English for
Information Technology

2

Vocational English
Teacher's Book

A2-B1

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PEARSON

Contents

1   Working in IT

Briefing

This unit provides an introduction to the workplace contexts of IT. It ensures that all students using the book, whether experienced in IT or not, have some common shared vocabulary that is used throughout the book. It is a little different from the other units in that it is less technical and thus provides a gentle lead-in to English for IT.

Language is mostly for talking about present routines and situations such as the work of individuals and organisations in IT: the present simple and adverbs of frequency are dealt with, as are imperatives for rules and modal verbs for rules and suggestions.

IT jobs and duties

In this section the focus is on typical IT-related jobs and the duties performed by people holding those jobs. Jobs mentioned here include:

- **Software developer**, otherwise known as **programmer**: this person writes, tests and debugs computer programs, usually as part of a team.
- **Helpdesk supervisor**: this person supervises technical support staff, who may be working in a telephone call centre.
- **Database administrator:** this person designs, develops and maintains databases. Databases are used as part of many kinds of software, as well as online, to store information such as personal details and the data that the program uses. Databases are covered in more detail in Unit 4. A database administrator does not usually do the data entry for databases; rather, the job involves quite a high level of technical skill and is somewhat similar to programming.
- **Project manager:** within an IT context, a project manager co-ordinates projects such as software development or major equipment renewal. He or she is responsible for ensuring that the intended components of a project are finished on time and within budget.
- **Support technician:** this person sets up new computers, installs software and provides help with IT problems. A support technician may provide internal IT support within a company covering a range of IT uses, or may work for a hardware or software vendor and provide

support to external users (business as well as consumer) of the company's products.

- **Systems analyst:** for tailor-made IT solutions such as software written for a specific business need, the systems analyst liaises with the client to understand their requirements and then ensures that the solution is prepared to those specifications.

IT organisations

This section looks at the activities of IT companies, such as manufacturing, designing and selling. Little specialist knowledge of IT is needed; the only general knowledge required is basic knowledge of some well-known IT companies such as Apple, Google and Microsoft, and what they do.

Companies often hold **product launches** to promote new products. These can range from small, local events to major media events. Apple is particularly well known for these. Once a popular product is ready for launch to the public, people sometimes queue overnight outside shops to be one of the first to purchase it.

Most company websites have a **company profile** which gives general information about what the company does.

IT workplace rules

As with the previous section, this requires little technical knowledge. Internet **security** and **passwords** are mentioned in the reading. The only technical word is **alphanumeric**, meaning 'comprised only of letters and numbers and not including spaces or punctuation symbols'.

Meetings

Central to this section is a roleplay of a formal meeting held by videoconference with a chairperson, agenda and minutes being taken. **Videoconferences** and **teleconferences** are often used to hold meetings when the participants are in different physical locations. The difference is that with videoconferencing, the participants can see as well as hear each other, while teleconferences only use sound.

Business matters

In this section students complete a job advert, roleplay a job interview and write their own job advert. It applies the key vocabulary and grammar of this unit.

Further reading

Use the following keywords to search the internet for websites which give more in-depth information about the topics covered in this unit: database administrator, systems analyst, Apple, Google, Microsoft.

Teacher's Notes

While quite a lot of vocabulary is introduced in this unit, many of the words are reviewed from Book 1 (for those who are moving from that book). One of the aims of this unit is to bring out IT-specific vocabulary of which the rest of the book assumes knowledge. The unit assumes that students already know the following vocabulary: *software*, *hardware*.

IT jobs and duties

Speaking

1 Ask students to share their previous experience of IT, including both software and hardware, in pairs or small groups. This allows them to get to know something about each other, as well as giving you the opportunity to find out about their prior IT experience and whether there is subject-related expertise that can be drawn upon later, if this is not already known.

Activities throughout this book, including this one, should be varied according to your teaching situation and student needs. For example, it would be useful in this activity for students to have conversations with more than one other student; this could be done by changing pairs every few minutes or by organising this activity as a mingle.

Write vocabulary that you hear students produce on the board. Half-way through or at the end of the activity, ask students who produced the vocabulary to explain the meaning to the others. This will encourage students to learn from each other.

> **Extra activity**
>
> If there has not yet been an opportunity to carry out a proper needs analysis, ask students to mingle (or work in pairs/groups) and write down answers from other students to some of these questions, chosen according to appropriateness to your teaching situation, in a table:
> *What is your name?*
> *Why are you doing this course?*
> *Why is this course important to you?*
> *What do you want to learn in this course?*

Alternatively, the questions and table could be handed out in written form. If appropriate to your teaching situation, consider asking students to complete it in their own language so that lack of English ability isn't a barrier to completeness and accuracy.

Listening

> **Extra activity**
>
> If students are relatively confident with English or have some prior work experience in an environment involving IT, they could be asked to brainstorm, in pairs or small groups, IT jobs and the duties associated with each, as a lead-in to Activities 2 and 3.

2 ▶ 02 Students listen to people describing their jobs and match the jobs to the speakers' pictures.

> **1** software developer **2** helpdesk supervisor
> **3** project manager **4** support technician
> **5** database administrator **6** systems analyst

3 Students listen again and complete verb–noun collocations describing the duties and tasks that the people mention.

> **1** a team **2** a problem **3** for **4** after
> **5** software **6** the problem/a problem/
> problems **7** databases **8** databases
> **9** specifications

Pronunciation

4 The focus here is on stress (and, consequently, rhythm) within the collocations in the previous activity. In pairs or small groups, students first predict where the stress lies – from prior experience with English and their memory, conscious or otherwise, of the recording.

Depending on your class, this would be an appropriate place to discuss the pronunciation of weak forms, in other words, how to produce an unstressed syllable and how to produce stress (make the syllable longer, slightly louder and change to a different pitch).

> **1** <u>su</u>pervise a <u>team</u> **2** have a <u>prob</u>lem
> **3** be res<u>pon</u>sible for <u>IT</u> <u>pro</u>jects **4** look after
> com<u>pu</u>ters **5** in<u>stall</u> <u>soft</u>ware **6** dia<u>gnose</u>
> the/a <u>prob</u>lem/<u>prob</u>lems **7** de<u>sign</u> <u>da</u>tabases
> **8** main<u>tain</u> <u>da</u>tabases **9** write specifi<u>ca</u>tions
> for <u>soft</u>ware

Vocabulary

5 In pairs, students make new collocations using the verbs in Activity 3. Encourage them to think of as many collocations as they can that might work, and check with you whether they do.

> *Suggested answers*
> supervise people/[any job title]
> be responsible for a team/computers
> look after databases/a team
> install databases/software
> design software/databases
> maintain computers

Speaking

6 Students now use collocations from Activity 3 (and possibly 5) to describe what the people in Activity 2 do in their jobs.

> *Suggested answers*
> **1** A software developer writes software.
> **2** A helpdesk supervisor is responsible for/supervises/looks after a team.
> **3** A project manager supervises people/projects.
> **4** A support technician looks after computers/installs software/diagnoses problems.
> **5** A database administrator looks after/is responsible for/installs/designs/maintains/writes databases.
> **6** A systems analyst supervises software developers/writes specifications.

7 In small groups, ask students to think of other IT-related jobs and tasks associated with those jobs. Also ask them to share ideas about which jobs they would or would not like to do, giving reasons.

> *Suggested answers*
> website administrator, website developer, network technician, e-commerce specialist;
> A website developer develops/maintains/looks after/tests websites.
> Answers to the other parts of the question will depend on students' own personal opinions.

Listening

8 ▶ 03 Students now listen to an IT worker (Robert) talking to his new manager about his job. Ask them to listen and guess which person is the manager. During this initial gist listening, they simply check their prediction and decide what Robert's job title might be.

> Robert is a support technician. (Similar job titles, such as technician or support staff would also be acceptable.)

9 Ask students to look at the sentences with tick boxes. They then listen again and tick the items that happen regularly ('usually happen') in Robert's work routine.

> 1, 2, 3

10 Students now put the phrases in the box in the correct place in the sentences in Activity 9. Depending on your class, you could ask students to do this in pairs before listening. This activity provides a 'way in' to the language focus on expressing frequency.

> **1** Robert generally checks emails./Generally, Robert checks emails.
> **2** Robert usually has emails waiting for him.
> **3** Robert normally visits people at their desks./Normally, Robert visits people at their desks.
> **4** Sales people occasionally have problems./Occasionally, sales people have problems.
> **5** From time to time, Robert attends meetings./Robert attends meetings from time to time.
> **6** Robert hardly ever visits other companies.

Language

The Language box focuses on two language points useful for talking about jobs and their associated duties: adverbs of frequency and adverbial phrases of frequency (called 'time expressions' here). Students at this level are likely to have encountered these points before, so for most, this will be review.

For reference, here are some points that go beyond the information in the Language box. Teachers should use their discretion about whether to cover the third point, to avoid overloading students with information.

Adverbs of frequency normally go before the main verb (as stated in the Language box). However, a significant exception to this is where the main verb is *be*, when they go after the main verb (for example, *He is usually late.*).

Some common student mistakes are: mixing up *hardly* and *hardly ever* (for example, *I hardly arrive early* instead of *I hardly ever arrive early.*) and mixing up *almost* and *almost always* (for example, *I almost work hard* instead of *I almost always work hard.*). Both of these can cause significant

misunderstandings, so highlighting them is worthwhile.

When adverbs are placed at the beginning of a sentence, the meaning of the adverb is emphasised.

You may want to ask students to generate their own time expressions: *three times a year*, tw*ice a month*, *once an hour*, etc. This will help them get used to the sequence *once*, *twice*, *three times*, etc.

Speaking

11 In pairs, students imagine they are doing a job of their choice from Activity 2. They ask and answer questions about the job, the tasks they undertake in the job and how often they do those tasks.

> **Extra activity**
>
> If your students are currently working in IT, they could ask and answer questions, in pairs or as a mingle, about the duties in their job and how often they undertake them. They may need to ask you for some additional vocabulary.

IT organisations

Speaking

1 In pairs, students choose technology companies they know about and say what they think those companies do. Students can be warmed up to this by asking them in open class for the names of some technology companies.

A lot of vocabulary from the previous section could come out here (for example, *Microsoft develops software*; *Apple designs devices such as the iPad and iPhone*. Other answers might include: *Dell makes computers. Samsung makes many things: mobile phones, disk drives, computers and cameras.*

Vocabulary

2 Students read profiles of three companies. Gist questions can be provided: *Which company produces software? Which produces hardware?* (Answers: IBGroup and Digital World produce software. Futachiba produces hardware.). Students then find words in these profiles that match the definitions given. The matching part of this activity can be done effectively in pairs. When you have gone through the answers, make sure that students know what *feedback* means (second line of the Digital World profile).

---

1 provider, suppliers   **2** manufacturers
3 production facilities   **4** products   **5** cloud computing   **6** clients   **7** launch

Reading

3 Students read the company profiles again and answer some specific information questions about the companies' operations.

1 IBGroup   **2** IBGroup, Digital World
3 Futachiba   **4** Digital World   **5** IBGroup

4 Students now underline five types of software mentioned in the company profiles (there are actually six, though students don't need to find all of them). Then they try, from prior experience, to think of examples of each and what people might use them for. Typically, students will know the name of the software (for example, Microsoft Word). What is more likely to be new to them are the names of the types of software (for example, *word processing*). This second stage could be done in pairs or even small groups. If students are not sure what a spreadsheet is, refer them to the screenshot on page 28.

word processing program
examples: Microsoft Word, OpenOffice Writer
used for: writing
spreadsheet program
examples: Microsoft Excel, OpenOffice Calc
used for: doing things with numbers
presentation program
examples: Microsoft PowerPoint, OpenOffice Impress
used for: making presentations, making slides
database program
examples: Microsoft Access, OpenOffice Base, FileMakerPro
used for: doing things with/processing information/data
games
examples: World of Warcraft, Grand Theft Auto
used for: having fun
operating system
examples: Windows, Mac OS, iOS, Android (all mentioned in the texts), Linux, UNIX
used for: operating/controlling computers

Speaking

5 This activity personalises the topic and vocabulary, allowing it to be applied to real life. In small groups, students list some real IT companies, such as Apple and Google, and say which they would like to work for and why.

Listening

6 ▶ 04 As a lead-in to the Language box on present simple questions, students read a conversation between two people working in different IT companies and complete the gapped questions in pairs. They then listen to the conversation to check their answers. Most students at this level will have encountered this grammar point before (even if they make a lot of mistakes with it), so will be able to have a good go at completing the gaps before listening. However, if your students are weaker or less confident in this language area, you may want to have them read without completing the gaps, then listen to the turns one by one, completing the gaps as they go and comparing with a partner after each.

> **1** ... what does your company do?
> **2** ... who are your customers?
> **3** Does your company produce any hardware?
> **4** ... what are your future plans?
> **5** Do you want to come?

Speaking

7 Students answer some questions about product launches, a concept mentioned in the listening.

> *Suggested answers*
> A product launch is something/an event for a new product, maybe to advertise it.
> Product launches help people to find out about the product.
> Apple holds big product launches.
> They have talks and online presentations.
> They open their shops early and customers often queue/stand in line for hours to buy the new product.

Language

The language focus here is questions in the present simple. The majority of students at this level will have encountered this grammar point previously, so this is intended as review and an opportunity to improve accuracy. Note that subject questions (questions that do not use auxiliary verbs, for example, *Who met you?*) are not dealt with in the Language box. You may want to deal with these if your students are quite confident with present simple questions already. Explain to your students that if the answer is the subject of a sentence, the auxiliary verb is not used in the question.

Pronunciation

8 To build awareness of the points about question intonation at the end of the Language box, students listen to the questions in track 4 again to identify the intonation pattern before practising the intonation themselves.

> **1** ↘   **2** ↘   **3** ↗   **4** ↘   **5** ↗

Writing

9 Students practise present simple question formation by writing questions, imagining that they are writing the questions for a magazine questionnaire, in order to find out what some local IT companies do. This can be done in pairs or individually.

> *Suggested answers*
> What does your company do?
> Does your company sell software or hardware?
> Does your company have a service centre?
> Where is it?
> Who are your customers?
> What does your company sell?
> What are your company's products?
> What do you do in the company?

Speaking

10 Students think of answers to the questions they wrote in Activity 9. This can be either for a company they know (which, if they are currently working in different companies from each other, could be their own company) or an imaginary company. They then ask and answer their questions in pairs or as a mingle.

11 Students now practise present simple questions and the section's vocabulary by asking questions about the companies mentioned in Activity 2. They should use appropriate intonation as well as trying to form the questions correctly.

> IT workplace rules

Speaking

1 In pairs or small groups, students look at some signs and work out the rules they express. At this stage they would not be expected to express them in a sophisticated way – imperatives are fine – though it's likely that many students will have encountered the language of rules before.

2 Students now say whether they have the same rules in their place of work or study and whether they think the rules are good or bad. It is best to hold off from discussing further rules at this point; there will be plenty of opportunity later for students to use the target language with different rules.

Vocabulary

3 Students read a short memo about some workplace rules relating to IT security and use context to match words from the text to the definitions given.

Language

4 As a discovery activity in anticipation of the Language box, students underline words and phrases in the memo that they think are used to express rules. They can then read the Language box to check their answers.

The Language box deals with modal verbs and imperatives to express rules. Imperatives take the form: verb (+ object) or *do not/don't* + verb + object. There is no subject. For even stronger rules, we can use *always* at the beginning of positive statements and *never* instead of *don't* for negative statements (for example, *Always keep your anti-virus software up to date. Never install your own software.*). To help students avoid some common mistakes, point out that *don't have to* and *don't need to* are not used for rules.

Speaking

5 In pairs or small groups, students generate their own rules for some of the activities. They then compare their ideas with other pairs or groups, and discuss possible reasons for their rules.

Listening

6 ▶ 05 Students listen to two people, Lateefa and Ivan, talking informally after work about rules in their different workplaces. While listening, students complete a table to show what the speakers are and are not allowed to do. Warn students that these do not come up in question number order.

7 This activity asks some follow-up questions from the listening about Lateefa's feelings about the rules she mentions. The skill practised is listening for attitude – an important skill for functioning well in any workplace. Students are also asked to identify reasons for their answers.

Speaking

8 This is a pairwork information gap activity: Student A's information is on page 9 and Student B's is at the back, on page 69. To begin with, A Students use prompts to explain company rules to B Students, who play the role of employees new to the company. Then they swap roles.

9 Students now discuss real rules in their own workplace or place of study. They also discuss their opinions about the rules and indicate which ones they would like to change.

Writing

10 As a consolidation activity, students write a list of rules for a computer room in a college, which may be where they are currently studying or, if not in a college, an imaginary college or one at which they previously studied. Alternatively, depending on their prior experiences, they could write them for a current or previous workplace. If appropriate to do so in your teaching context, you may want to suggest they make their rules humorous. At the end of the activity, students could compare answers in pairs or small groups.

Meetings

Speaking

1 Most students will have experienced meetings of some kind. Even if they have no prior work experience, they may have participated in meetings in clubs they were members of at school, taken part in sports team meetings or seen workplace meetings in TV shows. Before commencing Activity 1, you could discuss such prior experiences with the class. This will lead nicely into the questions provided for small group discussion. While monitoring discussions, listen out for the concepts behind the words in Activity 2 being mentioned; if you hear them, this is a good opportunity to supply the vocabulary at the point where students want to use it.

> *Suggested answers*
> **1** People discuss ideas and problems, try to find solutions and make decisions.
> **2** Answers will depend on students' experience.

Vocabulary

2 Students discuss what the five provided words mean and speculate about why the meeting-related concepts they represent are useful. If the words have not come up during or in feedback from Activity 1, you may wish to go through the meanings at the beginning of this activity or have students look up the words in a good dictionary. This would be a good opportunity for some work on dictionary skills such as checking pronunciation and parts of speech.

> *Suggested answers*
> **chairperson:** the person who controls meetings; useful for running the meeting smoothly and keeping it focused
> **agenda:** a list of points to talk about at a meeting; useful so that people can prepare for the meeting before it starts and to keep the meeting focused
> **minutes:** a record of what people talked about and decided at a meeting; useful so that people can remember the decisions
> **teleconference:** a meeting where people are in different places; uses telephones; useful because people don't have to travel, thus saving time and money
> **videoconference:** like a teleconference, but with video; useful for the same reasons as teleconferences and because it's easier to understand people when you can see their faces

Listening

3 ▶ 06 Before listening, students read the meeting agenda. It is useful here to teach *attend*. Draw attention, perhaps through eliciting, to the fact that the attendees are in different locations (head office and local office). Elicit also the first topic the participants will be heard talking about on the recording (replacing old computers). Students should read the questions before the recording is played.

> **1** He suggested upgrading to a new version of windows/a new operating system.
> **2** The computers won't run the new Windows well. They're too old.
> **3** buying more memory
> **4** They can't put any more memory in. The computers are already full.
> **5** replacing four computers for now and the other four later
> **6** Ulrik's

Language

More modal verbs are looked at here, this time for making suggestions, agreeing and disagreeing in meetings. Other language for this function is also included, as well as 'softeners' that help to avoid disagreements sounding too harsh or argumentative.

4 So that students see examples of the language from the Language box in context, they look at the audio script and underline the softeners in the responses (not the suggestions).

```
...
U: Um ... well ... I'm afraid there might be a
   problem. Unfortunately, the computers just
   won't run the new Windows well. They're
   just too old.
F: OK ...Could we buy more memory then?
U: That wouldn't work either, unfortunately. We
   can't put any more memory in. They're
   already full. I really don't think that
   upgrading will work.
...
```

Speaking

5 For controlled practice, students make and
respond to suggestions they think of themselves.
Depending on students' level and ability to
generate their own ideas, you may want to give
them situations to choose from (for example,
people in the company are asking for new
computers; the General Manager wants to cut IT
costs) and/or ask them to write their
suggestions before the pairwork begins.

6 In this pairwork information gap activity,
students roleplay meetings. With lower-level
learners, it could be useful to get two of them to
demonstrate the activity, with help from the
other students and from you.

Business matters

Here, students complete a job advert, roleplay
an interview for the job and go on to write an
advert for their own job or one they would like.

> **Extra activity**
>
> To review vocabulary from the first section,
> make up some cards before class (or have
> students make them) with job titles and duties
> on them. Then, in class, students mingle,
> asking and answering questions about the jobs
> and duties on the cards.

