/The* presentation was *a/the* great success.
- 7 Can I give you *a/the* lift to the station?
- 8 I think I need *a/the* new pair of glasses.
- 9 We need to reach *a/the* decision as soon as possible.
- 10 There must be *an/the* answer to *a/the* problem.
- 11 Mike is *an/the* accountant. He works on *another/the other* side of town.
- 12 His office is *a/the* biggest one in *a/the* building.
- 13 Where is *a/the* document that we were looking at just now?
- 14 *The Portuguese/The Portuguese people* are very good negotiators.

Exercise 3

Put either *a/an* or a dash (-) to show no article.

- 1 ___ money makes the world go round.
- 2 Sheila drives ___ French car.
- 3 Rita works in ___ insurance agency in ___ Lisbon.
- 4 ___ health is the most important thing in ___ life.
- 5 This is ___ good time for ___ sales of new cars.
- 6 This is the number to call for ___ information.
- 7 I've got ___ colleague who is ___ systems analyst.
- 8 ___ product knowledge is very important for ___ sales representative.
- 9 He is ___ engineer. He studied ___ engineering at university.
- 10 We produce ___ full sales report four times ___ year.

Exercise 4

Put either *a/an, the* or a dash (-) to show no article.

- 1 _____ Italians have given us _____ lot of _____ business.
- 2 _____ most people thought that it was _____ very good product.
- 3 I like to drink _____ glass of wine in _____ evening.
- 4 I wish I could speak English like _____ English.
- 5 As soon as _____ Helen gets off _____ plane, ask her to give me _____ call.
- 6 _____ smoking is not permitted in this area.
- 7 There's _____ visitor at _____ reception desk.
- 8 When I arrived at _____ airport, I had _____ drink and waited for _____ flight.
- 9 I want _____ action, not _____ words.
- 10 _____ person with _____ MBA usually gets _____ good job.
- 11 I'll get you _____ coffee from _____ machine.
- 12 Marie comes from _____ France.

Exercise 5

Underline the correct words.

- 1 We went to *Pisa/the Pisa* and saw *Leaning Tower/the Leaning Tower*.
- 2 *Crete/The Crete* is very beautiful at this time of year.
- 3 My son is in *hospital/the hospital* and can't go to *school/the school*.
- 4 You can go from *Heathrow/the Heathrow* by *underground/the underground*.
- 5 *Helmut Kohl/The Helmut Kohl* was *Chancellor/the Chancellor* who helped to reunite *Germany/the Germany*.
- 6 We flew over *Alps/the Alps* and saw *Mont Blanc/the Mont Blanc*.
- 7 In *near future/the near future* video conferences will replace many meetings.
- 8 I'm tired! Thank goodness it's time to go *home/to home*.
- 9 *New York/The New York* is in *United States/the United States*.
- 10 I usually have *lunch/the lunch* at about one.
- 11 I used to work for *Deutsche Bank/the Deutsche Bank* in *City of London/the City of London* at *start/the start* of my career.
- 12 My son wants to go to *university/the university* after his exams.
- 13 Do you know *Lake Windermere/the Lake Windermere*? It's in *Lake District/the Lake District*, in *north-west/the north-west* of *England/the England*.
- 14 I bought this suit from *Bond Street/the Bond Street*.
- 15 The Government should do more to help *the poor/the poor people*.
- 16 On our trip to *UK/the UK* we toured around *south-east/the south-east* and visited *Canterbury Cathedral/the Canterbury Cathedral*.
- 17 They wouldn't pay, so we took them to *court/the court*.
- 18 *John/The John* is at *work/the work* at *moment/the moment*.
- 19 We travelled to *Italy/the Italy* by *car/the car*.
- 20 *Danube/The Danube* is the main river in *Central Europe/the Central Europe*.

Exercise 6

In each pair of sentences, fill in one space with *the* and the other space with a dash (-) to show no article.

- 1 a) _____ profits are increasing across every division of the company.
b) _____ profits we made last year were up in comparison to the year before.
- 2 a) _____ information in your report will be very useful to us.
b) _____ information about the Kazakh market is hard to find.
- 3 a) _____ visitors should sign their name in the book at reception.
b) _____ visitors from Germany will be arriving at ten.
- 4 a) This magazine article gives _____ advice about which stocks to buy.
b) Thank you for _____ advice you gave me last week.
- 5 a) _____ bonds I have are all long-term investments.
b) _____ bonds are a safe investment when interest rates are falling.
- 6 a) _____ French exports to the rest of Europe are up 4% this year.
b) _____ French are world leaders in the luxury goods market.
- 7 a) _____ management is an art, not a science.
b) _____ management are blaming the unions for the breakdown in negotiations.

21 Clauses

Relative clauses

The main problem in the difference between defining and non-defining relative clauses. They mostly present a punctuation problem in written English. It is worth mentioning that many native speakers find them problematical.

Non-defining relative clauses

Most relative clauses are of this kind - where the clause merely adds an extra piece of information:

He introduced me to his sister, *who is retired and lives in America*. (The sister just happens to be retired and living in America.)

My boss, *who's Irish*, is on holiday this week. (My boss just happens to be Irish.)

In both these examples, we use commas to show that it is an extra piece of information.

Defining relative clauses

These clauses add an extra piece of information which helps to define the noun more clearly. Notice there are no commas to show the close link between the clause and its subject.

He introduced me to his sister *who is retired and lives in America*. (He has more than one sister. This one is retired and lives in America.)

The person *who deals with your account* is on holiday this week.

(Several people work in the Accounts Department. One of them is on holiday at the moment. She deals with your account.)

Relative clauses

- 1 We use *who* or *that* in a relative clause to identify people.
*The people **who/that** we employ are very highly qualified.*

As *people* is the object of the clause the relative pronoun can be left out.
The people we employ are very highly qualified.

If the relative pronoun defines the subject of the sentence, it must be included.
*A counterfeiter is a person **who** copies goods in order to trick people.*

- 2 We use *that* or *which* in a relative clause to identify things.
*Have you read the report **that/which** I left on your desk?*

If *that* or *which* identifies the object of the clause it can be left out.
Have you read the report I left on your desk?

If *that* or *which* defines the subject of the sentence, it must be included.
*Organisations **that** are flexible can respond to change.*

- 3 Non-defining clauses provide extra information about the subject or object of a sentence.
The extra information is separated by commas.

*Philip Condit, **who** is chairman of Boeing, wants the airline to become a global company.*

Note that it is not possible to use *that*.

*The Dorfmann hotel, **which** is situated 30 kms outside Vienna, charges US\$ 1400 per person.*

Again, it is not possible to use *that* in a non-defining clause.

Use the relative pronouns below to complete these quotations.

Which gap does not need a relative pronoun?

who which that where

- 1 “The job for big companies, the challenge _____ we all face as bureaucrats, is to create an environment _____ people can reach their dreams.” Jack Welch
(US business leader)

- 2 “He _____ has never learned to obey cannot be a good commander.”
Aristotle (Greek philosopher)

- 3 “A leader shapes and shares a vision, _____ gives point to the work _____ of others.” Charles Handy (British writer and philosopher)

- 4 “A leader should be humble. A leader should be able to communicate with his people. A leader is someone _____ walks out in front of his people, but

he doesn't get too far out in front, to where he can't hear their footsteps.' *Tommy Lasorda (US sports personality)*

5 "A leader is someone _____ knows what they want to achieve and can communicate that." *Margaret Thatcher (British politician)*

In the text below, all the relative pronouns have been taken out. Put them back in, where appropriate.