Reading

1 A good lead-in to this activity is to have a class
discussion about applying for jobs, eliciting
vocabulary such as *job advert* and talking about
the kind of information that job adverts contain.
Then students complete the gaps before
discussing their answers in pairs.

```
1 supplies    2 service centres    3 provide
4 spreadsheet and database    5 launched
6 client    7 installing    8 maintaining
9 diagnosing    10 from time to time
```

Speaking

2 As a lead-in, brainstorm with students some
questions that might be asked in a job interview,
using the advertisement they have just read as
context. Students could write down the
questions they think of. They then roleplay the
interviews, then swap roles and repeat, ideally
with a different partner. Further work on job
interviews is in Unit 8.

Writing

3 This activity looks at basic text organisation;
students decide which of four patterns of
organisation are followed by the texts on
the page.

As a follow-up activity, ask students whether
they think texts in their own language(s) often
follow the same pattern. They may need to think
about specific examples, such as reports they
wrote at school/work. With confident students,
you may also want to ask them if they notice a
difference in the formality of the writing in the
company profile and the advert. The profile uses
more formal vocabulary (for example, *provide*,
supply), whereas the advert addresses the reader
more directly by using *you* and questions.

```
2
```

4 To practise writing using the pattern they
identified in the previous activity, students write
an advertisement for their own job or, if not
currently working, a job they would like to have.
This is also an opportunity to recycle vocabulary
from the first two sections of this unit.

> **Extra activity**
>
> Students could write a profile for a company
> they know using those on page 6 as models. If
> they are currently working in IT, it could be for
> their company.

Preparing for the next unit

In **Unit 2** students will be discussing hardware,
including the parts inside a computer and items that
can be attached to a computer, and instructions for
using software (such as *Double click here.*). You can
prepare students for this by brainstorming lists of
internal computer parts and external parts
(peripherals), and ask them to extend their lists
before the next lesson for checking at that time.

2 | IT systems

Briefing

This unit aims to provide a foundation of language to be used throughout the book for talking about basic computer hardware, and screen and software operations. Students practise: large and small numbers, as they relate to system specifications; using imperatives to give instructions for using a GUI; using prepositions in sentences with two objects to describe, for example, connecting and disconnecting multimedia equipment; explaining OS installation using appropriate language to express reason and purpose.

System specifications

This section looks at basic hardware and numbers for hardware specifications.

The hardware is divided into three categories: **peripherals** (things that you plug into computers), **internal components** and **storage**. Note that storage is different from memory in that it keeps its data after being switched off, unlike most forms of memory, which lose data after being switched off. Most storage components can be internal or external (peripherals), though nowadays external optical drives are rare.

Below are explanations of some of the items mentioned:
- A **hard disk drive** (HDD) is a storage device that holds its data on spinning magnetised disks. At the time of writing, these were beginning to be replaced by **solid state drives** (SSDs), which perform a similar function but without moving parts.
- **Optical drive** is a generic name for devices that read and write data from CDs, DVDs or Blu-ray. The name derives from the fact that they use a laser, which is an optical device.
- While **monitor** and **screen** are often used interchangeably, technically, the screen is the front part of the monitor on which the picture appears.
- The **power supply unit** (PSU) is the box inside a computer which converts mains electricity into the appropriate voltages for the internal components.

Activity 3 shows a photo of a **motherboard**, which is the main circuit board inside a computer. Items that plug into the motherboard are:
- **CPU** (Central Processing Unit) or **processor**: the 'brains' of the computer, which carries out the instructions that the software gives it. CPUs may be single-core, dual-core or more. CPUs have a speed ('clock speed'), which is usually expressed in **megahertz** (MHz).
- **DIMM** (Dual In-line Memory Module): this is a small circuit board with a number of memory chips on it. Most computers have several of these. Memory is sometimes called **RAM** (Random Access Memory).
- **Ethernet** cable: a standard network cable
- **Graphics card** (video card): this circuit board carries a separate processor, similar to the CPU but designed specifically to process imagery, mostly video.
- **SATA socket**: hard drives, solid state drives and optical drives use SATA connections.

Some common prefixes for large numbers are mentioned. In relation to these, students may bring up an issue that is controversial in IT: while **kilo-** always means 1,000 in other fields, in IT a **kilobyte** is sometimes 1,000 bytes and sometimes 1,024 bytes. Similarly, the word **megabyte** can sometimes be used to mean 1,000 kilobytes and sometimes 1,024 kilobytes. For simplicity, we've consistently used 1,000, etc. here; this follows an emerging convention of using **KB** to represent 1,000 bytes and **KiB** to represent 1,024 bytes. Similarly, using the same convention, **MB** represents 1,000 KB and **MiB** represents 1,024 KiB, and so on.

A **byte** is the smallest unit of memory used to store a single character.

Gigabyte is often abbreviated to **gig** when talking about memory (for example, **a four-gig memory module**).

GUI operations

This section looks at language for giving and understanding instructions for using a **GUI** (Graphical User Interface), which is the windows, buttons, icons, menus and other elements which most programs use to communicate with users and accept input from them. GUI is pronounced 'gooey'.

Note that:
- the activities are based on Windows, only because it is the most common operating system worldwide. If you are more familiar with another operating system, such as Apple's Mac OS X or Linux, you may want to do the activities in the book before teaching the lesson.
- Folders are often called directories by people in the IT industry.
- **Dialogue box** (AmE: **dialog box**) is a window that provides information as well as asking for input from the user. For example, when saving a new document, a dialogue box shows folders and asks the user which one to save to.

Multimedia hardware

This section is about multimedia hardware and how it connects to computers. Following on from the previous section, there is work on providing help and instructions in this area, for example, connecting a laptop to a projector and transferring photos from a digital camera to a computer. The only item which needs explanation here is **virtual reality goggles**, which are glasses with monitors on the inside which are connected to a computer, enabling the user to see a three-dimensional image.

Operating systems

An **operating system** (OS) is the software that controls a computer. Its functions are wide-ranging and include managing the GUI, memory, storage and other hardware. Examples are Microsoft Windows, OS X (which runs on Apple computers) and Linux. Other devices such as smartphones and tablets also have operating systems; Android and Apple iOS are examples. Other concepts mentioned in this section include:
- **BIOS** (Basic Input Output System): basic software built into PCs that initialises the computer and controls it before the OS starts. Thus, it is the first program that runs when the computer is switched on. You may be familiar with it from the screen that first appears while waiting for a computer to start.
- **booting**: the process a computer goes through when it starts up. Thus, if we tell someone to **reboot** a computer, it means to restart it.
- disk **partitioning**: when a hard drive is partitioned, it is divided up into two or more sections which each act like a separate drive.
- **boot drive** (or boot partition): the drive from which the OS runs. When installing an OS, this is set temporarily to where the OS is located: for example, on a DVD.

- **product key** (or serial number): a code that is supplied with an OS or software when purchased and which is entered the first time it is run, to verify that it was obtained legally.
- **user account**: a security feature available on many modern operating systems. When you log on to a computer, you are actually logging in to a user account; each user account has its own username and password, and allows access to different parts of a computer. There are often some general user accounts, such as *Administrator*, which allows access to almost everything, and *Guest*, which has much more restricted access.
- **licence terms**: the terms and conditions that you agree to when you purchase software or sign up to a website.

Business matters

This section focuses on **open source** versus **proprietary** software, including operating systems. Most well-known software is proprietary; in this, the programming instructions (code) are a commercial secret. Examples include Office (by Microsoft) and Photoshop (by Adobe). The code for open source software, on the other hand, is freely available and can be adapted by anyone. Examples are the Linux and Android operating systems, and the Chrome and Firefox browsers.

Further reading

Use the following keywords to search the internet for websites which give more in-depth information about the topics covered in this unit: computer data storage, CPU, DIMM, binary prefix, GUI, operating system, BIOS, booting, disk partitioning, user (computing), open-source software.

Teacher's Notes

Warm-up

Ask students to share, in small groups, their lists of internal computer parts and external parts (peripherals) they made for homework. Then ask one person from each group to write words from their lists on the board to make one long list. This could be combined with Activity 1.

System specifications

Speaking

1 In open class, if you think that students might know the difference between internal components and peripherals, elicit it from them. Otherwise, tell them. Then ask students to name as many of each as they can, in small groups. If, while monitoring, you notice that a student can describe the item or think of the word in their own language, you can help them by pointing at the word in Activity 2 or by providing the English word yourself.

Peripherals connect to the outside of the computer. Internal hardware goes inside the computer.
As well as the items mentioned in Activity 2, peripherals might include: microphone, memory card reader and scanner. Internal hardware might include: motherboard, cables, fans and floppy disk drive. Blue-ray drive, DVD drive and CD drive can be external or internal but nowadays are usually internal. They may be combined into the same unit and usually go by the umbrella term 'optical drive'.

Vocabulary

2 In pairs, students now decide whether some listed items are internal, external (peripheral) and/or storage devices. Some will be one of these and others will fit into all of these categories. Some are likely to have come up in Activity 1. This is mostly review of Book 1. If your students have not completed that book, it may be necessary to pre-teach some of the vocabulary.

1 P, S   **2** I, P, S   **3** P   **4** I, P, S   **5** P
6 I, P, S   **7** P   **8** I   **9** P   **10** I   **11** P   **12** P

Listening

3 ▶ 07 Students look at a photo of a motherboard, listen to someone explaining the components on it and match the components to parts of the picture. Allow students to read through the supplied vocabulary before they listen. They may need to listen a second time. Also allow opportunities to compare notes in pairs or small groups. If students need more help after a couple of listenings, you can refer them to the audio script on page 73.

1 E   **2** A   **3** B   **4** F   **5** D   **6** C   **7** G

Extra activity

This activity is for stronger classes. In pairs, one student explains the location of a component in their own words. The other student says what the component is.

Language

The focus here is two-fold: saying decimal numbers and using prefixes common in IT for expressing large numbers (for example, *mega-* for 'million'). You could talk about conventions in the writing of numbers that may be different in students' own countries. For example, some countries use a comma for the decimal point; this can be confusing to people from other countries in which the comma is used to separate groups of three digits to the left of the decimal point (for example, in 1,034.434). Point out that the decimal point is not stressed.

4 Students match prefixes to the numbers they represent. While students do this, make sure they are saying the numbers correctly, following the first focus of the Language box (for example, *nought point nought nought one*). It may help students to think of the abbreviation for the numbers in their own language; *KB* is used for 'a thousand bytes' in many languages.

1 tera-   **2** giga-   **3** mega-   **4** kilo-   **5** nano-
6 micro-   **7** milli-   **8** quad-   **9** dual-

Pronunciation

5 ▶ 08 Ask students to predict where the stress lies in the examples. They may have some instinct for this from previous listening; even if not, the experimental aspect of doing this will help make the stress patterns memorable. They then listen to check their predictions.

Extra activity

Ask students to write down their own phrases similar to those in Activity 5, which could represent their own computer or a computer they want. They then practise saying them in pairs, with appropriate stress.

Listening

6 ▶ 09 Ask students, before they listen, to familiarise themselves with the delivery slip. They can practise saying the specifications with correct stress and with the correct way of saying the numbers. Then tell students that Dingle Digital got the order wrong and delivered computers with incorrect specifications. They then listen to a conversation between two people working at Wood Publishing and mark the mistakes on the delivery slip.

Laptops
- 1 x <u>390</u> GB SDD → 1 x <u>500</u> GB SDD
- <u>8</u> GB dual-channel DDR3 ... → <u>16</u> GB dual-channel DDR3 ...
- ...WLED <u>1920 x 1080</u> screen → ... WLED <u>1366 x 768</u> screen

Desktops
- Entel 3.4 GHz <u>quad</u>-core CPU → Entel 3.4 GHz <u>eight</u>-core CPU
- <u>1</u> x Eastern Digital <u>2</u> TB ... → <u>2</u> x Eastern Digital <u>1</u> TB ...
- <u>4</u> x USB ports → <u>8</u> x USB ports

A good follow-up question is: *Why doesn't the IT manager want to complain about incorrect screen resolution?* (It's better than the one they ordered.) If your students have some IT knowledge, you could also ask: *What is an advantage of having two 1 GB drives compared with one 2 GB drive?* (Users can back up internally to the second hard drive. Some software runs faster if the program is on one drive but the data on another.).

Speaking

7 To further practise the language, students roleplay the conversation that the Wood Publishing manager will have with the supplier, describing the problems with the order.

8 First, students write down some specifications, which might be completely made up, for their own computer or their ideal computer. Then they ask and answer questions about these. While the questions use the present simple and are thus review from the previous unit, there are some features that may be a little tricky, so it may be useful to model appropriate questions and answers in open class and/or put them on the board (eliciting as appropriate):
A: *How much memory does it have?*
B: *It has 16 gigabytes.*
A: *How big is the hard drive?*
B: *It's ...*
A: *What is the screen resolution?*
B: *It's 1280 x 1024*
This activity can be done as a mingle.

9 In pairs, students suggest real-world specifications for computers in the given situations. Brochures (online or print) would be useful here, especially for those who do not have a lot of IT knowledge. Below are some additional hints that may help those with less IT knowledge:
1 Basic office software does not need powerful computers.
2 Powerful software such as Adobe Creative Suite needs powerful computers with lots of memory and, probably, SSD drives. They often also need to fit large pictures and films on their screen.
3 Provides data and so on for other computers but does not usually have people sitting at it or doing work on it.
4 Sales people travel a lot to visit clients but the software they use does not need a lot of power.

Suggested answers
(Accept anything students can justify.)
1 Quite basic. Large screen is useful for viewing several documents at once. Processor speed, memory and hard drive size are not so important.
2 Faster processor, much more memory, bigger (and probably more) hard drives, bigger graphics card than 1. Such computers often have dual monitors (a useful expression to teach).
3 Will also have a faster processor, more memory and bigger hard drives but graphics and screen are less important. Both might even be absent.
4 Similar to 1 though more portable. Low specifications may be useful as they often go hand in hand with longer battery life.

Speaking

1 Ideally, this activity would be carried out with a computer screen visible to all students, though this is not essential. Ask students what they can do with a computer window, giving an example (make it smaller) to get them started. They may respond with gestures, in which case you can supply the appropriate language.

> *Suggested answers*
> resize it, move it, open it, close it, make it bigger, make it smaller

Vocabulary

2 This activity looks at vocabulary for various parts of windows and dialogue boxes. Students annotate a screenshot of a window and a dialogue box. The screenshot is from Windows 7.

> **1** A   **2** L   **3** F   **4** G   **5** B   **6** K   **7** J
> **8** C   **9** I   **10** E   **11** D   **12** H

3 Students now look at actions that can be carried out on windows. They match the beginnings and endings of imperative sentences. Note that:
- *on* after *click* may be missed out: it is possible to say *click the title bar* rather than *click on the title bar*.
- the new menu that appears in item a is called a context menu or a pop-up menu.

> **1** b   **2** f   **3** a   **4** e   **5** d   **6** c   **7** g

> **Extra activity**
>
> If students are familiar with other operating systems such as Mac OS or varieties of Linux, ask them to talk about how the actions are different in those operating systems. Students may need a model for how to express this: *In Windows, you double click on the title bar to maximise the window. But on Mac OS X, you double click the title bar to close the window.*

Listening

4 ▶ 10 Tell students that they will listen to a help desk technician talking to an IT user. For this first listening, they just listen for the main idea: what information does the technician want?

> a date/the install date

5 Students listen again, this time for specific information: they number the boxes to indicate the order they hear the information. Before listening, students should familiarise themselves with the instructions.

> **4** Choose 'Properties' from the menu.
> **2** Just select 'Manage'.
> **6** Select 'Install date'.
> **5** Choose the 'Details' tab.
> **3** Just right-click where it says 'Disk 0'.
> **1** Can you scroll up to the top?

Language

Students have already encountered imperatives in Unit 1. Here, they use them for a different purpose (giving instructions), with softeners to make instructions sound more polite and sequencers to show the order of instructions.

6 Students use the information in the Language box to identify and underline the imperatives in Activity 5. Ask students to look at the audio script for the conversation in Activity 5 on page 73, and find out whether only imperatives are used or other forms as well. They should notice that requests are used as well (*Can you ...?*). Point out that those using only imperatives can sound rude, even if softeners are also used.

> **Imperatives**
> **2** Just <u>select</u> 'Manage'.
> **3** Just <u>right-click</u> where it says 'Disk 0'.
> **4** <u>Choose</u> 'Properties' from the menu.
> **5** <u>Choose</u> the 'Details' tab.
> **6** <u>Select</u> 'Install date'.
> **Softeners**
> Just, can you ...?

Speaking

7 Students now roleplay conversations similar to the one they heard in Activity 5. An example and prompts are provided. If your class has access to computers, this activity is best done in front of a computer. The instructions work for Windows 7 with Mozilla Firefox and Google Chrome installed.

8 Students now apply the language to real life by explaining to their partner something they know how to do. Prompts are provided for common actions most people who have used computers can do. You may want students to think of their own ideas or, as a class, come up with some actions that students know how to do.

Writing

9 To consolidate the work from this section and to practise some writing, students write an email explaining the steps they roleplayed in Activity 7. They should use the organisation pattern that they looked at in Unit 1: general information first (the purpose of the email), with the more specific information later (the steps).

Multimedia hardware

Speaking

1 To lead in to this activity and provide a link with the previous section, ask students to say which peripheral device they used most recently. Then ask them how often they use this device, as review of the frequency expressions in Unit 1. Students can then discuss the questions in Activity 1, using the frequency expressions.

Vocabulary

2 Ask students if they already know the words for some of the items in the photos. Then ask them to match the other items to the photos.

> **1** speakers   **2** projector   **3** headphones
> **4** virtual reality goggles   **5** microphone
> **6** video camera   **7** webcam

Speaking

3 To practise the vocabulary and relate it to real life, students talk in pairs about who might use the items in Activity 2.

Reading

4 Ask students how to connect multimedia peripherals to computers. This may review some vocabulary from the first section (*socket*, *USB port*, etc.) and also leads in to the reading, which is about connecting a projector to a laptop computer. Students skim the email to find out what Kamal wants to do.

If students mention that on some computers some of these steps are automated, you can point out that it is often the trickiest issues involving older hardware that they will be asked about while working in IT jobs.

> He wants to connect a projector to a laptop.

Vocabulary

5 Using the email, students match words to their synonyms. Pairwork may be useful here.

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

6 Using the email, students add the appropriate preposition to the verbs. After checking answers, elicit the pattern: *to* is used for connecting and *from* is used for disconnecting.

> **1** connect to   **2** plug into   **3** unplug from
> **4** disconnect from

Language

This focuses on the grammar of the vocabulary above. Most of the verbs in Activities 5 and 6 can take two objects. Point out that we often use a preposition between the two objects, as described in the Language box.

7 Students complete the gaps with one or two objects and with appropriate prepositions. The first word is provided, so students have to paraphrase rather than simply repeat parts of the text, thus they have to focus on the meaning of the words. Make sure that students are aware that they should write one object for some of the verbs and two objects for others.

> *Suggested answers*
> **1** Plug the projector cable into the laptop/laptop's video socket.
> **2** Plug the (projector's) power cable into an electricity/a power socket.
> **3** Switch on the computer.
> **4** Push the 'Function'/'Fn' key and the key with a screen picture at the same time.
> **5** When finished, turn off the computer and projector.
> **6** Disconnect the projector from the computer.

Writing

8 In preparation for writing their own emails, students look at the example email and identify some features: greeting (salutation), paragraphs and signing off. They then think of other phrases that could be used for the greeting and signing off. If your students have only a little prior experience of seeing emails written in English, this could be done in open class rather than in pairs. If you feel it is appropriate, you could also ask students to identify where the main idea of each paragraph is (at the beginning, in what is often called a topic sentence). This links with the

writing point from Unit 1 — that usually the more general ideas come first and the more specific points later.

- the greeting = Hi Kamal
- Paragraphs are indicated by the gap between them.
- signing off = Best wishes

Other greetings could include:
- Dear (formal, such as when writing to people much higher in the company hierarchy; in some contexts this could be overly formal and distant and thus indicate a poor relationship between the sender and the recipient.)
- Hello (unusual)

Other ways to sign off could include:
- Kind regards,
- Best,
- Regards,

9 Students write an email explaining how to transfer photographs from a digital camera to a computer. Prompts are provided, though there is more than one way to do this and students may use a different procedure. You could remind students about the sequencers from earlier in this unit, which they could incorporate into their emails.