A leader among men

Carly Fiorina, has been called America's most powerful business woman, is Chief Executive of the huge Hewlett Packard group, manufactures computers and printers. Ms Fiorina, has spent most of her working life in the telecommunications industry, started out as a sales representative with AT&T, she rose rapidly through the ranks. Later she was a key player in the creation of the equipment and components company Lucent Technologies, she was in charge of the sales and marketing of networking products. Ms Fiorina now oversees an organisation is one of the 30 leading companies in the Dow Jones Industrial Average.

22 Questions and Reported Speech

Rules for Reported Speech

Some grammar books say that certain rules must be followed, but the truth is that many different combinations of tenses are possible:

He said > he's coming / he'll come / he's going to come / he was coming.

On the whole, past tenses are used to report past events. Sometimes we report in the present things which are happening or are going to happen. From a classroom point of view it means we need to be very careful about giving rules.

Some exercises in the past asked students to turn direct speech into indirect speech. For example:

Example 1

"What are you doing?" > *He asked me what I was doing.*

Example 2

"I'm not doing that. It's too risky!" > *He refused to do it.*

It is very unnatural to report what someone has said verbatim as in example 1. We usually report the whole event in our own words as in example 2.

Tags

When learning tags, the temptation is to concentrate on getting the correct auxiliary. Two other points are worth remembering:

Why tags are used in conversation - to facilitate turn-taking.

Tags are not questions - they need a response, which will give more information to enable the conversation to develop further:

You've been to Malta before, haven't you? > Yes, but it was years ago.
Really, when was that?

Grammar Focus

- 1 In questions which can be answered with either *yes* or *no*, we put an auxiliary verb before the subject.
Is your present job interesting?
Are you willing to relocate to Milan?
Would you have to give notice?
Have you applied for any other jobs?
Do you have a clean driving licence?
Does your partner work?
- 2 We use questions beginning with *wh-* or *how* when asking for information.
Where were you born?
What did you study at college?
How long did you stay there?
How many people finished the course?
- 3 When *who*, *what* or *which* is the subject of a sentence, an auxiliary is not used.
Who gave you the information? (NOT * *Who did give you ...*)
What happened at the meeting? (NOT * *What did happen ...*)
Which costs the least? (NOT * *Which does cost the least?*)
- 4 Requests and questions can be made more polite by making them less direct.
Would you mind if I smoked?
Do you mind if I use your phone?
Could you tell me how you found out about our service?
I'd like to know what you don't like about your present employer.
- 5 Note that in reported questions, as in indirect questions, the word order is the same as for a statement.
'How soon will you be able to start?'
He wanted to know how soon he would be able to start.

Exercise 1

Ask questions. (Look at the answers before you write the questions.)

| | |
|----------------------------|-------------------------|
| (where / from?) | From London originally. |
| (where/live/now?) | In Manchester. |
| (married?) | Yes. |
| (how long/married?) | 12 years. |
| (children?) | Yes, three boys. |
| (how old / they?) | 4, 7 and 9. |
| (what/husband/do?) | He's a policeman. |
| (he/enjoy his job?) | Yes, very much. |
| (arrest anyone yesterday?) | I don't know. |

| | |
|--|--|
| (how often / go / on holiday?) (where / next year?) | Usually once a year. We don't know yet. |
|--|--|

Exercise 2

Make questions with who or what.

Somebody hit me.
I hit somebody.
Somebody gave me the key.
Something happened.
Diane told me something.
This book belongs to somebody.
Somebody lives in that house.
I fell over something.
Something fell on the floor.
This word means something.
I borrowed the money from somebody.
I'm worried about something.

Exercise 3

Put the words in brackets in the correct order. All the sentences are questions.

- 1 (when / was / built / this house)
- 2 (how / cheese / is / made)
- 3 (when / invented / the computer / was)
- 4 (why / Sue / working / isn't / today)
- 5 (what time / coming / your friends / are)
- 6 (why / was / cancelled / the concert)
- 7 (where / your mother / was / born)
- 8 (why / you / to the party / didn't / come)
- 9 (how / the accident / did / happen)
- 10 (why / this machine / doesn't / work)

Exercise 4

Write negative questions from the words in brackets. In each situation you are surprised.

- 1 A: We won't see Ann this evening.
B: Why not? (she / not / come / to the party?)
- 2 A: I hope we don't meet Brian tonight.
B: Why? (you / not / like / him?)
- 3 A: Don't go and see that film.
B: Why not? (it / not / good)

- 4 A: I'll have to borrow some money.
B: Why? (you / not / have / any?)

Exercise 5

Underline the correct words.

- 1 Spoke you / Did you speak with Lara Yesterday?
2 What did Lara say / said when you spoke to her?
3 A: Do you like Scotch whisky?
B: Yes, I like. / Yes, I do.
4 How works this machine / does this machine work?
5 Who set up Microsoft / did set up Microsoft?
6 When set up Microsoft / did Microsoft set up?
7 Who did telephone me / telephoned me this morning?
8 Who you telephoned / did you telephone this morning?

Exercise 6

Rearrange the words in each group from the list to make questions. Then match them to the answers below to make a complete dialogue.

you business here are on
are for how you staying long
been how have long there you working
you what do do
staying you where are

you did do that what before
like what's it
arrive did when you
to is first this Lyon your visit
involve travelling job does much your

- 1 A:
B: Yes, I'm here on a sales trip.
2 A:
B: I work for a small biotech company.
3 A:
B: About four years, I suppose.
4 A:
B: I was in pharmaceuticals.
5 A:
B: Yes, quite a lot. I travel all over Europe, but especially in France.
6 A:
B: No, I've been here once before.
7 A:
B: A couple of days ago.
8 A:
B: Until Friday, then I go back to the UK.
9 A:
B: At the Holiday Inn.
10 A:

B: It's very comfortable actually, and the restaurant is good.

23 Prepositions

The correct preposition

Sometimes there is a situation where only one preposition is 'correct'. For example:

We arrived *at* 8 o'clock.

Very often, more than one preposition is possible depending on the meaning. All the following correct examples have subtly different meanings:

I'll meet you *at* the station. I'll meet you *in* the station. I'll meet you *by* the station.

I'll meet you *in front of* the station.

I'll meet you *beside* the station.

I'll meet you *behind* the station.

I'll meet you *inside* the station.

I'll meet you *around* the station.

Expressions with prepositions

Most prepositions have a literal meaning which we are all familiar with: *on, in, at, through, etc.* When prepositions are part of an expression, it is important to learn the whole expression.

For example:

a cheque *for* £200

a good memory *for* faces

go *on* strike

pay *in* advance

The best advice is to learn expressions like these as 'wholes'.

24 Phrasal verbs

Phrasal Verbs are among the commonest examples of expressions with prepositions. It is perhaps better to refer to such 'prepositions' as 'particles' so that students see a clear difference between the prepositional use and their use as 'part' of the phrasal verb. *It took me ages to get through to John* has got some idea of the literal meaning of *through*, but *I don't get on with him* has no idea of *on* combined with *with*. These very important verbs simply have to be learned as if each was a whole expression. The particle cannot be divorced from the verb.

Common irregular verbs

| Infinitive | Past tense | Past participle |
|------------|------------|-----------------|
| be | was/were | been |
| become | became | become |
| begin | began | begun |
| bite | bit | bitten |
| blow | blew | blown |
| break | broke | broken |
| bring | brought | brought |
| build | built | built |
| burn | burnt | burnt |