Operating systems

Reading

Before beginning this section, check how much your students know about operating systems. You could ask the following (depending on your students' prior IT experience):
- *What operating systems can you name? What versions of these operating systems do you know?*
- *Which operating systems do you use most often?*
- *Which is your favourite? Why?*
- *Have you ever installed an operating system by yourself? Was it easy or difficult?*

1 Students put the steps in installing an operating system in order. If only some of your students have experience of doing this themselves, it will help to put one with this experience in each pair/group. However, even with no experience, students working together should be able to use clues such as sequencers.

6 During the process, the computer will restart by itself several times.
7 Near the end of the process, you can partition the hard drives.
3 In the BIOS, set the first boot drive to DVD. Then reboot again.
8 At the end of the process, the operating system will ask for the product key, time, date, network type and details for user accounts.
2 First, put the installation DVD into the optical drive. Then, reboot the computer while you press the 'F2' key. The BIOS will now start.
4 This time, the computer will boot from the DVD and installation will begin.
1 Before you start, back up everything.
5 Near the start of the process, it will ask you to agree to the licence terms.

Vocabulary

2 Students use the context of the steps in Activity 1 to find words there that match the definitions.

1 restart　**2** partition　**3** BIOS　**4** boot drive
5 product key　**6** user account　**7** reboot
8 process　**9** back up　**10** licence terms

Language

Four ways of expressing reason and purpose are dealt with here. Most students at this level will be aware of most of these. In addition to the points in the Language box, elicit, using examples, that if the *because*-clause is the second clause in a sentence, there isn't a comma between the clauses, whereas if it is the first clause, a comma is required.

3 Students match sentence halves, inserting *because*, *so*, *to* or *for* between them as appropriate.

1 d, for　**2** e, so　**3** a, to　**4** f, because
5 c, to　**6** b, so

Speaking

4 Students roleplay a conversation in which an IT user is asking questions to an IT technician relating to the items in Activity 3.

Business matters

1 Elicit from students or provide some examples of open source and proprietary software (see Briefing section). In groups, students discuss what they know about these different categories of software. Some prompts are provided to help them, though if your students' IT knowledge is limited, this might be best done in open class.

Reading

2 Students read a short article about open source software. While doing so, they check the points they discussed in Activity 1. The answers can then be discussed as a class.

Suggested answers
Open source software is usually free, whereas proprietary software usually has a price.
Open source software can be written by anyone, from people who program as a hobby to large companies.
Proprietary software is more common in everyday computer applications than open source software (though in some situations, for example, on servers, open source software is quite common).
Some names of open source software may be mentioned, such as Linux (common varieties of which are Ubuntu, SUSE, Red Hat), OpenOffice, Libre Office, Android (for mobile phones) and GIMP (an open source alternative to Photoshop).

Listening

3 ▶ 11 Students listen to a spokesperson from a company that sells proprietary operating systems, giving the opposite point of view from the reading.

Ask students to listen once before they answer the question and count the number of points made (three). Then play the recording a second time for students to list the points they hear.

cheaper training and free support
better quality: more features, better looking, fewer bugs (because they pay their developers)
more applications available

Speaking

4 Students go back to the article in Activity 2 and make a list of reasons to favour open source software, which should contrast with the list they made in the previous activity. They then compare answers in pairs or small groups, giving reasons, and discuss any differences.

Suggested answers
free
freedom/independence from the vendor
can add features
have control over data

5 To help students prepare for this activity, ask them to discuss the following questions in small groups: *Do you believe everything the company spokesperson in 3 says? Why/Why not?* (Answers may include the point that a company spokesperson is likely to prefer the company's products over others.) *In total, which do you think is cheaper: open source or proprietary software? Consider purchase cost, support cost and training cost.* (Answers may include the points that open source might be cheaper if little support or training are needed. Otherwise, proprietary software with free support and/or training might be better.)

Students then read an email from a manager about replacing computers in two departments. In their groups, they decide whether to choose open source or proprietary software in each department. They may choose different solutions for each department.

Writing

6 Students write an email in reply to the one in Activity 5, giving their recommendations. They should use the language of reason and purpose from page 18 and the email conventions they looked at in the previous section.

Preparing for the next unit

For homework, in preparation for **Unit 3**, ask students to list as many ways of communicating electronically as they can and to look up the English words for each item.

3 | Data communication

Briefing

This unit looks at ways in which data is transferred between computers. Vocabulary for talking about networks and networked computing is covered, as well as the following grammar points: present simple vs present continuous, defining relative clauses, zero and first conditionals, articles.

Internet browsing

This section looks at internet browsers and web addresses. While the terms **the internet** and **the World Wide Web** (usually shortened to 'the web') are often used interchangeably, knowledgeable students may raise the point that there is actually a significant difference. Technically, the World Wide Web refers only to pages that can be viewed in a browser, whereas the internet includes email along with several other ways of sending information, data and files between computers such as VoIP (Voice over Internet Protocol), which services such as Skype use. The internet developed from 1960s computer networks such as ARPANET (used by the US military) and networks in the UK and France. One of the systems for transferring data used on the internet (called protocols), HTTP (hypertext transfer protocol), developed by Tim Berners-Lee and Robert Cailliau at a research institution in Europe, became the basis of the World Wide Web.

Some other items mentioned in this section are: **web addresses** (for example, www.google.com), which are technically known as **URLs** (Uniform Resource Locators); **bookmarks**, sometimes known as 'favourites' (usually in AmE: favorites).

Networks

Computer networks are at the heart of many applications of IT in our everyday lives. Examples are numerous. Bank ATMs communicate securely with the bank's main computer to ensure that each transaction is recorded and that rules such as withdrawing more than the daily limit are not broken. Emergency services vehicles have computers which communicate with headquarters. On a possibly more familiar level, smartphones send and receive data using the mobile phone network (which is referred to in a variety of ways, including 'the 3G network', '4G network', 'cellular network', 'GPRS', 'CDMA', 'HSPDA' and so on).

Laptops and tablet computers such as the iPad often connect to the internet using **wi-fi**, a short-range network that, like the mobile phone network, uses radio signals. The hardware for connecting to wi-fi is usually built into laptop computers. For situations where a wi-fi signal is not available, a **dongle** (a small box which plugs into a USB or similar socket) can be used to send and receive data over the mobile phone network instead. Networks that use radio signals are known as **wireless networks**, while networks using cables (such as Ethernet cables, mentioned in the previous unit) are **wired**.

Networks are often categorised as two types: **Local Area Networks** (**LANs**) and **Wide Area Networks** (**WANs**). As their names suggest, LANs establish short-range ('local') connections, perhaps covering a single office or company within a building, whereas WANs cover much larger areas. Computers in a home sharing the same network connection are on LANs, while the internet is the most obvious example of a WAN. LANs and WANs can both be wired or wireless.

Discussion about wired networks often involves network topology; that is, the way networks are connected. Various topologies exist, including **star networks**, **ring networks**, **bus networks** and **mesh networks**: see the text on page 22 for details. Note that this mostly does not apply to wireless networks, though it is sometimes said that wireless networks are mesh networks.

Many interactions between computers on networks involve a **client–server** relationship. In this, the client requests information from the server, then the server processes the information and sends it to the client. An example is email: email client software such as Microsoft Outlook or Mozilla Thunderbird regularly asks the email server whether there are any new messages. The email server checks whether any new messages have been received and if so, forwards ('serves') them to the email client. This is why you will often hear IT workers referring to software such as Outlook as an email client rather than an email program. In a workplace, a server is often on the premises; this can be an ordinary desktop computer or might be larger, similar to the one in photograph 4 on page 4 of the Course Book.

Security is an important issue with networks and the internet. One way to enhance security is to use **encryption**; that is, data sent across the network is

encoded so that even if it is intercepted, it cannot easily be read. A further level of security can be provided through a **Virtual Private Network** (**VPN**), which is often described as being analogous to 'tunnelling' through the internet. It may be used between different offices of a company or by employees 'on the road' using their laptops to communicate with their office.

Mobile computing

This section looks at mobile devices such as mobile phones and tablets (iPad and similar), and **custom devices** such as those that traffic wardens, train conductors and courier company drivers use. There is a focus on how these make workers more efficient and flexible. Various features of mobile devices are mentioned, including:

- **GPS** (Global Positioning System), which uses signals from satellites orbiting Earth to work out the position of the device to a high degree of accuracy.
- **USB recharger**, which allows the device's battery to be recharged from any computer that has a USB socket. These are usually less bulky than the rechargers that plug into the mains (sometimes they are just a small cable) and are very convenient.
- **OCR** (**Optical Character Recognition**) software, which converts images, perhaps from the device's camera, to data (words, characters, numbers, etc.) that a computer can understand and use.
- **Accelerometer**, which detects and measures motion – for example, if the device is dropped or rotated. It is this that enables tablets and smartphones to change the orientation of the screen as it is turned around. Accelerometers should not be confused with motion sensors: accelerometers detect motion of themselves, whereas motion detectors are stationary and detect motion of other bodies. Motion sensors are used, for example, in burglar alarms.

Email

Most students will already be familiar with email in their own language. In case students ask, the screenshots from the unit are based on the Mozilla Thunderbird email.

In the screenshot, **CC** stands for 'Carbon Copy' and **BCC** stands for 'Blind Carbon Copy'.

Business matters

This involves a scenario in which students prepare a proposal to upgrade the electronic communications systems of an architecture firm. It applies the key vocabulary and grammar of this unit.

Further reading

Use the following keywords to search the internet for websites which give more in-depth information about the topics covered in this unit: web browser, internet, World Wide Web, network, LAN, WAN, wi-fi, VPN, GPS, OCR, accelerometer, smartphone, email.

Teacher's Notes

Ask students to share the lists of electronic communication methods that they made for homework. During feedback, put the words on the board to make one long list.

Internet browsing

Speaking

1 Begin by asking students about accessing websites in general, before they discuss the questions in pairs. Check that they know that we often refer to the World Wide Web as 'the web' and point out that we use *the* before *internet*, *web* and *World Wide Web*.

Vocabulary

2 In pairs, students match words for parts of a browser to a screenshot of Google's Chrome browser. After they finish, ask them to say what each item does (for example, the 'refresh' button reloads the page).

> **1** D   **2** E   **3** B   **4** A   **5** F   **6** C

3 Students match verbs and nouns to form useful collocations related to web browsing.

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

Speaking

4 Students tell a partner what they do on the internet, using vocabulary and collocations from Activities 2 and 3. Encourage them to say as much as they can, changing partners or as a mingle to facilitate this.

Listening

5 ▶ 12 Students listen to an administration assistant telephoning an IT specialist for help with a new browser, then answer the questions.

> Yes, the IT specialist solves his problem. He likes the fact that he can see all his bookmarks now.

6 Students listen again, this time for more detailed information: the three things the admin assistant needs help with.

> **1** finding the search bar   **2** opening a tab
> **3** finding menus

Language

This Language box contrasts the present simple and present continuous tenses, as used for current (not future) actions, and also looks at stative verbs.

Stronger students might be interested to know that some verbs are sometimes stative and sometimes not, depending on how they are used. For example, *have* is only stative when used to indicate possession. But we often say, for example, *I'm having breakfast.*

7 Students identify the tenses in two example sentences and decide why those tenses were used by the speaker.

> **1** I'm having trouble with the new browser we're using on our PCs. (Present continuous in both cases: actions happening now. The first example could also be assumed to be a temporary situation.)
> **2** I understand that now. But something else is confusing me. (first verb: present simple: a stative verb; second verb: present continuous: a situation in progress now)

8 For further practice, students choose the correct forms of the verbs in the box to complete a telephone conversation between an IT help desk assistant and an employee seeking help.

> **1** type in   **2** opens   **3** isn't working   **4** know
> **5** am checking

Speaking

9 For freer practice, students roleplay telephone conversations for three different situations, using the conversation in the previous activity as a model.

Listening

10 ▶ 13 This activity and the two which follow focus on saying web addresses, especially the symbols within them. Before students listen, put a common web address (for example, *www.google.com*) on the board and ask how they think it is said in English (*www* and *dot com* are said in a similar way in many languages.). Then see how many other symbols used in web addresses, such as slash, they already know. Finally, see how much of the example web

address in the Course Book they can say. Check that they can recognise items 1–5 being spoken before they begin listening.

Students then listen to the example being spoken and write the symbols next to the words.

> **1** -   **2** .   **3** /   **4** _   **5** ?

11 ▶ 14 Students hear a web address being spoken and choose the correct option.

> 3

Speaking

12 In this information gap activity, students read web addresses to each other and write down what they hear.

Networks

Speaking

1 For students with little IT knowledge, the discussion questions provide a lead-in to the topic as they relate networking concepts to real life. More knowledgeable students could also suggest other networks in everyday life, such as cash registers and credit card machines in supermarkets, and mobile phones.

Reading

2 Students read a web page about networks and match the main ideas to the three paragraphs.

The information in the web page ensures that all students, whatever the extent of their IT knowledge, have the same basic information needed to talk about networks. If the development of reading skills is important to your students (for example, if they need to read long texts in English at work), you could set a time limit to practise the skill of skimming.

> **a** 3   **b** 1   **c** 2

3 This activity looks at a type of cohesion, the linking of ideas in a written or spoken text so that it forms a cohesive whole without unnecessary repetition. Cohesion can be achieved in several different ways; this activity looks at the linking of ideas between sentences using words such as *this*, *it*, *he* and *another*. For example, in line 5 of this text, *They* refers to *computers*, a word which appeared in the previous line.

After going through the example with students, ask them to find the words in the text that the linking words refer to. Students could then check their answers in pairs.

> **1** type of wired network   **2** star system
> **3** type of wired network   **4** bus   **5** mesh
> **6** the link to several other computers

4 Students match diagrams to types of networks described in the text. (Reading to relate text content to diagrams is a very useful skill for technical areas of ESP.)

> **1** ring   **2** star   **3** mesh   **4** bus

Speaking

5 Students now apply the information from the web page to answer some questions. Question 1 uses information from the first paragraph (main types of network) and question 2 uses the final paragraph (the client–server distinction). Point out to students that they will not find the answers directly in the text; rather, they have to understand what LANs, WANs, clients and servers are from the text and then use that information to answer the questions.

> **1**
> **a** LAN (The computers are close together/in the same building.)
> **b** WAN (They need to send data to the bank's main computer to know how much money someone can take out, for example.)
> **c** WAN (Police cars can go anywhere.)
> **2**
> b, c and e are clients. They need to send data across a network to do their job.

Language

Care should be taken with this grammar point: while relative clauses are not too difficult to understand, they are tricky to produce. Many students at this level will not have been formally taught relative clauses before. For the sake of simplicity, some points have not been made in the box: for example, the box only includes defining relative clauses (sometimes called restrictive relative clauses), not non-defining relative clauses. Thus, if students encounter an example of a non-defining relative clause and ask about it here, explain simply that it is a different kind of relative clause. There are some differences: for example, *that* is not used in non-defining relative clauses. Non-defining

relative clauses are usually set between commas. A further simplification is that students only need generate subject relative clauses, that is, those where the verb follows immediately after the relative pronoun, with the relative pronoun acting as the subject of the relative clause.

6 Students identify the relative pronouns in the web page in Activity 2 and decide which word they refer to. This could be done in pairs. If you think your students will need help with this, you could draw their attention to the first relative pronoun in the text (*that*) and the word it refers to (*networks*).

> There are two kinds of networks <u>that</u> are in common use. (*That* refers to *networks*.)
>
> This is a network <u>that</u> has each computer linked to two others. (*That* refers to *network*.)
>
> In a bus system there is a central cable which is called a bus ... (*Which* refers to *central cable*.)
>
> In this, servers are special computers <u>that</u> store data ... (*That* refers to *special computers*.)
>
> ... the browser (the client) will ask the server for a web page, <u>which</u> then sends the web page back (*Which* refers to *server*.)

Speaking

7 Explain to students that the words and phrases in the box can be used with relative clauses to describe various concepts covered in the first three units. In pairs, students match these to items 1–6 and use them to describe the items. Less confident students may need to write these down before speaking.

> *Suggested answers*
> **1** It's a program that shows internet pages.
> **2** It's a part of a browser that helps you find things.
> **3** It's a cable that links computers in a bus network.
> **4** It's a type of network that covers a wide area.
> **5** It's a network that uses cables.
> **6** It's a (peripheral) device that prints.

Listening

8 ▶ 15 Before students listen, ask what jobs the people in the photograph might have. If they suggest *sales person*, discuss alternative words or abbreviations for this job, such as *sales representative*, as here, *sales rep* and *rep*. Check

also that students remember what *connecting*, *plug into* and *secure*/*security* from the previous unit mean. *Wi-fi* is also mentioned; as this is a trademark used around the world, it may be familiar to students already.

Students then listen and answer general questions on the conversation.

> **1** not very secure   **2** very secure
> **3** as easy as the current system

9 Students listen more closely this time, and take notes about the three items listed. They could compare their notes in pairs and then listen a third time to check and expand their notes to practise using relative clauses. Less confident students could read the audio script on page 74.

> *Suggested answers*
> **1** A dongle is a device that plugs into laptop computers. You can send data through the mobile phone system with it.
> **2** Wi-fi is a type of network that doesn't use cables.
> **3** A VPN is a type of network that is very secure.

10 For further practice of relative clauses, students read their answers from Activity 9 randomly to a partner, who then says which device they are describing. This activity could also include the items mentioned in Activity 7.

11 This discussion question encourages students to address the bigger picture of the conversation they heard, not just the details.

> *Suggested answers*
> I disagree. You do have to think about security. People sometimes choose passwords that are easy to guess (e.g. 1234 or their birthday), write down their passwords, laptops can be stolen and the data found that way, etc.

Writing

12 To prepare, students look at the three paragraphs of the web page in Activity 2 and decide where the topic of each paragraph is clearly stated. Not every language organises writing in the same way, so this may be new to your students. Even if they are from a language background with similar patterns of text organisation to English, this way of looking at writing may be new and helpful.

> a

13 Students practise writing a paragraph with a topic sentence using some of the information from the listening: what a VPN is and how it works. You could refer them to audio script 15 on page 74, though they should not copy phrases or sentences from there.

Extra activity

Students could write further paragraphs on other topics, possibly of their own choosing. If they are currently working in IT, they may already know the kinds of topics and writing tasks they need to do in their jobs and thus they might be able to choose their own topics (as long as this is not too difficult for their level). If suggestions are needed, here are some ideas from the previous unit:
- CPU
- motherboard
- operating system

Mobile computing

Speaking

1 These general questions ask students about their usage of mobile devices such as mobile phones and tablet computers. This should draw out vocabulary from their group discussions such as *smartphone*, *tablet*, *laptop*, *netbook*. If all of your students use smartphones, you could extend this so that they also discuss their favourite apps.

2 Students now look at three scenarios involving people at work and discuss how mobile devices might make these people's jobs easier. Check that they understand the scenarios before commencing the discussion; the photograph may help with item 3. In case students ask: the device on the screen is a colourimeter, used to ensure that the colours it displays are the same as other TVs that have been calibrated in this way (in most TVs there is a variation in the colour from one to another).

Suggested answers
Sales people might use mobile devices to take orders, check orders, update the customer database or keep track of expenses.
Delivery drivers might use mobile devices to take signatures and find addresses.
Entertainment systems installation technicians might use mobile devices to find customers or keep each customer's (specific) requirements.

3 This activity follows on from item 3 of the previous activity, looking at workflow for an entertainment systems installer. Students put steps a–f into a basic flowchart. Point out that the steps are given in note form, not full sentences. Elicit from students what they think *paperwork* means (the documents associated with work, such as order forms and invoices). Also point out that *admin* is short for *administration* and that *admin staff* are the office workers who do the administration. This activity can be done in the same pairs as before.

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

4 In pairs, students discuss how the workflow might change if the technician uses a mobile device. Students will listen to a similar workflow being described in the next activity, so this provides pre-listening prediction.