| | | |
|--------|--------|------------|
| buy | bought | bought |
| catch | caught | caught |
| choose | chose | chosen |
| come | came | come |
| cost | cost | cost |
| cut | cut | cut |
| do | did | done |
| draw | drew | drawn |
| drink | drank | drunk |
| drive | drove | driven |
| eat | ate | eaten |
| fall | fell | fallen |
| fed | fed | fed |
| feel | felt | felt |
| fight | fought | fought |
| find | found | found |
| fly | flew | flown |
| forget | forgot | forgotten |
| freeze | froze | frozen |
| get | got | got |
| give | gave | given |
| go | went | been/ gone |
| grow | grew | grown |
| hang | hung | hung |
| have | had | had |
| hear | heard | heard |
| hide | hid | hidden |
| hit | hit | hit |
| hold | held | held |
| hurt | hurt | hurt |
| keep | kept | kept |
| know | knew | known |
| lead | led | led |
| learn | learnt | learnt |
| leave | left | left |
| lend | lent | lent |
| let | let | let |
| lose | lost | lost |
| make | made | made |
| mean | meant | meant |
| meet | met | met |
| pay | paid | paid |
| put | put | put |
| read | read | read |
| ride | rode | ridden |
| ring | rang | rung |
| rise | rose | risen |
| run | ran | run |
| say | said | said |
| see | saw | seen |
| sell | sold | sold |
| send | sent | sent |
| set | set | set |
| shake | shook | shaken |
| shine | shone | shone |
| shoot | shot | shot |

| | | |
|--------|---------|---------|
| show | showed | shown |
| shut | shut | shut |
| sing | sang | sung |
| sink | sank | sunk |
| sleep | slept | slept |
| speak | spoke | spoken |
| spend | spent | spent |
| spread | spread | spread |
| stand | stood | stood |
| steal | stole | stolen |
| stick | stuck | stuck |
| strike | struck | struck |
| Swim | swam | swum |
| take | took | taken |
| teach | taught | taught |
| tear | tore | torn |
| tell | told | told |
| think | thought | thought |
| throw | threw | thrown |
| wake | woke | woken |
| wear | wore | worn |
| win | won | won |
| write | wrote | written |

Scienze

Esame Lingua Inglese, 30 Giugno 2005

Cognome _____ Nome _____ Matricola _____

Read the text below and decide which word A, B, C or D best fits the space :-

With the development of technology in the twenty-first century, it would (1)___really difficult to imagine life (2)___ computers. They are a source of information, education and entertainment, but today's world of computers can (3)___be quite frightening and dangerous. This is because of people (4)___ use computers for illegal purposes. They are (5)___ as hackers.

Hackers spend their time playing with computer data in all parts of cyberspace. (6)___ of what they do is not dangerous, but sometimes their activities break the law; for example, when they break (7)___ websites, take control of computers and create viruses. They are especially interested (8)___ breaking through the security of military websites.

Hackers know (9)___ to trick people just using their programmes. They use a 'Trojan Horse', a programme that looks perfectly safe, but actually contains (10)___ destructive. The (11)___ way of not getting into trouble is not (12)___ open it.

Although they can get serious punishment if they are caught, most hackers still think that what they do is a game. Hollywood normally shows us that side of hackers: fun characters that save the world from all-powerful computer multinationals.

They often meet at festivals to (13)___ part in discussions, share their experiences, meet other hackers and generally to (14)___ a good time. These meetings (15)___ organised in well-known places like Las Vegas or Berlin, (16)___, what hackers do at such festivals is a secret and often many of their activities take place at night. Recently, hacking has started to increase. Hackers are getting into computer systems and stealing or destroying information. It is certain that (17)___ will be a lot more of this high-tech crime in the twenty-first century.

| | | | | | | | | |
|----|---|---------|---|----------|---|-----------|---|-----------|
| 1 | A | have | B | is | C | do | D | be |
| 2 | A | no | B | about | C | without | D | not |
| 3 | A | too | B | also | C | above | D | no |
| 4 | A | than | B | what | C | which | D | who |
| 5 | A | said | B | called | C | known | D | knew |
| 6 | A | Lot | B | Many | C | What | D | Most |
| 7 | A | out | B | down | C | into | D | up |
| 8 | A | to | B | to | C | in | D | at |
| 9 | A | who | B | what | C | how | D | that |
| 10 | A | nothing | B | anything | C | something | D | somewhere |
| 11 | A | unique | B | only | C | one | D | an |
| 12 | A | don't | B | to | C | so | D | does |
| 13 | A | have | B | take | C | be | D | stay |
| 14 | A | has | B | enjoy | C | have | D | be |
| 15 | A | is | B | to be | C | be | D | are |
| 16 | A | even | B | too | C | soon | D | yet |
| 17 | A | there | B | these | C | they | D | it |

Reading Comprehension

Read the following article and decide if the following 8 statements are true or false (rispetto a cio dice il brano). Mark an X in the relevant box.