Suggested answers
1 admin staff send instructions to technician's mobile device
2 technician reads instructions
3 technician finds client and installs system
4 client signs paperwork using mobile device
5 technician sends information back to office electronically
6 admin staff send invoice asking for payment

Listening

5 ▶ 16 Students now listen to an IT specialist and a manager talking about new tablets and how these will affect the technician's workflow. While listening, students compare what they hear with the workflow they discussed in Activity 4. Emphasise that their discussions and flowchart may differ from what is said here. All they are doing here is comparing their thoughts with the listening.

With less confident students, you may want to have them listen one time for gist, then a second time to compare.

Language

The zero and first conditionals are contrasted here. Ask students to look at the examples and work out which tenses are used in the first as opposed to the zero conditional (Both use present simple in the *if*-clause. The zero conditional also uses the same tense in the main clause, whereas the first conditional uses future). From here, guide students to see the link between the tense usage and the usage of the

conditionals: present simple is used for actions that happen regularly and predictably, as is the zero conditional. *Will* is used for actions that you expect to happen in the future, as is the first conditional. You may want to point out that *when* can be substituted for *if* in zero conditional sentences.

Also point out the pattern of commas: if the *if*-clause comes first, there is a comma between the two clauses. If it comes second, there is no comma. A common mistake is to put a full stop between the two clauses. Make sure that students are aware they shouldn't do this.

6 This gap-fill activity is based on the scenario in the listening and provides controlled practice of the zero conditional.

> **1** doesn't know, uses   **2** is, signs
> **3** changes, updates   **4** needs, sends

Speaking

7 Words for two key concepts that are highly relevant to technology use are introduced here: *efficiency* and *flexibility*. Students will need explanations: efficiency is improved when the same work can be done in less time or by fewer people, and flexibility is improved when it is easy to change decisions or do things in a different way.

For freer practice of the zero conditional, students use the flowcharts they created in Activities 3 and 4 to suggest ways in which tablets will improve the company's efficiency and flexibility.

If your students might be working with speakers of American English, point out that a *torch* is called a *flashlight* in American English.

> *Suggested answer*
> In the old system, if a customer changes their order, the office can't send the new details easily. But with the tablets, if a customer changes their order, the office can update the installer's instructions straight away.

8 Students use conditionals to discuss how various functions and features common in mobile devices are useful.

> *Suggested answers*
> If the phone has a calculator, people can deal with money easily.
>
> If the device has a calendar, people won't forget appointments.
>
> If the phone has a camera, people don't need to carry another camera.
>
> If the phone has an e-book reader, users can read books anywhere.
>
> If the device has a GPS, users can find their way to and from places more easily.
>
> If the battery life is long, we can use it for a long time/on long aeroplane flights.
>
> If the phone has a torch, users can see what they are doing if the electricity stops working.
>
> If the device has a USB recharger, people can recharge it from their laptops.

9 The topic now switches from installation technicians to other mobile workers such as traffic wardens. In this activity, students simply speculate about what the person in the photograph is doing and how a mobile device might help her. As not every country has traffic wardens (their job might be done by police, for example), students might need some hints.

> *Suggested answers*
> She's using a mobile device.
> She's a traffic warden.
> If she uses a mobile device, she won't have to carry much paper.

Vocabulary

10 Students read an advertisement for a company that produces customised mobile devices for mobile workers. They use context to match words to their definitions. Before students do the main activity here, you could do some reading work by putting the following gist and comprehension questions on the board.
1 Who is the advertisement for: consumers or businesses? (businesses)
2 Are the company's devices only for traffic wardens, or for other people as well? (They're for other people as well.)
3 How does the device improve traffic wardens' efficiency and safety? (Efficiency: the traffic warden doesn't have to enter data. Checking registration number, etc. is automated. Safety: if the traffic warden falls, the device sends a message to the control centre.)

> **1** customise **2** tag **3** location **4** optical character recognition **5** report **6** exactly **7** record/data **8** accelerometer

Speaking

11 Students now imagine that they work for the company that produced the advertisement in Activity 10. In groups, they think of ways in which mobile devices can be customised for the three jobs listed. This activity recycles the vocabulary of mobile phone features and also gives more opportunity to talk about efficiency and flexibility.

> **Extra activity**
>
> Students discuss how mobile devices help them in their work or studies.

Email

Speaking

1 The scene for this section is set through introductory questions for small group discussion.

Vocabulary

2 In pairs or small groups, students match some email-related vocabulary to screenshots of emails. After feedback, check that students have worked out correctly that the recipient is the person who receives the email. If students do not already know, explain that the difference between the BCC (Blind Carbon Copy) and CC (Carbon Copy) addresses is that recipients can see the CC addresses but not the BCC addresses. Thus BCC addresses are used for privacy.

> **1** I **2** C **3** F **4** B **5** A **6** G **7** E **8** J **9** D **10** H

3 To practise the vocabulary in the previous activity, students make notes of the steps in sending an email. Then they explain their notes to each other and discuss any differences.

> **Extra activity**
>
> Students ask and answer questions about what the items in Activity 2 are for, for example:
> *A: What is the subject line for?*
> *B: It's for giving the topic of the email.*
> Before they start, point out the *for* + gerund structure (similar to the *for* + noun structure on page 18 of the Course Book).

> *Suggested answers*
> giving own contact details, job title, etc.; sending big files; checking spelling; sending the email to another person who didn't get it before; sending the email to a person without showing their email address; sending a reply; sending to more than one person; deleting the email.

Language

Articles are an area of grammar where mistakes are made at many levels. With most classes, it will be possible to elicit the rules given here by putting the examples from the Language box on the board, with books closed. Note that *email* can be both countable and uncountable: *I get a lot of email/emails.*

4 This intranet post about email use guidelines provides accuracy practice of articles in context. You could also ask students to decide which rule from the box applies to each instance of a definite article.

> **1** an **2** the **3** the **4** the **5** an **6** a **7** the **8** the

> **Extra activity**
>
> In pairs or groups, students discuss which of the guidelines in Activity 4 are the most useful and which, if any, they disagree with. They could also think of other guidelines. If your students are confident but in need of accuracy practice, this activity (and many others) could be conducted in groups of three, with two people doing the talking and the other monitoring for use of the grammar point (in this case, articles). The monitor role would then be rotated.
>
> A further alternative for confident students is to ask them to record the conversation (for example, on their mobile phones if they have a recording feature), play back the recording at the end of the activity and check for errors in the use of articles.

Business matters

This section revolves around a scenario in which students prepare and present a proposal for an IT upgrade for an architecture company.

Speaking

1 Students read a company profile and six comments from company employees about their needs and wants, then discuss and make decisions about possible hardware and software. These steps should bring out much of the vocabulary from this unit.

The final step provides a typical outline for a basic presentation: introduction, body and conclusion. If you think your students might need practice with this before embarking on the scenario activity, they can practise with basic, familiar topics such as their current job or favourite social activity. They should be given time to prepare; preparing in groups can help to build confidence.

The task itself has been deliberately left quite open so that changes in technology can be accommodated and to allow an opportunity for internet research, if facilities are available. The Course Book suggests presenting to the class. However, if your class is large, it may be better to have each group present to a small number of other groups.

Suggested answers
1
- tablets: don't work well due to security (C)
- software to show images and plans of new homes: needs video (D)
- email: sales rep gets too many (E)
- cameras: time-consuming to upload (F).
2
- suggested new hardware requirements: mobile devices for sales reps with: large screen (so customers can see more detail), GPS (to report back the location), network connectivity with VPN (network required for the reporting that people want; VPN needed for security), camera (to photograph sites, documents, etc.)
- suggested new software requirements: display software (to help with the requirement that customers can see more detail), OCR software (to turn photographs into documents), calendar software (to record appointments), cloud computing capability (to ensure that info is synced to meet everyone's requirements)

Preparing for the next unit

In preparation for **Unit 4**, students could:
- look at a catalogue of a seller of computer hardware such as DELL and list all the peripherals they can find (this will also review some vocabulary from Unit 2).
- try out a spreadsheet such as Microsoft Excel, to find out what it does, if they do not know already.
- list some uses of databases.
- look on Wikipedia to find out what a systems administrator does (the simple English version of Wikipedia, www.simple.wikipedia.org, might be easier for self-study at this level).

4 | Administration

Briefing

This unit looks at two aspects of administration: the use of spreadsheets and databases, and the administration of IT systems. Peripherals are also mentioned. Students practise: talking about spreadsheet formulae, using the past simple to describe past problems; talking about databases, using *by + -ing* to state concisely how things are done; describing various system administration tasks; describing the order of events using *while*, *before* and *after*; further vocabulary for peripherals; describing the background to problems, using the past continuous and past simple.

Spreadsheets and formulae

IT staff may be asked to help administration staff who are having problems with spreadsheets and will often find spreadsheets useful in their own work. Only very basic **formulae** are mentioned here, using arithmetical expressions and a **function**. Formulae use **cell** references: spreadsheet **columns** have letters and **rows** have numbers, so, for example, cell D7 is where column D and row 7 meet (see the Course Book for further explanation).

An important function is SUM, which adds up the contents of all the cells referenced in the brackets after it. When a colon is placed between two cell references, a range of cells is specified. Thus =SUM(B1:B4) will add up the contents of cells B1, B2, B3 and B4 in column B. Similarly, SUM(C4:F4) will add the contents of cells C4, D4, E4 and F4 in row 4. Other basic formulae include AVERAGE and COUNT. =AVERAGE(C4:C20) will give the average of all the values in cells C4 to C20. =COUNT(C4:C20) will give the number of items in the same cell range (it will not count empty cells).

If you have not used formulae in a spreadsheet before, it is suggested that you play with some of the formulae from here in a real spreadsheet before teaching this lesson.

Databases

Databases are behind many different applications. For example, email software uses one database to store messages and another one to store email addresses; any website that you register for will store the registration details in a database. Browsers use databases to store the history of the sites visited, bookmarks, etc.

At the heart of databases are **tables**. The columns of the table are called **fields** and the rows are called **records**. For example, a database containing contact details might have fields for family name, given name, phone number and email address. Each person in the database will have their own record.

Entering data into a large table can be a tricky process. To make it easier, database management software such as Microsoft Access or FileMaker Pro allows the creation of **forms** (see screenshot A on page 30 of the Course Book).

For output, reports are used. These are well-formatted documents, suitable for printing or emailing, which show a selection of the data in the database. For example, the data may be sorted in a particular order such as alphabetical by family name, or it may be filtered so that only selected data, such as only the contact details for people living in a particular city, appears in the report.

Many databases are relational databases. In these, tables are linked so that users do not have to enter the same data multiple times. An example is the student database of an English language college. There might be a table that lists students in each class. But if a student moves to a different class, there will then be two records for the same student (simply moving the student's data to the table for another class will not work because then there would be no record of which class the student was in previously). It is much more efficient to have a separate table for student details. Then the class list table can simply refer to the student details table. For this to work, though, there must be one field in each table which is unique for each student. Otherwise, the database would not be able to keep track of students when, for example, two students have the same family name. The unique field is called the primary key and could be something specially created for the database to use, such as a student number.

A further point to note is that, technically, database software such as Microsoft Access is a database management system (DBMS) and is designed so that relatively inexperienced people can set up and manage a small-scale database without too much specialist knowledge. However, it is not particularly

robust and, for larger applications, more technical approaches are usually used. At this level, setting up and maintaining databases becomes a very technical process akin to programming.

Systems administration

The stereotype of a systems administrator is of someone hidden away in a server room surrounded by technical equipment, only emerging when absolutely necessary. While this is unlikely to be the truth, this does give some flavour of the job. Systems administration is a highly technical job involving responsibility for a company's computers, servers, websites and so on. Duties are wide-ranging and, while they vary from company to company, they generally cover researching, purchasing, setting up, maintaining, updating and dealing with problems with IT equipment. Some of the duties and responsibilities mentioned in the unit are:

- **Deploying software**: in larger companies, rather than going to each computer and individually installing software, updates and operating systems, it is often possible to 'push out' upgrades remotely from the server to all relevant computers at the same time.
- **Networks, network security and websites:** some companies host the websites on their own servers. Where this is the case, the systems administrator is often responsible for ensuring that the website is secure and that it is constantly working (i.e. there is no downtime). This also applies to internal websites for staff use only (intranets) and the company network.
- **User accounts**: Many operating systems have several levels of user account, each of which allows access to different areas of the network and gives different degrees of control over the computer. For example, a guest account allows access to only the least sensitive information and might not even allow the user to create new folders. On the other hand, an administrator account gives a high degree of control over the computer; for example, it usually allows the installation of new software. Companies will often create different types of user account for different types of staff. For instance, accounting staff may have access to financial data that sales staff do not have access to. Access may be read-only or read-write.
- **Setting permissions**: This refers to setting up or adjusting a user account so that permission to access certain places or do certain things is given or denied.

- **Backups**: Systems administrators are usually the people responsible for the company's backup and restore strategies. In many cases, data from all computers will be automatically backed up to a server and also to offsite storage, so that if a disaster hits the building, the data will be safe.
- Checking **logs**: Logs are files created during the operation of software or hardware that tell a technician what is happening. For example, an operating system might add an entry to a log file every time a different user logs on or a fault is detected. Logs can be very useful in troubleshooting problems and also in detecting potential problems before they occur.

Systems administration is a source of plenty of humour: a quick internet search will show up songs and cartoons about it, though they are not necessarily suitable for class!

Peripherals

This section extends the work on hardware from Unit 2 with a focus on peripherals (devices which attach to computers and are controlled by them). Some of the items considered here are:

- **NAS** (**network attached storage**) **device**: a set of hard drives in a single box, which is attached to a network in the same way as a computer. Thus, it is accessible from any computer and provides a convenient place to store files accessed by several people, backups and so on.
- **Graphics tablet** and **stylus**: often used by designers and others who use software such as Photoshop to manipulate objects in images, as it can be more efficient than using a mouse for this purpose.

Business matters

This involves a scenario in which students discuss administration problems and possible solutions designed to bring out some of the vocabulary and grammar from this and earlier units.

Further reading

Use the following keywords to search the internet for websites which give more in-depth information about the topics covered in this unit: spreadsheets, relational database, Microsoft Access, network attached storage.

Teacher's Notes

Go through any information students found in preparation for this unit (for example, on spreadsheets, peripherals or databases).

Spreadsheets and formulae

Speaking

1 The discussion questions here, which introduce this section, ask about how people use spreadsheets generally and about students' own experiences with spreadsheets.

Vocabulary

2 Students match some basic sums written as words with the equivalent sums in symbols to obtain the basic vocabulary of arithmetic, a necessary step towards being able to say spreadsheet formulae. They then rewrite the sums in a different way, using the words given in brackets and the pattern provided: *8 divided by 2 is 4.*

Point out to students that both ways of saying sums are fine. In addition, we can also say: *If we add 8 and 2, we get 10* as an alternative to item 4, and *8 over 2* as an alternative to *8 divided by 2*. Also point out that the way that some of these sums are written by hand is different from how they are often written on a computer in spreadsheets: / is used instead of ÷ and * (asterisk) is used instead of *x*.

> **1** c **2** b; 8 minus 2 is 6. **3** d; 8 times 2 is 16.
> **4** a; 8 plus 2 is 10.

Speaking

3 To practise the language in Activity 2, students write down a number of sums of their choosing, then say them randomly to a partner, who says the answer (or, alternatively, writes down the sum that he/she hears). This could be repeated in a later lesson for review.

Listening

4 ▶ 17 Vocabulary to describe spreadsheets is presented here: students listen to a trainer explaining a spreadsheet to a trainee and match words to items on the screenshot of a Microsoft Excel spreadsheet.

Before playing the recording, make sure that students have heard the words in 1–6 so that they can recognise them when they hear them. In particular, draw their attention to the fact that the *c* in *cell* is pronounced /s/. Note that students may encounter *formulas* in place of *formulae*. While some maintain that this usage is incorrect, it does appear to be gaining ground.

> **1** F **2** E **3** A **4** B **5** C **6** D
> The formula adds up some numbers.

Speaking

5 This is an information gap activity to practise saying formulae, with Student B's information on page 70.

> **Extra activity**
>
> If your students have some knowledge of spreadsheets, elicit from them other common functions they know in their own language but not in English. Then have them dictate formulae containing these to each other.

Language

The past simple is a grammar point that students at this level will have encountered before. However, many will still be making mistakes, so further accuracy-focused practice is usually needed.

6 Students read audio script 17 and identify the tenses used. They also complete a sentence describing when the different tenses are used. This will help them to relate the points made in the Language box to real use of language.

> The past simple and present simple are used.
> present simple, past simple

Listening

7 ▶ 18 One way to introduce this activity is to ask students to describe past problems they have had with a spreadsheet (or, if they have not used spreadsheets before, with other software or hardware). Guide them towards using the correct tense while they describe the problems.

Students now listen to four IT employees describing scenarios involving spreadsheet problems. Each describes both a past action and a present action or situation. While listening, students complete a table to show the past and present actions.

> **2** saved a spreadsheet (in the main folder); can't find it
> **3** designed a spreadsheet; it doesn't work
> **4** typed a date (into a cell); it shows a number (instead)

Speaking

8 Students match possible solutions to the problems in the previous activity. They then use this information for roleplays in which they describe the situations but also propose solutions. Students will need to know the meaning of *function*. This is the word in the formulae they have previously seen, such as *SUM*. Other vocabulary items such as *folder* and *right-click* are review from Unit 2.

Before commencing the activity, choose two strong students to model the first conversation, using the example as a starting point.

> **a** 2   **c** 4   **d** 3

9 This activity brings the language of the section into the real world. Students take turns to describe to a partner an IT problem that happened to them, and the solution. Ideally, this would be a problem with a spreadsheet but if they have had little experience with spreadsheets, any IT problem will do, especially if it relates to the topic of a previous unit.

Further practice is provided by asking students to form new pairs and describe the problem they heard, not the one they themselves described. This will help them focus on both understanding and communicating meaning from the beginning of this activity.

> Databases

Speaking

1 Students begin by sharing their knowledge of databases. For those who are new to IT, some prompting may be necessary: you could point out that even a popular website such as Facebook stores user information, posts and so on in a database. From there, students will be able to speculate about what other websites might use databases for.

Listening

2 ▶ 19 Students match vocabulary relating to databases with three screenshots (a form, a table and a report) from Microsoft Access. To help

them do this, they listen to a database administrator explaining the structure of a company database to a trainee.

> **1** B   **2** C   **3** A

3 Students listen again, this time to practise listening for more detailed information. They decide which of the three options best describes what the database keeps track of. Before listening, check understanding of the vocabulary in the options: *clients* came up in Unit 1 but *orders*, *stock* and *accounts* might be new.

> a

Vocabulary

4 Students now read an extract from a database manual and complete gaps with vocabulary provided, which also appear in audio script 19. This activity is best done with students helping each other, that is, in pairs or small groups.

As a further reading activity, students can refer to the audio script on page 75 to check their answers. After feedback, check that students know the meaning of the vocabulary as defined in the manual.

> **1** objects   **2** record   **3** fields   **4** unique
> **5** primary key   **6** form   **7** report   **8** retrieve a record   **9** query the database

Speaking

5 Students are presented with descriptions of three database tables. In small groups (or pairs if you feel this is more appropriate for your class), they decide which field is an appropriate primary key. The aim of this activity is to practise vocabulary from Activity 4; this is far more important than whether or not they choose primary keys correctly, and monitoring should focus on encouraging use of this vocabulary.

Check first that students know the vocabulary in each description. *Product* is review from Unit 1. An example of a *barcode* can be found on the back of the Course Book. Also, draw their attention to the example.

6–7 Students now see four more situations. In groups (or pairs for stronger classes or if groups are not appropriate in your context), they choose tables, fields and primary keys for each situation. When finished, they compare their answers with another group and discuss any differences. As with the previous activity, the aim here is practice of the vocabulary.

With stronger classes, an alternative to Activity 7 is for each member of the original group to form a pair with another student; this will result in more practice.

Suggested answers
1 tables: patient's details, treatment details
patient details table fields: patient's name, mailing address, telephone number, email address, patient's identity number (primary key).
treatment details table fields: date of treatment, type of treatment, result, follow-up treatment, treatment number (primary key; none of the others are necessarily unique)
2 tables: student details, class information, assessment information
student details table fields: student name, student ID (primary key), start date, current class, previous classes, fee paid
class information table fields: name of class (primary key), class members' names, teacher's name, classroom number
assessment information table fields: date and time of assessment (primary key), names of students assessed, results
3 tables: airlines, flights
airlines table fields: airline name, airline code (primary key), airline contact details
flights table fields: flight number (primary key), departure airport, destination airport, departure time, number of seats
4 tables: players, games
players table fields: player's name, email address, player's identity number (primary key)
games table fields: players' names, game ID number (primary key), time started, time stopped, current score

Language

by + -ing is a useful language point, which should present few challenges to students at this level.

8 Students ask and answer questions about how to do several tasks involving databases, using the language from the Language box. An example is provided as a model.

Suggested answers
1 You can do that by retrieving a record, querying the database or running a report.
2 You can do that by using the 'sum' function (in a formula).
3 You can do that by using a primary key.
4 You can do that by running a report.

Speaking

9 A scenario is provided in which a company's problems are described and possible solutions are mentioned. The scenario also reviews recent vocabulary. Students work in small groups (or in pairs) to discuss possible solutions to the problems, using this section's target language.

Suggested answers
By using OCR, your company will save time on data entry.

By using a database, you only have to enter data once.

By running reports from a database, you won't need to copy and paste data into word processing documents. The data will be ready for printing.

Extra activity

This activity assumes that students have some basic IT experience. Give a list of basic operations common to most software (for example *cut*, *copy*, *paste*, *undo*, *open*, *close*). In pairs, students ask and answer questions with *how*, which can be answered using the *by + -ing* structure (for example, '*How do I open a document?*' '*By clicking on this button.*').
In a later lesson, for review, paired students could say, for example: *By clicking this button, you can open a new document.* The partner then points to the appropriate button on the screen or on a screenshot of the software chosen.

Systems administration

Speaking

1 This activity is a little different from other introductions to sections in the book because many students will have little knowledge of the topic (systems administration), thus making it difficult to elicit prior knowledge or experience. Instead, a definition of what a systems administrator does is given and students, in pairs, place some tasks provided in a table according to whether or not they fit the definition. Much of the vocabulary in these tasks is review from earlier units.

If, however, your students have some experience of working in the IT industry, you could begin this section by asking them to tell you (or make lists in pairs or groups) as many tasks a systems administrator might perform as they can. If this does not bring out all of the vocabulary in the box in Activity 1, point students to it and ask them to include appropriate items in their lists.

Students with an intermediate level of knowledge can start off by completing the task in the book, then adding ideas of their own.

> **A systems administrator's task:** deploys new software, looks after network security, sets up user accounts, updates software across an organisation
> **Not a systems administrator's task:** designs databases, works on a help desk, writes software to sell to other companies

2 For each item in Activity 1 that is not the task of a systems administrator, students, in the same pairs, choose a job title from page 4.

> designs databases: database administrator
> works on a help desk: help desk supervisor
> writes software to sell to other companies: software developer

Listening

3 ▶ 20 Students listen to a systems administrator asking a technician about the status of the company's computer systems. On this first listening, in order to build confidence with it, students are asked just two questions.

> No, it isn't. There are several departments.

4 On this second listening, students complete a table listing tasks, some of which appeared in Activity 1. The table has columns to be ticked to indicate whether the task worked fine, a problem was found or whether it was not mentioned. Students are also asked whether there were any big problems. Before listening, give them time to read the table. They can check their answers by looking at the audio script on page 75.

> **1** Worked fine
> **2** Not mentioned
> **3** Worked fine
> **4** Problem found
> **5** Worked fine
> **6** Problem found
> **7** Problem found
> No, there weren't any big problems.

Vocabulary

5 In pairs, students match words from the table in Activity 4 with their meanings.

> **1** reset   **2** deploy   **3** permissions   **4** logs

6 If feasible in your classroom, combine pairs from the previous activity to make groups of four; otherwise, continue in pairs. Ask students to complete collocations that they heard in the audio. Some may be able to do this from prior knowledge and others may have an impression of which ones fit together from the audio.

> **1** smoothly   **2** crash   **3** running again
> **4** out of   **5** out   **6** smoothly

Language

As in the previous section, gerunds are the language focus here but this time they are used in conjunction with time words: *while*, *before* and *after*. An alternative is also provided, using a subject and the present simple form of the verb.

Make sure students are aware that punctuation is important with these words: the commas in the examples cannot be substituted with full stops, which is a common mistake. Also make sure that, in the second example, students realise that what happens in the second clause (*back everything up*) occurs earlier than the clause with *before* (*Before you reinstall the OS*). *OS* in these examples stands for *Operating System*.

7 Students use the prompts to write sentences with *while*, *before* and *after*. They will have to work out which action occurs first or whether they occur simultaneously in order to decide which word to use. Ask students to write both possible answers for those prompts that can take either a gerund or subject + verb after the conjunction.

> **1** While you install/While installing an operating system, the computer may reboot several times.
> **2** Before you deploy/Before deploying major software upgrades, (you need/have to) train the users.
> **3** After you replace/After replacing the hard drive, everything will go smoothly.
> **4** After someone forgets a password, (you need/have to) reset it.

Listening

8 ▶ 21 Students listen to five extracts from conversations and write the action that should happen first in each case. The aim here is to develop awareness of the effect of the time conjunction on the order of events; the events do not necessarily occur in the order they are heard.

> **2** partition the hard drive   **3** check (your/the) schedule   **4** get access to (your/the) machine   **5** ask (them) if it's OK/ask for permission

Pronunciation

9 Students mark the intonation of the five extracts from conversations in the previous activity on the audio script.

> **1** Dalya, before you close the database, could you email me a report on last month's sales? ↗
> **2** After partitioning the hard drive, could you run a memory check? ↗
> **3** Yoshi, check your schedule before you re-install the operating system. ↘
> **4** After I get access to your machine, you'll see the cursor moving around the screen. ↘
> **5** Before remote accessing anyone's computer, you should always ask them if it's OK. ↘
>
> Intonation generally rises at the end of *yes*/*no* questions and falls at the end of statements.

Speaking

10 In pairs, students use prompts to produce instructions for their partner. Make sure they are aware that there may be several ways to respond to each prompt. They will have to think logically about which action comes first.

> *Suggested answers*
> **1** Before you finish work for the day, could you check the logs?/After you check the logs, you can finish work for the day.
> **2** After you start work tomorrow, please check out the database problem.
> **3** While you're in the server room, could you check the network cables?
> **4** After the new designer arrives, could you set permissions on his computer?

11 Students use further prompts to state some precautions to do with systems administration. Giving precautions is a useful function for *before* + clause/gerund.

> *Suggested answers*
> **1** Before upgrading some software, check that no one is using it!
> **2** Before remote accessing someone's computer, you should ask their permission/ let them know what you're doing.
> **3** Before switching off a server with users' computers networked to it, check that they're not using the network/accessing the server.
> **4** Before deploying new software, give the users training with it.

Writing

12 Using the prompts provided, students write an email explaining a basic procedure. This is another useful function that utilises this section's language point.

> **Extra activity**
>
> For students already working in or studying IT, ask them to write an email giving a procedure related to their work or recent studies. The email should incorporate language from the Language box.

Peripherals

Speaking

1 Explain that a peripheral is a device that plugs into a computer, such as a printer or a screen. Then, with books closed, ask pairs of students to list as many peripherals as they can. They will remember some from Unit 2. They may be able to think of more. If they think of something in their own language but do not know the English word, encourage them to explain it to you in English and supply the word to them.

An alternative introduction is to ask students to discuss these questions in pairs or small groups:
1 *What kinds of peripherals have you used most recently?*
2 *What's the most unusual peripheral device you've heard of?*
Either activity could become a competition by giving a time limit for the pairs/groups to produce their lists and, when finished, see who has the longest list.

Vocabulary

2 In pairs, students match photos of peripherals to descriptions of what the peripherals do. Note that all-in-one devices are also referred to as multifunction devices (MFD) and multifunction printers, and that these also come in sizes that will fit on a desk (i.e. smaller than the one illustrated).

A 1 **B** 5 **C** 7 **D** 2 **E** 4 **F** 3 **G** 8 **H** 6

3 In the same pairs, students decide whether the devices in Activity 2 are output devices, input devices, both or neither, writing *I* or *O* as appropriate next to each.

1 neither **2** I **3** I **4** I **5** I, O **6** O **7** I, O **8** O

Listening

4 ▶ 22 Students listen to an assistant systems administrator explaining a problem to his manager and complete the table. Explain that *in progress* means *happening*.

The accountant *was trying* to save a spreadsheet to the NAS device.

1 got an error message
2 couldn't connect to it (from anywhere)
3 maybe a problem with the network cable

Language

The past continuous and past simple are contrasted here. The second point in the Language box, about interrupted actions, should be emphasised as this is the point practised in later activities.

Speaking

5 Students use the prompts provided to explain problems to their partner. Before beginning the activity, choose two students and elicit a conversation similar to this:
A: *Albert, I've got a problem. Could you help me?*
B: *Sure, what's the matter?*
A: *Well, the printer's jammed. This morning I was printing a report when it stopped suddenly. Half of the report didn't print properly.*
With less confident students, it will help to put this conversation on the board as a model.

Writing

6 For further consolidation of the language point, students write an email to a company IT support office explaining a problem of their choice from Activity 5. If your students need more practice, you could ask them to write more than one email, for homework or in a later lesson.

Business matters

In this section students discuss and propose solutions to some IT problems related to the unit topics. They go on to write an email summarising the problems and solutions.

Speaking

1 First, students read the scenario. Then, in small groups, they choose four of the problems mentioned and complete a log with those problems and the actions taken. If your students are knowledgeable about IT, instead of reading the scenario, they can simply choose four problems that are relevant to their work or study, though, ideally, they would have some relevance to this unit.

Writing

2 Students now work individually and write solutions to the problems chosen in Activity 1 in the log provided (for space reasons, it may be better for them to use a copy of the log in their own notebooks). This forms the basis for discussion in the next activity.

Speaking

3 Students explain the problems from the 'action taken' column in their logs, using language from earlier in this unit.

Writing

4 Students write an email to the systems administrator as requested in the scenario in Activity 1, explaining the problems they encountered and how they solved them.

Preparing for the next unit

In preparation for **Unit 5**, ask students to think about an electronic gadget or item of IT equipment they have purchased recently, then make some notes about other options they considered at the time of purchase and the reasons for making their choice.

5 | Choice

Briefing

Many workers in the IT industry will be involved with sourcing, comparing and selecting IT-related equipment and software. This unit provides the language for dealing with these tasks.

Students practise: comparatives and superlatives through product comparison; language used to talk about money when evaluating the costs of different IT equipment; asking polite questions when doing product research; making recommendations based on product summaries.

Web hosting

The main technological point in this section is web hosting. When a company has a website, it has to be stored ('**hosted**') on a server. There are several ways to do this. The cheapest is to use a commercial **hosting service** to store the website on its own computer along with several other companies' websites. This is called **shared hosting**. With this, each website may be quite slow because the server has to deal with many websites at the same time (especially if another website on the same server is heavily used). To overcome this problem, the company can buy its own server to put on its own premises. The downside is that the company is completely responsible for ensuring the server is working continuously. If a problem occurs during the night, an employee must be able to deal with it at short notice. Not every company finds it efficient to do this, so a common solution is to use a **dedicated hosting** service. This is similar to shared hosting, except that the company effectively hires a single computer in the hosting service's data centre, together with 24-7 support, and retains the speed advantages of having no other sites on the server. Hosting services are often priced according to the server specifications, bandwidth (maximum amount of data transfer allowed) and the number of IP addresses allowed. An **IP** (**Internet Protocol**) address is a sequence of numbers and letters that is unique to each server or website and which can be used to identify it on the internet.

IT costs

A task that many IT workers perform is to evaluate the costs of IT equipment to decide which is most cost-effective for their company to purchase. Usually, rather than just looking at the obvious upfront costs, consideration is given to **TCO** (**Total Cost of Ownership**), the total of all the costs of owning something. For example, a smartphone may or may not come with an upfront cost, depending on the deal, but there will be usage costs such as charges for phone calls, data and messages (or, in some countries, a monthly charge which covers all of these up to certain limits). Other items that may contribute to TCO include training, maintenance, servicing, insurance, consumables such as printer ink, electricity and **warranties**.

Product research

Before high speed internet connections were common, software was generally sold in physical packages: for example, on CDs. This traditional method still exists but in most cases, it is also possible to download the software over the internet. Either way, generally, the user pays a price for the initial purpose, which allows usage of that version for as long as desired. Then every time there is a major upgrade to the software, the user can choose to pay an additional fee (usually significantly less than the initial purchase price). This pricing model is known as **traditional pricing**.

Nowadays though, as high speed internet connections are becoming the norm, new ways to price and sell software have appeared. Many new companies are providing their software only on the cloud, meaning that much of the processing done by the software occurs on the company's servers rather than the local computer, and data is stored on the software vendor's servers. This system is also called **software as a service** (**SaaS**). Usually the user pays monthly rather than a one-off fee; this is called **subscription pricing**. There are often several levels of service, with higher levels carrying higher monthly fees. This is called **tiered pricing**. Sometimes the lowest level is free in order to tempt people to try it and upgrade later for more features; the pricing model where there is a free version as well as a paid version is called **freemium pricing**.

A final pricing model is to offer the software for free but to include advertisements within it to fund it. This is called **freeware** or, sometimes, **adware**.

Making recommendations

CAD (**Computer Aided Design**) software is used in a variety of industries, including engineering, architecture and filmmaking, to replace traditional hand-drawn technical drawings, blueprints and animations. It is often very versatile and in addition to two-dimensional representations it can also be used in three dimensions. Output can include technical drawings for builders and others to follow, though this feature is not so useful for graphic design. CAD software can often also work out the amounts of material that are needed and in some cases can send instructions to machines to make the components that it has been used to design, this function being especially useful for manufacturing uses. To do this, though, it needs to output data in a format that the machines can understand; **file format compatibility** is thus important here.

Business matters

In this section students make recommendations for hosting services and a web content management system (web CMS). There is work on the language of presentations, while students give presentations in which they make and explain recommendations.

Further reading

Use the following keywords to search the internet for websites which give more in-depth information about the topics covered in this unit: dedicated hosting, TCO, pricing models, CAD, web content management system.

Teacher's Notes

Ask students to discuss the notes they made for homework from the previous lesson about factors in their choice of recently purchased items of IT equipment.

Web hosting

Speaking

1 To introduce this section, ask students to discuss in small groups how much time they spend choosing between IT items that they want to buy: do they make quick decisions or spend time considering all options?

Vocabulary

2 Before reading the web page, find out how much students know about website hosting. If they know nothing about this, explain what it is (see Briefing section) and that one of these is being advertised here.

Students read the web page and match vocabulary from it to definitions. The first of these (*dedicated hosting*) is important because it is key to what the advertisement is about. For item 3 you could elicit from students what they think the opposite is (*downtime*: time when the service is not working, something the provider would want to minimise).

> **1** dedicated hosting **2** guarantee **3** uptime
> **4** minimum **5** bandwidth **6** IP address

Reading

3 Now that students have the vocabulary needed to understand the advertisement, they answer some comprehension questions.

> **1** We can send our specifications to them.
> **2** guarantees: will replace hardware within twenty-four hours; 99.99% uptime; support: 24-7 (available any time)
> **3** Yes, we can use our current server OS licence.
> **4** Yes. With all plans, you can have an unlimited number of websites on the server.
> **5** No. Plans are for a minimum of six months.
> **6** It depends on the plan: up to 2 TB, 5 TB or 25 TB.

Language

Most students at this level will be familiar with basic comparative and superlative structures. Here, this knowledge is extended by looking at *as ... as*, *less*, *the least* and comparison of nouns.

4 For controlled practice, students complete the gaps in the product comparison, using the words in brackets and grammar from the Language box. Before they begin, make sure they are aware that more than one word goes in each gap.

> **1** the most powerful **2** more drives than
> **3** the same uptime **4** less bandwidth than
> **5** the most bandwidth **6** the same set-up fees
> **7** higher than **8** the highest **9** the most expensive

Pronunciation

5 ▶ 23 Students listen to four sentences containing language from the Language box and mark the stressed words. This activity also prepares students for Speaking Activity 6.

> **1** Dedicated hosting is <u>more secure</u> than <u>shared hosting</u>.
> **2** The Basic plan gives you <u>more bandwidth</u> than the <u>Superior plan</u>.
> **3** Websites run <u>faster</u> on dedicated servers than on <u>shared servers</u>.
> **4** Of the three, the <u>Basic plan</u> has the <u>least powerful</u> processor.

Speaking

6 In pairs, students use the language from the Language box and the prompts given to ask and answer questions about the hosting service in the HostElite advertisement. Remind them to use appropriate stress. During feedback, you could ask a more confident pair to model for the rest of the class. An example may be useful:
A: Which plan has the largest disk capacity?
B: The Premier plan. It has a larger disk capacity than the others.

Listening

7 ▶ 24 Tell students that they are going to listen to two workers in an IT company talking about the dedicated hosting service advertised in Activity 2. Ask them to read the questions in preparation. This activity practises listening for specific information and also, in a small way, for inference.

When students have finished, you could ask them, in pairs, to discuss which plan is most suitable for the company. They should be prepared to give reasons for their answers.

> **1** b **2** b **3** b **4** c **5** a **6** b
> **Question 2:** Students know from earlier that dedicated hosting isn't cheap, so the company is unlikely to be small.
> **Question 6:** The fact that they had over 10,000 customers in the previous month indicates that the customers are more likely to be individual consumers than other companies.

IT costs

Speaking

1 This activity, the lead-in for this section, asks students about the electronic devices that they own and would like to own. Consider running this activity with books closed so that students do not use clues from the next activity. The questions can be written on the board or even form a running dictation.

Vocabulary

2 Students match words to form collocations relating to IT accessories, costs and services. Make sure they are aware that more than one answer is possible. Some of the words will have already come up in the last part of the previous activity. Also, some of the vocabulary, such as *licence*, is review from earlier units but check that students know *extended*, *charger* (*recharger* came up in Unit 3), *reader*, *battery* and *spare*.

> **1** internet **2** card **3** USB **4** training
> **5** spare **6** battery **7** purchase
> **8** technical **9** memory **10** software
> **11** extended
>
> Note that other answers may also be possible but are less common or are weaker collocations. Examples include: extended cables, technical course, extended battery, USB charger, spare charger, training cost, software cost, extended support, software support, spare card, extended licence, training licence, battery warranty, memory warranty.

Speaking

3 Students apply the vocabulary from the previous activity to the devices they discussed in Activity 1 by discussing the questions in small groups or with a partner.

Listening

4 ▶ 25 Tell students that they will listen to a manager talking about costs. The first time they listen, they simply work out from inference the kind of gadget she is talking about.

> a digital camera

5 Students listen again, this time for specific information, and complete the sentences.

> **1** cost **2** spent, on **3** was, for **4** pay
> **5** in
> total cost over one year: €694

Language

This Language box covers lexical aspects of talking about money that are often confused by students at this level. One way to introduce this is to ask students, in pairs, to work out a question for each item in Activity 5, then compare their questions with the information in the Language box. For example:

1 How much did it cost?
2 How much did you spend (on the memory cards)?
3 How much was it/the case?
4 How much do you pay (a month)?
5 How much is it/does it come to/does it cost in total?

6 For controlled practice of the language focus, students use the prompts to ask and answer questions about what they spend on various aspects of IT. If there is a possibility in your teaching context that this might be a sensitive issue or if students are too young to be spending their own money on such gadgets, students can instead make up their own figures. If you choose this option, give them time to prepare their figures before the pairwork begins.

> **1** How much do you spend on your internet connection?
> **2** What was your total spending on software last year?
> **3** How much do you pay for your mobile phone service?
> **4** What was the purchase cost of your computer in total?

Speaking

7 In this activity, each student has some details about costs for a particular item, as well as a TCO (Total Cost of Ownership) calculation worksheet with a column for both students' items. They share their information and then help each other to complete the worksheet. Before starting the activity, make it clear to students that they should use the language in the Language box and check that they know what *initial* means in *initial purchase cost*. Many students are likely to have mobile phones with a calculator function built in, so it is unlikely to be necessary to provide calculators.