In passing through a mall, hospital, or doctors office nowadays you may often see, mounted on a wall or on a desk, a solitary monitor lacking a mouse or keyboard. These devices are operated through the screens, which can sense exactly where they've been touched and react accordingly. These devices are called 'Touch-Sensitive Monitors', and come in three variants.

Resistive

The resistive monitor is the most common variety, and nearly all touch-sensitive monitors in public places use this type. Resistive monitors are composed of a glass plate or panel, covered in a conductive and a resistive metallic layer. The two metallic layers are held apart by spacers, with a scratch-resistant layer covering the whole of it. During operation, an electric current runs through the metallic layers. When someone touches the screen, the two layers come into contact. The computer

notes the change in the electric field and calculates the position of the touch. Once this position is known, the program that interprets these signals tells the computer what they mean. This is the system commonly used in palm pilots and other PDA systems, as the signal is sent from any form of contact, such as a finger or 'stylus'. Unfortunately, the screen can be damaged with sharp objects, but this is often made up for by its low production and sale cost.

Capacitive

The next variety of touch sensitive monitor is the capacitive. In the capacitive system, an electrical charge is stored on the glass screen of the monitor. When you touch the glass of the screen, charge from the screen is transferred to the person touching the screen, and the charge of the screen decreases. The computer senses this and calculates, using the relative differences in charge in each corner to work out where the touch occurred, and sends that information back to the screen software. A benefit to using this form of touch-screen technology is that, unlike the resistive idea, which transmits only 75 percent of the light it should, capacitive touch-screens provide up to ninety percent, giving a much clearer picture.

Acoustic Wave

The last system is the surface acoustic wave system. It consists of the same monitor, and two transducers, one receiving and one sending. These are placed along the x and y axes of the monitor's glass plate. Also on the glass are reflectors, devices which reflect electric signals sent from one transducer to the other. The system allows for instantaneous reactions, as the receiving transducer is able to tell immediately if a wave has been disturbed. This system also has one hundred percent light and clarity, and is good for displaying detailed graphics. This is the best system, but is by far the most expensive.

Mark the following statements as True or False:

| | TRUE | FALSE |
|--|--------------------------|--------------------------|
| 1) The majority of touch screen monitors are of the resistive type. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2) It is best to use a stylus with a resistive touch screen. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3) Resistive screens are less prone to damage. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4) The charge on a capacitive screen increases when it is touched. | <input type="checkbox"/> | <input type="checkbox"/> |
| 5) A capacitive monitor transmits less light than a resistive monitor. | <input type="checkbox"/> | <input type="checkbox"/> |
| 6) Resistive monitors are cheaper than capacitive monitors. | <input type="checkbox"/> | <input type="checkbox"/> |
| 7) Acoustic monitors offer the clearest image. | <input type="checkbox"/> | <input type="checkbox"/> |
| 8) A capacitive monitor is not as good as a acousitic monitor for displaying graphics. | <input type="checkbox"/> | <input type="checkbox"/> |

PART B

Read the text below and decide which of the following words best fits the space.

alkali *metal* *exist*
elements *chemistry* *lead*
atomic *periodically* *columns*
reactive

There are more than a hundred different _____ in the universe. And, of course, arranging them in some kind of order is useful. They could be arranged in alphabetical order but that wouldn't tell you much about their _____. In the periodic table, the elements are arranged according to their _____ number.