One way to make clear the meaning of *TCO* is to ask students to think about their mobile phone. Ask them how much they spend on it in a year, including all the items associated with it that they mentioned in Activity 1, question 3. Then ask them to compare this with the initial purchase cost (if any). Finally, you could ask them about other items, such as printers and software, to elicit other items that can contribute to TCO.

This activity recycles the language of calculations from Unit 4, so consider reviewing this language area. For example, some basic calculations such as those that came up in the

activity in the previous paragraph could be elicited in open class before commencing the book work. If further practice is needed, ask students, in pairs, to work out the TCO of other equipment they own (for example, a laptop computer). They can make up their own figures if necessary.

> **Samiba DR750**
> Initial purchase cost: $540
> Software costs: $379.95
> Warranty: $0.00 (included in purchase cost)
> Technical support costs: $0.00
> Training: $0.00 (not required)
> Other items: $79.80 (spare battery)
> Total cost of ownership: $999.75
>
> **Sundai TB10.6**
> Initial purchase cost: $499.90
> Software costs: $295 ($45/year x 3 years + $160)
> Warranty: $39.90 (free for 2 years; $39.90 for an extra year)
> Technical support costs: $0.00
> Training: $179 per person
> Other items: $35.75 (case)
> Total cost of ownership: $1049.55

8 In pairs, students talk about the differences between the items in the previous activity, thereby recycling the language of comparisons from the previous section.

Writing

9 Using the model email, students work in pairs to identify some useful features common to many text types in English: the topic of the email (usually at the beginning) and discourse markers (words showing the relationship between ideas) for adding a similar idea, adding a contrasting idea and indicating a summary.

With stronger students, you could ask them to think of other words with the same functions as those they identify in questions 2 and 3 (possible answers: *and*, *in addition* and *furthermore* for adding similar ideas; *but*, *in contrast* and *on the other hand* for adding contrasting ideas; *in summary* for indicating summaries).

> **1** the first sentence　　**2** also, however
> **3** overall

10 Students write an email incorporating the features they discovered in the previous activity. This also recycles language of comparisons from the previous section.

Product research

Speaking

1 In the first section students were asked about how quickly they made purchase decisions for electronic items. Now that they have the vocabulary from the previous two sections, they expand on this point by talking about the factors they consider during these deliberations. In their responses, students may mention reliability and performance, among other things.

Reading

2 Students read a web page about pricing models commonly used for software and match them to the features listed.

> **1** freeware   **2** subscription pricing
> **3** traditional pricing   **4** tiered pricing/freemium pricing   **5** subscription pricing   **6** freemium pricing

Listening

3 ▶ 26 Students listen to three salespeople describing software that they sell and decide which of the pricing models from the reading each person describes.

> **1** traditional   **2** freemium   **3** tiered, subscription

4 In preparation for the language work that follows, students listen again and complete the questions.

> **1** how much it costs   **2** if there's a   **3** what the price is   **4** how many

Language

When researching products for potential purchase, IT workers will often have to speak with people they have not previously met in order to obtain information. As they are representing their company, they have to pay more attention to politeness than normal. Indirect questions, such as those they just heard in the listening, are useful for this.

With books closed, ask students, in pairs, to work out the rules for forming indirect questions by looking at the sentences in Activity 4. Then ask them to read the Language box to check.

Pronunciation

5 ▶ 27 Play the recording and ask students to mark the intonation as rising or falling in the audio script on page 76. Then ask them to practise asking and answering the questions (or indirect questions they generate themselves) with a partner, paying attention to their own and their partner's intonation.

> **1** ↗   **2** ↗   **3** ↗

Reading

6 Students read two specification sheets for databases and answer some questions about them. A further question for stronger students could be to decide whether each is cloud-based software or software to be installed on individual computers (cloud computing for Microforce Hypernamic – monthly pricing is feasible for cloud-based services but not for locally installed software; locally installed software for Jozo Premier – it has a fixed price per version).

> **1** Microforce: Freemium; Jozo: traditional
> **2** Microforce: depending on the plan, on the internet, by email and/or by telephone; Jozo: on all plans: web, telephone and/or email
> **3** **a** one location   **b** one location

Speaking

7 In pairs, students look at three different people or organisations – a freelancer, a small company and a large government department – and discuss which of the packages they just read about is most suitable for each.

a freelance person: Microforce's Free plan, because of the low cost and because features are likely to be OK for one person.

a small company: Again, Microforce's Free plan as three users at one site are allowed. If larger features are required, the Microforce standard plan is still likely to be cheaper at $120/year than Jozo at $699 until an upgrade is needed.

a large government department: The choice is between Microforce's Enterprise plan at $300 per year or Jozo at $699 until an upgrade is necessary. Microforce will probably be better if the department has more than one site, as the price includes unlimited site licences.

8 In pairs, students practise the language from the Language box by roleplaying a customer and a software provider's representative. They ask and answer questions about the software in Activity 6.

Reading

9 Students read an email about the freelance person mentioned in activity 7. They find and correct a mistake. In addition, to review the writing work from the previous section, you could also ask them which sentence introduces the topic of the email (it's the first sentence).

They have a free plan which allows up to <u>three</u> users at one site.

Writing

10 Students write an email to the manager of the government department or the small company mentioned in Activity 7, advising on which package is suitable. Alternatively, they could write emails to both. They should make sure that the topic of their emails is indicated clearly through a topic sentence.

Extra activity

For homework, students could be asked to find an item of software that matches each pricing model in Activity 2. In the next lesson, they can compare the results of their research in small groups.

Making recommendations

Speaking

1 This section begins by asking students to think of a device or a software package they have used and tell the rest of their group whether or not they would recommend it to others, with reasons (what they say is picked up again in the extra activity at the end of this section).

2 If your students are likely to already know what *CAD* (*Computer Aided Design*) is and does, elicit as many of the things it can do as they can come up with, providing vocabulary as necessary. If your students are unlikely to know, the Course Book provides a glossary explanation of *CAD*. Either way, make sure that the items in the box are covered (note that *OCR*, *audio*, and *browser* are recycled from earlier in the book). Ensure that students understand the meaning of all the vocabulary in the box.

These features would be useful for CAD: 2-D drawing tools, 3-D drawing tools, good compatibility with file formats from other software, network capabilities. Opinions may vary about the others.

Listening

3 ▶ 28 Students now listen to three people talking about their companies' requirements for CAD software. On this initial listening, they simply identify how large each company is.

1 small company (1 person)
2 small company (14 people in total)
3 medium-sized company

4 There are two stages to this activity. First, play the recording again and ask students to take notes on each company's CAD requirements. Depending on your students, you may want to play it twice, with an opportunity for pairs to compare and modify their notes in between.

When students have satisfactory notes, draw their attention to the CAD product summary. Discuss with them how useful such summaries are when evaluating software or hardware. Check that they understand the vocabulary; some of it, such as *licence*, *open source*, *support* and *forums*, is recycled from earlier in the book. Then put students in pairs and ask them to use their notes to decide which software is best for each company. Note that they are not expected

to express their decisions as recommendations just yet. The important point is not that students choose the answers given below but that they can justify their decision well.

> *Suggested answers*
> (To reflect thinking through answers. Use as a guide only.)
>
> **1** SuperCAD, as it's free (and he is looking for something low-cost). Most of his work is in 2D and as he is not certain he will need 3D in the future, it's not necessarily a good idea to pay for it. This package does have limited 3D tools, though. SuperCAD does not have good training but this isn't a problem because he is good at working out how to use software by himself. The only problem might be if he needs support; the forum may provide quick answers but might not. As he is working by himself, networking capabilities are not so important.
> **2** CADmium Pro. This and CAD 8-8-8 would both be reasonably suitable but as the company does not have a lot of money at the moment, the pay-per-month solution might work best. It does everything they need but their main issue is training. CADmium Pro has plenty of that.
> **3** Their main issue is file compatibility. CAD 8-8-8 has the highest ranking for this. As for cost, she says they are happy to spend money if necessary.

Language

Many students will have seen some of the language of recommendations previously. One way to present this is to ask students to try to express recommendations from Activity 4, writing what they say on the board and eliciting corrections as necessary. While doing this, make sure that all the language in the Language box is covered. Students may come up with other ideas as well.

Speaking

5 Using the language from the Language box, students roleplay conversations with the speakers from Activities 3 and 4, making recommendations for the best CAD software. Depending on your class, it may help to ask students to prepare by writing out the conversations, possibly in pairs.

Writing

6 Students write an email to a person of their choice from this section's listening, giving their recommendations for CAD software.

> **Extra activity**
>
> Students choose a device or software, perhaps the one they spoke about in Activity 1. They then roleplay recommending it to a partner. At your discretion, students can change partners and choose additional devices or software.

Business matters

This section focuses on presentations. Students read some information about a company and its website needs, listen to an example presentation and extract some presentation skills from it and, finally, give their own presentations.

Speaking

1 Put students in groups and ask them to discuss presentations they have previously heard or given. While doing this, they should come up with three items of advice for presenters. Then, in open class feedback, you could build up on the board a list of advice from each group. If circumstances allow, you could do this by asking a representative from each group to write their ideas on the board and then discuss them as a class.

> *Suggested answers*
> Speak clearly so the audience can hear you.
> Prepare well.
> Leave time for questions at the end.
> Use notes.
> Don't memorise the talk word for word.
> Make sure you know the topic well.

Reading

2 Students read information about a fashion company and two services that it might benefit from: web hosting and a web content management system (web CMS). When they have done this, put them in pairs or groups to discuss which systems to recommend. Do not give feedback just yet; they will hear one view of the answers in the next activity.

> Accept any answers that students can justify.

Listening

3 ▶ 29 Play the recording. The presenter is an IT consultant to the company mentioned in the previous activity. Recommendations are given about the web server and the web CMS. Students compare their recommendations from the previous activity with what they hear.

> Server: option 2   CMS: option 2

4 Explain to students that there were three stages to the presentation: the introduction (which gives the topic of the talk and usually lists the main points), the main body (which gives more detail about each main point in turn) and the conclusion. Then play the recording again, this time so that students can complete the middle column of the table. With weaker or less confident students, it may help to play it through once before this, asking students to listen out for each stage.

Finally, put students in pairs and ask them to compare what they wrote. Stronger students could also be asked to complete the final column of the table with other suitable expressions.

> **Expressions in presentation**
> **Introduction:** First I'll give ..., Then I'll talk about ...
> **Body:** Let's look at ... first, As for ...
> **Conclusion:** So, in conclusion, ...
>
> **Suggested answers for further ideas**
> **Introduction:** First, I'll look at ..., Finally, I'll ...
> **Body:** Let's talk about ..., Now ... is our next topic
> **Conclusion:** To conclude, ...

Speaking

5 Students read a company profile for a new company. Then, in pairs, they decide which server options and web CMS systems from Activity 2 to recommend.

> *Suggested answers*
> (Accept any answers that students can justify.)
>
> **server: option 2**
> This is cheaper. There is no need for extra power. As the website content is mostly small files, large bandwidth is not very important. The company wants to keep costs low.
> **CMS: option 1**
> This has a lower cost. There is no need for the extra feature of option 2.

6 Using the information from the previous activity, students prepare a presentation. How you organise this will depend on the size of your class and the time available for the presentations (note that the presentations do not have to be completed before starting the next unit). Options include only selecting a few students to present, asking students to present to small groups or having students prepare in groups but having only one or two people from each group present, perhaps jointly.

It is important to give students a task while listening to others' presentations: in this case, they could be asked to note down the recommendations.

Preparing for the next unit

In preparation for **Unit 6**, ask students to list all the ways they communicate electronically and to think about how each of these could be used within an organisation, before the next lesson.

6 | Interactions

Briefing

The focus of this unit is the use of information technology to mediate interactions, including social networking in a workplace context, video conferencing, e-commerce (interactions between business and consumers) and the training of users.

Students practise: language used to describe current changes, especially as it applies to social networking systems; the second conditional, through discussing different video conferencing systems; explaining the meaning of technical words; making requests with regard to training needs.

Enterprise social media

Social networking sites such as Facebook and their equivalents in other parts of the world are becoming very common. Business-focused equivalents of these also exist, designed to improve communication within companies, especially large ones. These are known as enterprise social media, one example being Yammer. Some common features of these systems include:

- **instant messaging**: while systems such as ICQ and Microsoft Messenger are going out of fashion in many countries for social purposes, such systems are considered very effective for communication within companies.
- **forums**: these enable people to write questions which are viewable and answerable by anyone with access to the system.
- **document management**: this allows documents to be shared, edited and/or archived by people with the relevant permissions. They are useful for storing policies and procedures, sales literature, specification sheets for products the company produces and so on. This may also be associated with a **comments** feature, which allows people to make comments about documents, thus aiding collaboration.

There may even be a **speech-to-text** or **text-to-speech** capability, allowing the system to accept voice input or provide output in spoken form respectively. Nowadays, most systems use encryption (see Unit 3) to improve security. When messages and data are encrypted, even if a hacker accesses them, they will not be readable.

Video conferencing

Video conferencing can be a great time and money saver for business as it can avoid the need to travel. However, equipment can be expensive and often a **dedicated room** (sometimes called a telepresence room) is necessary. The photo on page 46 and audio script 32 on page 77 give further information.

Videophones are a much cheaper solution, yet still have video conferencing's advantage over telephones of allowing the participants to see each other's facial expressions and body language. However, they cannot easily be used to connect more than two people, especially if they are in more than two different places. Internet-based services such as Skype also allow video calls but they do not provide the same immersive experience as a full video conferencing set-up which is designed to give the closest impression possible of being in the same room as the other participants.

One technology that is essential for video conferencing (and other systems using large amounts of data) to work well is **data compression**. There are many different ways to do this but they all involve coding information so that it takes up a smaller amount of storage or bandwidth. Some examples include MP3, which is commonly used for audio, jpeg for images and zip for many other types of files, from images to documents.

E-commerce

E-commerce systems have to overcome various challenges. They have to be secure – customers have to be able to trust that their personal and payment details are not at risk of being found out by others. Ease of use is also very important, as is the customer experience; the **user interface**, the part of the system that users see, is important for both of these points. And they have to **integrate** with other systems such as the company's accounting and inventory management systems so that the website does not sell the customer items that are out of stock and so that staff can be informed if the company is running low on an item. Also, the system has to tell the staff (or robots) that pick items off warehouse shelves which items to pick and tell the packers where the items must be sent to.

Although acronyms are used throughout the book due to their ubiquity in IT, this section is the first place where the word **acronym** appears.

A lexical point of note is that the term **shopping basket** is preferred in the UK and is sometimes shortened to **basket**, while **shopping cart** (or **cart**) is more common in the USA. However, because many websites use third-party applications for their shopping basket which may have been developed in another country, this distinction may not always be apparent when using a particular site.

The listening in this section mentions an **e-wallet** (also known as a **digital wallet**). As its name suggests, this is like a physical wallet but carries such things as cash or credit card details electronically, usually on a mobile phone. To spend money, the user simply swipes the mobile phone across a sensor near the cash register of a shop (see the photograph on page 49 of the Course Book). It relies on a technology called **NFC** (Near Field Communication), built into many smart phones, which transmits data over very short distances.

Training users

Training is an often-overlooked but very important aspect of any new IT system. The full benefits of IT systems can only be enjoyed if users know the most efficient way to use them and this is unlikely to be picked up quickly without instruction.

Most teachers, especially in the ESP field, will already be familiar with the concept of a **training needs analysis** – finding out through questionnaires and other methods what a specific group of students needs to learn as the start to the process of developing a syllabus that meets their needs. This is done in most areas of adult education, not just in ELT, and is particularly relevant in the workplace as training must be highly targeted in order to be cost-effective.

Business matters

In this section students work in groups to decide on technological solutions to a company's problems and then write a short, appropriately formatted report to present and explain their group's decision.

Further reading

Use the following keywords to search the internet for websites which give more in-depth information about the topics covered in this unit: enterprise social networking, Yammer, video conferencing, data compression, digital wallet, near field communication.

Teacher's Notes

Warm-up

Put students in pairs or small groups. Ask them to compare the notes they made for homework about how they communicate electronically and how the forms of communication they use might be useful at work. Put relevant vocabulary on the board and make sure that all students know their meanings by eliciting them from students who used them.

Enterprise social media

Speaking

1 This unit looks at ways in which IT facilitates interactions, including electronic communication. This opening activity asks students to discuss, in pairs, how they communicate electronically with family and friends, and about advantages of each form for different purposes.

Vocabulary

2 In pairs, students match three online services and websites to their categories. The previous activity is likely to have brought up other examples; students can match these and any others they can think of to the same categories.

Students' examples of each may vary depending on where they are from. For example, Mixi (Japan) is a social networking service and WordPress (most 'western' countries and many others) is a blogging and web CMS service.

> **1** c   **2** d   **3** a

Speaking

3 Students discuss the differences between the websites/services mentioned in Activity 2 and how they might be used differently in a work environment from a social one. They should also consider other similar websites or services, such as those whose logos are shown in the Course Book. They also speculate about possible security and privacy issues.

> *Suggested answers*
> **1** Twitter only allows short messages but Facebook and Linkedin allow much longer messages. Linkedin is for work and business but Facebook is for friends.
> **2** for work: more about getting information and selling things; with friends: more about being friendly, discussing things, giving opinions, making arrangements, etc.
> **3** security: people might give away company information; privacy: if people use them for social reasons, the company might see something about the worker's private life. There's a record that the company can keep for a long time, and people can search.

Listening

4 ▶ 30 The focus now switches to describing current changes. Students listen to five people describing trends and decide whether each is best represented by graph A or graph B.

> **1** A   **2** B   **3** A   **4** B   **5** A

Language

Students may need help with forming the subject of sentences using *increase* and *decrease*. Providing a common model (*the number of …/ the amount of …*, depending on whether the quantity is countable or uncountable) can assist with this.

You could also point out that *more and more* is more informal and spoken in style, while *decrease* and *increase* are more likely in writing. This distinction is quite important. You may also wish to mention that *fewer and fewer* is used with countable nouns and *less and less* with uncountable nouns.

5 Students now look at audio script 30 on page 77 and underline the parts of the sentences showing change. Note that this activity can equally well be done before the language is introduced; this would result in a discovery approach, in which students make hypotheses about how the language relates to meaning, which are then checked. This can be a highly effective approach.

6 For controlled practice, students complete the gaps in the short conversations using the words in brackets and language from the Language box. Several alternatives are possible for each.

> *Suggested answers*
> 1 Hard drives are getting cheaper.
> 2 Our website is getting slower.
> 3 Our forum is becoming more and more popular.

Listening

7 ▶ 31 The focus now moves back to social networking, more specifically, enterprise social networking. By picking up on points that students made in Activity 3, explain that enterprise social networking is a type of social networking system designed specifically for the workplace. Depending on your students' knowledge of IT and the world of business, you may be able to elicit from them some examples and their features and capabilities.

Students now listen to a company's general manager talking to an IT officer about replacing the company's current but rather limited enterprise social networking system. For this first listening, students answer a gist question.

> Easy. Most of the requested features are common.

8 Before this second listening, which is for a more detailed understanding, go through the features of enterprise social networking systems listed in the table. Students have to tick the appropriate column in a table to indicate whether each is in the current system or is a new feature that the manager wants in the new system.

> Current system: 1, 2, 3, 6
> New system: 4, 5, 7, 8

9 Students listen for a third time and mark the trends listed as upward or downward. Before playing the recording, check that all students understand the items.

> **1** ↘ **2** ↗ **3** ↗ **4** ↗ **5** ↗ **6** ↗

Language

10 As a continuation of the previous sequence of activities, students work in pairs to write sentences which represent the trends they identified in the previous activity. Emphasise that what they write does not have to be the same as what they heard; it only has to have the same meaning.

To provide some variety in feedback, and if your students are trusting of each other, you could ask them to swap their answers, check against the audio script on page 77 and then discuss the answers with the other student.

Speaking

11 Students work in groups to discuss two questions. The first provides freer practice of the language point for this section. The second allows an opportunity for some basic critical thinking around the topic of the section, as well as recycling of vocabulary relating to enterprise social networking systems.

Video conferencing

Speaking

1 The lead-in questions here guide students to talk about advantages and disadvantages of visual as opposed to audio-only communication and introduce the topic of video conferencing.

> *Suggested answers*
> 3 no need to travel, lower cost, less time wasted, more flexibility

2 Students now look at a photo of a video conferencing set-up and decide which items from the list they can see in it. This is best done collaboratively, for example, in pairs. Most of the vocabulary here is new. An interesting point is that some of the items that logically must be present, such as cables and video cameras, cannot be seen. You could ask students to speculate about where those items might be (cables might be ducted through the furniture and video cameras might be small and above the

monitors). The control panels can be seen: they are the screens in front of each of the local participants.

> control panels, high-definition monitors, local participants, remote participants

Listening

3 ▶ 32 This recording, in which two technicians have a conversation, introduces some slightly technical information about video conferencing. The gist question asks which two types of video conferencing systems the woman talks about.

> dedicated systems and desktop systems

4 Put students in pairs and ask them to attempt to complete the glossary. Then play the recording again to allow them to check their answers, and/or ask them to check against the audio script on page 77. Make sure they understand the meaning of *location* before doing this.

> **1** dedicated system **2** remote control
> **3** MCU **4** (data) compression

Language

One way to introduce the language focus here is to ask students what will happen if there is no remote control, putting their responses on the board and eliciting adjustments until they are grammatically correct. Then the same could be done for something that is not currently true in your classroom. For example: *What would happen if we didn't have a whiteboard?* The difference in situations when the two forms could be used could then be highlighted. Whichever way you introduce the second conditional, it is important that the first conditional is reviewed, as this is needed for Activity 6.

It is also important to point out that in spoken second conditionals, *would* is often shortened to *'d*, which can be hard to hear. *Can* changes to *could* or *would/'d be able to*.

A further point is that, after introducing a topic with a second conditional, speakers continue to indicate the hypothetical nature of the situation through the use of *would*. For example, the speaker of the first example in the Language box might continue by saying, 'That would help us save a lot of money because people wouldn't have to travel'.

5 Students identify second conditionals and the tenses used within them in audio script 32 on page 77.

> If we had one of those now, we could connect to our Tokyo, Dubai and Paris offices!
>
> If we had a video conferencing system, we would save in other areas.
>
> We use the past simple in the *if* clause and *would* or *could* in the main clause.

Listening

6 ▶ 33 To practise identifying conditionals and relating them to meaning, students listen to five people talking about video conferencing. They decide whether the situation being talked about is likely (first conditional) or hypothetical/unlikely (second conditional).

> **1** likely **2** unlikely **3** unlikely **4** likely
> **5** unlikely

Speaking

7 Ask students to guess the function of the item in the photo (a videophone) and to talk about whether they have seen or used one before, and what they would do if they had one.

Then, if your students are good at listening, play recording 32 again (from Activity 3) and ask students to complete the middle column of the table in their books. Otherwise, ask them to use the script on page 77 to accomplish this task.

When the middle column is complete and has been checked, students are ready for the main part of this activity: using second conditionals to compare what they would be able to do with the video conferencing system as opposed to a videophone.

> How many locations of participants?
> more than two
>
> How many participants in each location?
> more than one
>
> Cost?
> more expensive
>
> Room
> special room
>
> Equipment needed
> HD monitors, video cameras, remote controls, MCU

8 In pairs, students complete a table which indicates the problems that could occur if a video conferencing system did not have the listed items. They then go on to say these problems in complete sentences.

> *Suggested answers*
> **2** maintenance would be expensive
> **3** data wouldn't transfer quickly enough; there wouldn't be enough bandwidth; video wouldn't transfer properly
> **4** video conferencing would only work with two locations
> **5** people wouldn't know how to use the system properly
> **6** there would be nowhere to go for the video conference; would have to hire a room each time
> **7** data would use too much bandwidth; bandwidth charges would be high

9 Students roleplay conversations between a general manager and an IT worker in which the IT worker attempts to persuade the manager to purchase a feature from Activity 8. By using the second conditional to explain the problems that would happen if the purchase is not made, the IT worker tries to overcome the general manager's reluctance to spend money.

To maximise practice, either tell students to swap partners at regular intervals or run the activity as a mingle.

10 In pairs, students speculate about how the people mentioned would benefit from access to video conferencing facilities. If a further situation is wanted, you could also ask students to consider two employees of a company which has offices in several different countries.

In a later lesson, valuable recycling of the language in this section could be achieved by asking students to roleplay selling video conferencing equipment. They would explain the benefits and how it could help to solve problems.

> *Suggested answers*
> **1** If a deaf person could use video conferencing facilities, they'd be able to use sign language/do things that they wouldn't be able to do by telephone.
> **2** If a child could use video conferencing facilities, they'd be able to study from home/wouldn't have to go to boarding school/live at school.

> **3** If doctors working in a small hospital a long way from the city could use video conferencing facilities, they'd be able to communicate with doctors in the city more easily.
> **4** If a company director who doesn't have time to visit clients overseas could use video conferencing facilities, she'd be able to communicate with her clients more easily.

Extra activity

Students write a paragraph for two of the situations in Activity 10, explaining the problems that would be avoided by choosing particular features. It may be helpful to build up a model paragraph on the board by asking students for their suggestions, writing them on the board and carefully guiding students to suggest appropriate changes until you are satisfied with it.

E-commerce

Speaking

1 Students discuss whether they do any shopping using the internet, and the advantages and disadvantages of doing so.

Reading

2 The text describes the experiences of someone who sets up e-commerce systems. Two gist questions are provided for this initial reading.

> The three parts of an e-commerce system are: user interface, shopping basket and payment system. Dalya finds the payment system the most difficult to set up.

3 Students match meanings to words in the text.

> **1** integrate **2** components **3** code
> **4** processing **5** delivery address **6** order
> **7** accounting

4 These comprehension questions encourage more in-depth understanding of the text.

> **1** the user interface
> **2** the shopping basket
> **3** to track/for tracking items in the basket
> **4** the shopping basket
> **5** the payment system
> **6** the payment processing system
> **7** Several kinds of software can accept data from it.

5 Explain what an acronym is and elicit some examples. Then, in preparation for the language section, ask students to find three acronyms in the text and underline their meanings.

During feedback, make sure students understand that, while the words they have underlined explain what the acronym stands for, they may need to read around those words to understand what it means. For example, to understand what *EDI* means, they need to know what *this* in *which makes this easier* refers back to (integrating the payment system into several different systems) and they also need to read the next sentence.

> B2B (business-to-business)
> B2C (business-to-consumer)
> EDI (Electronic Data Interchange)

Language

Before reading the Language box, you could ask students to underline the parts of the text that give the meaning of the following technical words: *user interface*, *cookies* and *payment processing system*. Then ask them to match them to the points in the Language box.

Speaking

6 In this information gap activity, students listen to each other giving some definitions and match what they hear to phrases and acronyms.

> **Student A**
> **a** DRM   **b** bricks and clicks   **c** NFC
>
> **Student B**
> **a** SSL   **b** B2G   **c** bricks and mortar store

> **Extra activity**
>
> Write the words defined in Activity 6 on the board and ask students to close their books. Then ask them to write their own definitions before checking with each other and the book.

Listening

7 ▶ 34 Students will hear a conversation between a customer and a salesperson talking about a new product. The initial gist questions here involve identifying the product and the problem it solves.

> The product is an e-wallet system. It solves the problem of slow speed of using e-commerce/ people not buying things because e-commerce is too slow.

8 Students listen again and answer more detailed questions.

> **1** They type in their information once. The information is then stored in the system. When customers want to buy something, they log on, enter a password and their information is sent to the vendor company.
> **2** They pass their mobile phones over a sensor when they want to pay and type in a password.
> **3** Security: it sends data straight to the accounting system/it integrates with accounting systems.

Speaking

9 From their memory of the listening, students write a definition of an e-wallet. They then compare what they wrote in pairs and negotiate to jointly construct a single definition, combining the best of each other's ideas. This can then be shared and compared with the class.

10 To allow personalisation and critical thinking, students discuss whether or not they personally would use an e-wallet system, giving their reasons.

11 In pairs, students write definitions of three words from the article in Activity 2. Then they read the definitions to a partner, who guesses the word being defined. Alternatively, students could choose words from earlier in the book to define for their partner to guess. For students currently working in or studying IT, a further alternative is to ask them to use definitions that are relevant to their work or study. Either way, this activity could be run as a mingle.

The variations could also be used in a later lesson for review and recycling.

> Training users

Speaking

1 If your students are not already familiar with e-learning, begin by discussing as a class how computers might help people to learn in a workplace environment. Any experiences that individuals have had of e-learning will help here. This will lead nicely to the initial discussion questions in the Course Book.

Vocabulary

2 Ask students what they remember about enterprise social networking (ESN) systems from the first section of this unit. Then ask them to match the words to the definitions.

During feedback, if you are in a company, ask students to think of an example of a policy, a procedure and an announcement. In preparation for the next activity, make sure that students know that instant messaging is also called chat: both terms are used on the recording.

Listening

3 ▶ 35 Find out how much students already know, if anything, about the concept of a training needs analysis. If they do not know, explain what it is. Then give them time to read the checklist; you may need to explain what *access* means but the rest of the words should be review from earlier in the book or covered in the previous activity. While listening, they tick the items in the checklist each time one of the speakers mentions a need for that point. Be prepared to pause the recording after each speaker if necessary.

Language

Two alternative ways to lead into this language point are:
1 Ask students, in pairs, to look at audio script 35 on page 78 and identify the requests, then compare them with the Language box. Point out first that requests do not always have to be questions. It may help to go through the

first speaker's turn with the students before putting them in pairs to look at the others.
2 Elicit one of the requests students heard in the audio in Activity 3, then ask them, in pairs, to write it in as many different ways as they can. They could then check their ideas against the audio script.

4 Students write polite requests for training in each area mentioned in the prompts. These could be developed into conversations similar to those they just heard.

Speaking

5 Students use the prompts to have conversations similar to those they recently heard. As these relate to concepts dealt with in previous units, it may be useful to do a little review first. This activity could be a mingle. An alternative, for added realism, would be for students to ask about things that they feel they need training in in real life. Make sure that your students are having a proper go at talking about their needs, and not just saying *Could I have some training in ...?*

Extra activity

Stronger classes could be asked to roleplay persuading a manager to provide more training by explaining the advantages of doing so. This could review the recently studied second conditional; for example, students might say: *If we had more training, the admin staff would be able to work more efficiently.* Two things that may help with this are:
• deciding on a specific item of software or hardware on which to provide training, ideally something relevant to students in real life.
• making a list of advantages of training at the end of Activity 1.

Business matters

In this section students read a report, make decisions based on the recommendations therein and write their own short reports in response.

Reading

1 Students look only at the headings and use them to identify the main points of the report. Reading headings first is a useful reading strategy – an aspect of skimming – which students should be encouraged to embrace.

> problems (with communication and internet sales) and recommendations for IT solutions

2 Students read the report again, this time in more detail, and answer the questions. Additional questions that could be written on the board for students to answer are:
> *1 What kind of people or organisations does the company sell to?* (Businesses and consumers: it mentions B2B and B2C sales.)
> *2 What is going better for the company: face-to-face sales or e-commerce sales?* (Face-to-face: the report mentions that their bricks and mortar stores are doing well.)

> **1** The company has more than one location. (An 'overseas office' is mentioned.)
> **2** Communication isn't very efficient, especially for international locations.
> **3** Internet sales are going down. Customers don't like the system because it's hard to use.
> **4** **a** Find technology to help with the problems.
> **b** Find out the prices and features of appropriate systems.

Speaking

3 In pairs, students decide which items of technology mentioned in the unit could help the company in the report. They say how things would be different if the company had the items now, thereby recycling second conditionals.

Enterprise social networking systems
If the company had an ESN system now, communication between departments and countries would be easier and more efficient. Collaboration would be easier.
E-wallet
If they had an e-wallet now, customers would be able to use the e-commerce system more easily and quickly, and perhaps more would complete their transactions.

Writing

4 Students identify features of reports by answering questions about the report in Activity 1.

> **1** headings
> **2** **a** the introduction **b** the middle part ('Problems: communication and internet sales') **c** the final part ('Recommendations for IT solutions')
> **3** at the beginning

5 Students write reports explaining the decisions they made in Activity 3 and using the features they identified in Activity 4.

> **Extra activity**
>
> Depending on your students' needs, they could also give presentations to explain their decisions in Activity 3. This would give further practice of the presentation strategies from the previous unit. Students listening would need to have a task to do while listening; you could ask them to identify the IT solution in each presentation and make a list of its benefits.

Preparing for the next unit

If your students are familiar with programming or website development, ask them to make a list of stages in writing a program in preparation for **Unit 7**. Students could be asked to look at a few websites and identify some features they have in common.

7 Development

Briefing

The common theme throughout this unit is the development of software and websites. Students will talk about determining the scope and specifications of a project (requirements analysis), the structure of websites, programming and how projects are managed.

Students practise: language to express user requirements; the passive, in the context of a web developer's work; **make** and **cause** to explain how something controls something else; the language of schedules.

If you are unfamiliar with programming, it is recommended that you check through the Briefing notes below and the audio script for the third section (Software development) carefully before the lesson. Rest assured, though, that the topic is dealt with at a very basic level.

Requirements analysis

This section begins by looking at the process of writing software and websites to meet client needs but the main focus is the initial stages of this process: working out the requirements and producing a set of specifications, a process often known as **requirements analysis**. The rest of the unit will look at the other parts of the process.

The person who is responsible for the requirements analysis process is the **systems analyst**. The process that the software or website needs to follow has to be documented in minute detail so that the programmers know exactly what to do. It needs to cater for every eventuality that might occur. An early step is to identify the stakeholders, which is anyone who will directly or indirectly be affected by the software. This could include, for example, customers of the client who will use the software, as well as employees of the client. In most cases these people are then interviewed (see the interview on page 52 of the Course Book for more information.)

The result of the process is a specifications document which the client is generally asked to check and agree to before the programming commences.

Website design and architecture

Several aspects of website architecture are common to most websites: most have menus near the top of each page, copyright and links to legal disclaimers at the bottom, links to other pages down the left or right side and so on. Also, similar menu items appear in many websites: there are usually items for contact details, 'about us' (which gives information about the organisation), **FAQs** (Frequently Asked Questions) and 'contact us' or 'contact details'. Text in websites is often called **hypertext**, that is, text containing links (**hyperlinks**) which can be clicked on to go to other pages within the site or external websites.

Website development can involve a range of programming technologies. The most basic of these is **HTML** (Hypertext Markup Language). Version 5 of this (**HTML5**) includes provision for video and animations; older pre-HTML5 websites had to use other technologies such as Flash to display moving images. Many websites use databases to store such things as user login details; one that is commonly used is **MySQL** (pronounced either 'my S, Q, L' or 'my sequel'). Many websites generate pages 'on the fly', that is, rather than being pre-written, pages are created in response to user input. These are called **dynamic** web pages. Facebook pages are a good example: every time someone accesses their Facebook page, it may appear different because it shows content from other people's pages that may have been updated since the last visit. Generation of these is often carried out by a kind of programming language called a scripting language that is embedded in the HTML of the web page; examples include **PHP** (open source) and **ASP** (a Microsoft product).

Website designers often have to pay attention to **search engine optimisation** (**SEO**); that is, they have to design the site and the text within it such that it is seen as an important website by the major search engines such as Google, and thus appears near the top of search results (i.e. has a high **search ranking**).

Software development

A large number of programming languages exist. Some common ones are Java (often used for web applications) and the **C** family of languages, which includes C, C++ and C# (C sharp). Students may have been exposed to languages such as BASIC at school. The examples used in this unit are from C.

An important concept in any programming language is the **variable**. Variables are represented by names that are one or more characters long and they have a value which can be a number, a character or a string of characters. As their name suggests, their value can vary; this occurs in response to instructions (otherwise known as commands) within the program. Two examples of short sections of programs (or **source code**, often just called **code**) are provided on page 56 of the Course Book.

The first gives the value 3 to a variable called 'a' in the first line, then the value 2 to another variable called 'b' in line 02. It then adds them together, putting the result of this sum into another variable, 'x'. The final instruction outputs the value of x (5) to the screen.

The second section of code is part of a program that allows a robot to be controlled from a mobile phone: the key that is pressed on the phone determines the direction of the robot's movement. The code begins by setting two variables, 'g_Move' and 'g_Turn', to zero. After that, another variable called 'key_Press' comes into play; this takes the value of the key that is pressed on the mobile phone (to avoid complication, the exact means through which this is done is not discussed). Then there are four lines beginning with 'if'; these all work in a similar way to each other. The first one checks the value of 'key_Press'; if the value is 'a', i.e. if the 'a' key has been pressed on the mobile phone, then the value of 'g_Move' is changed to 1. As we hear on the audio, this means that the robot moves forward (how it does this would be dealt with later in the program, and again, for simplicity, is not discussed in the unit). The next line sets 'g_Move' to 2, corresponding to the robot moving backwards, and so on.

Project management

Software development projects are notorious for taking much longer and being more expensive than originally anticipated. For this reason, project management within programming is very important. Most project management software produces Gantt charts, which generally show time across the horizontal axis and parts of the project down the side. Thus, people involved in the project can see at a glance where each aspect of the project should be at any particular time and how a delay in any part of the project could affect other aspects of the project.

A typical software development project has several stages. After the requirements analysis (see the first section of this unit), the programmers do the **coding**, that is, writing the software. When they have a working prototype of the application, **alpha testing** commences. This is usually done internally, without client involvement, and focuses on the basic functionality of the software. Any major bugs identified are then ironed out by the programming team and the software then goes to **beta testing**. This generally involves end users using the software and reporting on any problems they find. After a further round of debugging and perhaps further testing, a **release candidate** is produced. If there are no significant problems with this, the release candidate becomes the final version.

Business matters

In this section students read a scenario involving a website development project. They make decisions about the content of the website, plan the project using a Gantt chart and write a report about it.

> **Further reading**
>
> Use the following keywords to search the internet for websites which give more in-depth information about the topics covered in this unit: systems analyst, requirements analysis, web design, HTML, Adobe Flash, MySQL, dynamic web page, PHP, programming language, C (programming language), software development, software testing.

Teacher's Notes

Ask students to share the homework they did at the end of the previous unit: the stages in writing a program and/or the common features of websites that they looked at.

Requirements analysis

1 If your students are familiar with software development, discuss with them the stages in the process, writing them on the board as you go, or ask them to come up with a sequence of stages in pairs. Otherwise, ask them to work in pairs, open their books and put the stages provided in order. Some vocabulary appears here for the first time. It is dealt with in Activity 4; students should be able to do Activities 1, 2 and 3 without it.

> **5** The customer checks and approves the final version.
> **1** Speak with the people who will use the new software and analyse how they will use it.
> **2** Plan the project, write the specifications and prepare instructions for the programmers.
> **4** Test and debug the code.
> **3** Write the code.

Reading

2 The work of a systems analyst is explained through an online magazine interview. Students skim it to decide which of the stages from Activity 1 are mentioned.

> She mentions 1, 2 and 3.

3 Students now answer some more detailed questions about the interview in Activity 2.

> **1** to find out who the users will be
> **2** They have to look at every step in the process carefully and in a lot of detail.
> **3** flow charts and drawings of the user interface
> **4** to be sure they are happy with it

Vocabulary

4 Students match words from the interview to their definitions.

After the feedback stage, ask students to guess what *bug* means from the meaning of *debug*. With stronger students, it would be helpful to go through (or elicit from them) any other parts of speech of these words: for example, the noun form of *analyse* is *analysis*.

> **1** detail   **2** analyse   **3** approve   **4** interview
> **5** debug

> **Extra activity**
>
> Ask students to close their books. Write the vocabulary from Activity 4 on the board. Then put students in pairs and ask them to explain the software development stages to their partner using the vocabulary on the board. This activity is a good way to review and recycle vocabulary and can be applied to many situations throughout this book.

Listening

5 ▶ 36 This and the next three activities involve a scenario in which an IT company is developing a website for a pizza shop to enable its customers to order pizza online. If your students are not from a part of the world where pizza shops exist, it will help to show them photos of pizzas and pizza shops; there may be local food that is similar. Make sure that they know the words *topping* and *base* and that pizza shops usually offer a few standard toppings such as Margherita (a basic one with cheese and tomato); also, that customers can often choose their own combinations of ingredients as a topping.