Normally, the higher the atomic number, the heavier the element. So _____ (Pb), atomic number 82 is heavier than tin (Sn) atomic number 50. The behaviour of different elements changes _____ as their atomic number increases. In other words, if you know the atomic number of an element, then you can predict how it's likely to behave, in the same way that you can predict the behaviour of the Moon. The shape of the moon (as seen from earth) changes periodically, according to the day. In other words, if we know what day it is, we can predict the shape of the moon. Every 28th day, there is a full moon.

In the periodic table the elements are arranged in _____, or groups, so that the periodic behaviour of the elements can be seen at a glance. Each group of elements behaves in a similar fashion.

Take Group One, for example. All the elements in group one are metals. They are all highly _____ and they all form _____ solutions in water. This is why they are sometimes called the alkali metals. Sodium (Na) is the most common Group One _____. The Russian scientist, Dmitri Mendeleev, who compiled the first periodic table, left spaces for elements which he thought ought to _____ but which had not yet been discovered. And, sure enough, just over a hundred years after Mendeleev designed his periodic table, all these spaces have been filled.

PART D

Reading Comprehension and Vocabulary

Read the following and match items 1 to 10 in column A to items a) to j) in column B

A spokesman for the Russian Space Agency says that Russia believes a **prototype** spacecraft powered by solar sails has been lost because of a malfunction during its launch. US-based space enthusiasts who financed the project say it is likely the mission has failed.

In Kamchatka in Far Eastern Russia, in Europe, and in the Marshall Islands in the Pacific Ocean radio listening stations are **trying to determine** whether Cosmos 1 is **orbiting the earth**. But Vyacheslav Davidienko, spokesman for Roskosmos, Russia's Space Agency, has told the BBC the Agency believes the **craft** known as the solar sail has been lost.

Cosmos 1 was launched from a Russian nuclear submarine in the Barents Sea on Tuesday night. Eighty three seconds into the launch the rocket engine in the modified **ballistic missile** carrying it appeared **to cut out**. An official with Russia's Northern Fleet has been reported as saying the launch failed.

However the Planetary Society, a group of space **enthusiasts** who built the solar sail, has received weak radio signals possibly from the craft. Lou Friedman of the Society said if Cosmos 1 made it into a low but stable orbit there is a small chance that all is not lost. But he added that even if Cosmos 1 did survive the launch a low orbit means it is likely to re-enter the atmosphere and burn up.

Cosmos 1 was designed to test whether it's possible to power a spacecraft by **harnessing sunlight**. It was carrying eight sails made of ultra-thin Mylar which would be **unfurled** in space like **flower petals**.

The enthusiasts, who raised four million dollars to finance the project, hope to show that solar sails could one day replace traditional rockets and **propel** spacecraft to the stars.

A**B**

- | | | | | |
|-----|---------------------|--------------------------|----|---|
| 1) | prototype | <input type="checkbox"/> | a) | an object (for example a weapon) that is fired into the air at a particular angle and speed (in order to fall in the right place) |
| 2) | trying to determine | <input type="checkbox"/> | b) | opened (something that is folded); unfolded |
| 3) | orbiting the earth | <input type="checkbox"/> | c) | delicate, coloured parts of a flower, usually growing from its head |
| 4) | ballistic missile | <input type="checkbox"/> | d) | to push or move something in a particular direction |
| 5) | to cut out | <input type="checkbox"/> | e) | moving around the earth |
| 6) | enthusiasts | <input type="checkbox"/> | f) | to stop working |
| 7) | harnessing sunlight | <input type="checkbox"/> | g) | making effort to discover the facts about something |
| 8) | unfurled | <input type="checkbox"/> | h) | people who are very interested in something and spend a lot of time and money doing it |
| 9) | flower petals | <input type="checkbox"/> | i) | controlling and using the energy (of the light) coming from the sun |
| 10) | propel | <input type="checkbox"/> | j) | the first design of something from which other forms are copied or developed |