Students will hear a systems analyst for the IT company talking to a worker. At this point, they listen for gist: which stage in the software development process (see Activity 1) is he at?

> He is at the interview stage.

6 Draw students' attention to the flow chart, which the systems analyst will create during the requirements analysis process. Note that it has been significantly simplified to avoid too much complexity in the lesson – in real life, a flow chart such as this would be much more complex. (for example, there is no mention of payment).

In pairs, students try to match 1–4 in the flow chart with the steps in the box before listening again; logic will help. Then they listen again and check their answers.

7 ▶ 37 Students listen to the next track and complete the rest of the flow chart. As with the previous activity, they can try to do this in pairs before listening.

> 5 Customer wants another pizza?
> 6 Ask for delivery address.
> 7 Calculate delivery time.
> 8 Tell customer delivery time.

Extra activity

Ask students, in pairs or small groups, to discuss which shapes of boxes in the flow chart represent the following:
1 *yes*/*no* questions
2 input/output
3 thinking (for humans) or processing (for computers)

Answers:
1 the diamond-shaped boxes with *Yes* and *No* arrows coming from them
2 the rhomboids
3 the rectangles

Language

The Language box brings together some language points that can be used to express user requirements. Students will be familiar with their form but perhaps not with using them for this function. To elicit the language in the top row, you could ask them to tell you what a pizza shop's website should do as well as take orders (for example, it should show pictures of the pizzas available). By asking students to express these from the shop owner's point of view, the language in the bottom row of the Language box can also be elicited.

Speaking

8 In pairs, students use the flow chart in Activity 6 and language from the Language box to express the requirements for the pizza shop website.

9 The situation switches from a pizza outlet to a different kind of shop: a clothes shop. Using language from the Language box, students work in small groups (or pairs) to list requirements for their online ordering system.

10 Students compare the list they made in Activity 9 with another group's list. In addition, you could ask them to discuss any differences between their respective lists, then compile a new list bringing together the agreed most important requirements from both groups.

Website design and architecture

Speaking

1 Students will have seen many websites; this initial activity builds on that familiarity by asking them to discuss in pairs some general questions about websites.

Suggested answers
1 contact details, about us, home (page), FAQs
2 menus, title, links
3 easy to use: clear menus, not too much text, important things such as a search box in easy-to-find places, etc.; interesting: photos, videos, things to do (not just read)

Vocabulary

2 Students match common website menu items to a typical website. Make sure they understand that they will be putting the menu items under the most appropriate heading. There is not necessarily only one possible solution – any arrangement that can be justified should be fine.

1 FAQs   2 How to play   3 Images
4 Videos   5 How to pay   6 Prices
7 Company blog   8 Contact us   9 Players' forum   10 Login
Items in any particular column are interchangeable. Other answers may be possible as long as they can be justified.

Reading

3 Students read a case study about a website development project and answer the gist questions. There is some technical information within the text, such as the names of various technologies frequently used in website development (*PHP*, *HTML5*, etc.). Make sure students are aware that they do not need to know what all of these are to understand the text. They need to get used to the fact that many of the documents they will be reading in the workplace will contain a lot of these.

Vocabulary

4 Using context within the case study in Activity 3, students find vocabulary that matches the definitions provided.

Language

One way to introduce the passive is to find an example in the case study and ask students to say who carried out the action and whether that information is stated in the sentence (for example: *PHP was chosen to keep costs down.* The developers carried out the action (chose PHP) but they are not mentioned in the sentence.).

Passive forms of the present and past simple are dealt with here, along with one modal verb: *can*. Check that students are aware of the form of the passive: *be* (in the appropriate tense) + past participle. Where *can* is used, it goes before *be*.

With stronger students, you could also bring in the point that the 'doer' of the action (often called the agent) can, if appropriate, be mentioned by placing it after *by* later in the sentence (for example: *A website was developed by Andrea.*). However, this is not necessary for the activities in the book.

> **Extra activity**
>
> Ask students to identify examples of the passive in the case study in Activity 3 that have not already been mentioned. This could be done in pairs. Students could also be asked to decide who carried out the action.

5 For controlled practice, students rewrite some active sentences in the passive. These could be checked in pairs.

Speaking

6 Here students are introduced to a website navigation chart: a diagram that shows how pages in a website are linked. Some terminology for the different levels derives from the chart's resemblance to a family tree; point this out to students and elicit from them an example of a parent node, a child node and a grandchild node from the diagram. Then put them in pairs to continue the activity.

7 In this information gap activity, each student in a pair has half of a website navigation chart. They describe what they can see to each other and complete their chart using the information they hear, without looking at their partner's chart. At the end, they can check their answers by looking at their partner's chart.

Writing

8 Students see the beginning of an email summarising what was done to build the website in the case study in Activity 3. They complete it after re-reading the case study, using the passive.

Software development

Speaking

1 The introductory questions for this section allow those with little experience of programming to begin to talk about the topic. Those with more experience could discuss a different set of questions depending on experience, such as:
1 *Which programming languages have you heard of?*
2 *What programming have you done before?*
3 *Which language(s) did you use?*
4 *Which programming language do you prefer? Why?*

2 Here students look at a basic example of programming code and explanations of two key terms: *programming instruction* (which can also be called *command* or simply *instruction*) and *variable. Line of code* is also mentioned but this should be quite straightforward. Students read the explanations and, in pairs, answer the comprehension questions. If you think that your students already know *vary*, then pointing out the connection with *variable* will be useful.

Note that *cout* is pronounced as the letter *c* followed by *out* (/siː/ + *out*).

If students have difficulty understanding what is going on here, write this on the board:
a = 7
b = 3
x = a + b
Then ask: *What is x?* The answer is 10. Then adjust the values of *a* and *b* and get students to tell you what *x* becomes.

> 1 The constants are 3 and 2.
> 2 *x* becomes *5* (*a* is 3 and *b* is 2; *c* is *a + b*, i.e. *c* is 3 + 2, which is 5.

Listening

3 ▶ 38 Explain to students that the next section of code is part of a program that controls a robot from a mobile phone. Pressing different keys on the number pad makes the robot move forward, backward, or turn left or right.

Ask students to look at the code (which is in the C programming language). Tell them they do not need to understand it yet but they will hear two programmers talking about it and will have to identify features while listening. Elicit from students that *g_Turn*, *g_Move* and *key_Press* are variables.

While listening, students write numbers in the boxes below the code to indicate the order they hear these variables mentioned.

> **1** g_Move   **2** g_Turn   **3** key_Press

4 Students complete the sentences to indicate what happens when the variables have certain values, then listen again to check their answers.

This is a good place to review the zero conditional from Unit 3 if you feel your students need it.

> **1** doesn't move   **2** doesn't turn   **3** x

5 ▶ 39 Students listen to the rest of the conversation and identify the lines of code the speakers are now talking about.

> They are talking about the four lines beginning with 'if'.

6 Students can either listen again and write down the keys that correspond to the robot's direction of travel as indicated in the diagrams (as per the instructions in the Course Book), or write the answers without listening and, if necessary, check their answers while listening. Make sure they understand that the arrow in 1 points forward and the one in 3 points backward.

> **1** a   **2** d   **3** f   **4** s

Speaking

7 The purpose of this activity is to provide further reinforcement of what the code in Activity 3 does, so if your students understood the code readily, the activity can be skipped. Students simply write the appropriate values for the variables in the gaps in the flowchart.

> **1** a   **2** f
> This part of the flowchart represents the first two instructions beginning with 'if'.

> **Extra activity**
>
> Students complete the flowchart to represent all four lines of code with *if* instructions.

Language

Ask students what the 'f' key does. If they have encountered *make* and *cause* previously, it should not be difficult to guide them towards producing the target language, though you may

have to help them to choose the correct verb form. Otherwise, simply provide them with this. To help make the meaning clear, you could also point out the parallels with the zero conditional: the first example could also be written as: *If you press the 'f' key, the robot goes backwards.*

8 For controlled practice of the language point, students produce sentences to represent what the robot does in response to each key press.

> 'f' makes the robot go/causes the robot to go backward.
> 'd' makes the robot turn/causes the robot to turn right.
> 's' makes the robot turn/causes the robot to turn left.

Speaking

9 Students are presented with some further programming instructions and explanations of what they do. In pairs, they use *make* and *cause* to ask and answer questions about what the instructions do. Before they begin the activity, draw their attention to the example conversation at the bottom of the activity, which they can use as a model.

10 The prompts here include vocabulary from earlier in the book. Students say what each item does, using *make* and *cause*, thereby extending the language point to other contexts.

> *Suggested answers*
> **1** The 'Maximise' button makes the window/causes the window to fill the screen.
> **2** A right click makes a pop-up menu/causes a pop-up menu to appear.
> **3** A double click on a file icon makes the file/causes the file to open.
> **4** The 'Off' switch makes the computer/causes the computer to switch off.
> **5** The 'Send' button makes an email/causes an email to go to the recipient.
> **6** The 'Save' button makes the program/ causes the program to save the file.

Project management

Speaking

1 Students look at a Gantt chart and, in pairs or small groups, speculate about (or, if they are already familiar with the concept, describe) what it is used for. They should use the notes at the bottom of the chart to help them.

> *Suggested answer*
> People might use Gantt charts to plan projects or tell people when to start and finish things.

Vocabulary

2 Students match words from the Gantt chart to the definitions provided.

> **1** coding **2** milestone **3** alpha testing
> **4** beta testing **5** feedback **6** release candidate

Listening

3 ▶ 40 Tell students that they will hear a software developer (programmer) and a project manager discussing the project in the Gantt chart. Ask them to decide whether they are near the beginning or end of the project.

> near the beginning

4 Ask students to look at the Gantt chart again. They will listen to the conversation a second time, identify the mistake in the chart and correct it. After that, they can discuss their answers in pairs and, if there is some uncertainty, listen again to check.

> The programmers should have two weeks, not one week, after the beta testing (weeks 15 and 16)./The beta testing should last two weeks, not three./The beta testing should finish at the end of week 14, not week 15.

Language

Various ways of expressing future scheduled actions are given here. There are several ways to introduce the language. One is to discuss with students how the future is expressed in English, elicit as many forms as you can, then ask them to identify the future expressions in audio script 40 on page 79 and finally check what they found against the Language box. Note that this approach incorporates Activity 5.

Note that, in addition to the points in the Language box, in the audio script *should* is also used to talk about something that is expected to happen. Also, there is one example of a verb (*start*) used in the present simple to indicate a timetabled event. How much time you spend on these will depend on how strong your class is; with many classes it will be best for now to focus just on the language in the Language box.

5 Students look at audio script 40 on page 79 and underline all examples of the language from the Language box.

> The systems analysts <u>are finishing</u> their tasks at the end of ...
>
> ... your team <u>is scheduled</u> to start coding ...
>
> ... the second milestone, being ready for alpha testing, <u>is due in</u> week 9.
>
> ... the alpha testing <u>is due to finish</u> at the end of ...
>
> ... <u>you're scheduled to deal with</u> the feedback from that ...

Pronunciation

6 ▶ 41 Students look at the audio script on page 79, listen to the two short conversations and mark the stressed words on the script. After feedback, they practise these conversations with a partner, using the appropriate sentence stress.

> **1**
> A: When are we due to <u>finish</u>?
> B: <u>Tomorrow</u>, I think.
> **2**
> A: What's your schedule <u>next</u> week?
> B: Well, I'm starting a new <u>project</u> on Monday!

> **Extra activity**
>
> Ask students how the meaning would change if different words were stressed in the conversations in Activity 6.
>
> Answer
> The stressed word generally carries a stronger meaning, so by changing the stress, you can change the emphasis.

Speaking

7 In pairs, students practise the language from the Language box by asking and answering questions about the schedule in the Gantt chart in Activity 1.

8 Focus now turns to real life for some personalised practice: in pairs, students ask and answer questions about any schedule they may have associated with their work and/or their study.

In this section, students read a scenario involving a website development project. They then work together to make decisions about the content of the website, plan the project using a Gantt chart and write a report about it. Much of the language from this unit is recycled here.

Speaking

1 Students read the scenario and, in small groups, answer two focus questions.

> **1** It has a version of the game that people can play online/try out on the website.
> **2** designing/developing the special online feature (the game)

2 Students work together in the same groups to discuss and make decisions about appropriate content for the website. They also draw a navigation chart for the website.

3 In the same groups, students plan their project using a Gantt chart and the stages in the box.

4 Each group of students joins another group, and each explains their own group's decisions and plans and discusses the differences. To increase the amount of speaking practice, pairs could be formed comprising one member of each of the original groups.

Writing

5 Review the features of reports mentioned in Unit 6. Then have students write a short report to a manager describing their website design and project plan, using the headings provided. If they have time, they could include the site map and Gantt chart their group produced in Activity 3 in their reports. Writing could be done individually or in pairs. Feedback could involve peer review: students swap reports with another student and decide whether the stages in the report have been followed as specified.

Preparing for the next unit

In preparation for **Unit 8**, ask students to think of a story from their own experience about a problem with IT equipment. Where possible, it should be relevant to their study or work life outside English classes but, if necessary, an item of consumer equipment would be acceptable. They should be prepared to tell their story at the beginning of the next lesson.

Briefing

This final unit of the book is less technical than most of the previous units. Topics have been chosen for their potential for review and recycling of language from earlier in the book. The language focus is on problems and solutions: present perfect vs. past simple; modals of speculation and deduction; proposing solutions. The final section focuses on applying for jobs, something that many users of this book will be doing at the end of their course.

Investigations

This section introduces students to the vocabulary of faults that occur with software and hardware. A distinction is made between a **hang** (in which a computer or program appears to come to a halt, stops accepting input but does not close or switch off) and a **crash** (in which the program or computer shuts down). Another word that is often used for hang is **freeze**. Often when a program hangs, its windows become grey and the title bar may say 'not responding' or something similar.

Diagnosis

While the diagnosis of problems occurs in many situations in IT-related workplaces, this section focuses on a call centre/help desk situation. Call centres and help desks may take calls from the general public (if the company sells products to the general public) or workers inside a company. In such an environment, calls are often answered by workers with relatively little knowledge of IT. This is called **tier 1**, **level 1** or **first line support**. The purpose is to deal with the problems that occur most frequently, and the majority of problems will be successfully solved at this level. The operator usually follows a script. If by following the suggestions in the script the problem is not solved, it can be **escalated** to tier 2 support. Operators at this level have a higher level of technical knowledge. If they are unsuccessful, the problem can be escalated further to tier 3 and sometimes even tier 4, where that exists.

A particular kind of software, known as an **issue tracking system** (also known as a **support ticket system**) is important for the efficient operation of a help desk or call centre. When a call is first received, information about the caller and the problem is entered into a form. Not only does this allow data to be collected about the types of problems that occur most frequently but it also allows information to be supplied by the higher tiers of support personnel as required, to save them asking the client questions that have already been answered. It also automatically monitors issues to avoid them being left unattended for too long, can help balance workloads by passing the issues to the people who are least busy and can efficiently allocate work to people with the appropriate skills. Issue tracking systems can also be used to track bugs in software during the development process.

Solutions

This section looks at the language for proposing solutions to IT problems. The first page looks mostly at situations that recycle vocabulary from earlier in the book. One issue new to this section is **bloatware**. This is software that is often put on computers and mobile phones when they are new and whose sole purpose is advertising: they are generally cut-down versions of full programs which are intended to tempt the user to use them, become interested and then buy the full version. Sometimes the company producing the bloatware pays the manufacturer to include the software, thus reducing the price of the hardware to the consumer. However, these programs may slow down the device and take up space, so are often seen as undesirable.

Some health and safety issues also appear in this section:
- Correct posture: sitting at a computer for long periods of time with a bent back can lead to backache, which can become severe and debilitating.
- **RSI** (Repetitive Strain Injury): people for whom typing is a core part of their job need to be careful to keep their wrists straight while typing to avoid strain caused by excessively repeating motions for which the body has not evolved. RSI can be severe. Sometimes even surgery is not enough to deal with it properly and it can lead to people having to change career. There are many different varieties of RSI. Various alternatives to conventional keyboards and mice have been designed to reduce the possibility of RSI.

- Spilling drinks on computers can cause electrical signals to go the wrong way, causing damage to the computer. Such problems are called **short circuits**.
- Toner cartridges, the 'ink' in laser printers and photocopiers, can get very hot during use. Thus, if they need replacing, it is safest to give the cartridge time to cool down before opening the printer or photocopier, to avoid burns.

Your future in IT

This section looks at **CVs** and provides a good opportunity for review of language from throughout the book. The Business Matters section goes on to look at job interviews.

Students often ask what the difference is between a CV and a resume. The answer often given is that **CV** is preferred in the UK, while **resume** is the preferred word in the USA for the same kind of document and that both are used interchangeably in some countries such as Australia.

Note that different jobs and industries often require different types of CV. For example, highly technical jobs within IT may be associated with CVs that have long lists of technical skills, such as the programming languages in which the applicant is fluent, the operating systems with which they are familiar and so on. If you are teaching in a college environment, your Careers Department might be able to supply advice about this.

The example CV is of the Europass style, which is a standard used across Europe. If your students are not European and have little reason to want to apply for jobs in Europe, you may want to use a more locally appropriate format.

Business matters

This involves a scenario in which students discuss jobs and job interviews and go on to roleplay an interview. It is designed to bring out some of the vocabulary and grammar from this and earlier units.

Further reading

Use the following keywords to search the internet for websites which give more in-depth information about the topics covered in this unit: hang, crash, technical support, issue tracking system, repetitive strain injury (RSI).

Teacher's Notes

Warm-up

Put students in pairs or small groups and ask them to tell each other the stories about faulty IT equipment that they thought about in preparation for this unit. While taking their turn to listen, students should note down any vocabulary they hear that is new to them and that they feel might be useful. They should ask the speaker about the meaning. At the end, you could ask your students to share their stories with the class. They could identify common problems, discuss unusual ones and share vocabulary.

Investigations

Speaking

1 Here students talk about their experiences of problems with electronic devices and brainstorm ideas for other issues that could occur. Question 1 can be skipped if the Warm-up activity has been completed.

Listening

2 ▶ 42 Students listen to six people describing IT-related problems. While listening, they use words and expressions from the box to complete sentences which describe some common computer problems, thereby being introduced to vocabulary which is central to this unit.

> **1** hanging   **2** crashes   **3** connection error
> **4** running slowly   **5** failure   **6** fault

> **Extra activity**
>
> Audio script 42 page 79 provides a good opportunity for a review of tenses. Put students in pairs and ask them to identify the tenses used by the speakers and the reasons for their choice of tense. Then ask them to speak to a person from a different pair and compare their answers. Given that the grammar point in this section is the present perfect, this is a useful place at which to review tenses.

3 To clarify the difference between *crash* (when a computer switches off by itself or a program stops running) and *hang* (when the computer or program appears to still be running but will not accept input), students are asked a further question. If necessary, they can look at the audio script to help them.

Speaking

4 To practise the vocabulary in Activity 2, students describe a problem to a partner and the partner responds with the word or phrase for the problem.

Listening

5 ▶ 43 This activity is based around a conversation that would typically occur when someone calls a help desk with an IT problem – the situation could be an employee in a large corporation calling their IT help desk or a consumer contacting the call centre of a company that has sold them a computer or some software. The turns in the conversation are mixed up. In pairs, students put them in the correct order.

> (The numbers on the left are the answers to Activity 5. The underlined words are the answers to Activity 7.)
>
> **7** Ah. Have you tried restarting your computer?
> **9** Could you do that? And if you still have a problem, just call me again.
> **5** Does it say anything else?
> **1** Hi, help desk here. My name is Suki. How can I help you?
> **8** Er ... no, I haven't.
> **3** OK. Can you tell me exactly what happens?
> **10** OK. Thanks very much. I'll do that.
> **4** Sure. When I press 'Send', I get an error message saying 'This program has found a problem and needs to close'.
> **2** Yes, hi. I've got a problem with my email. Whenever I try to send a message, the program crashes.
> **6** Well, something about sending an error report to the software company. Oh, and an error code: it says 'Error 35A4'.

6 Students are asked two basic comprehension questions about the conversation: *What is the problem? What is the solution?*

> Problem: The email program crashes when the user tries to send an email.
> Solution: Restart the computer.

Language

This box looks at the present perfect used for actions in unfinished periods of time, where the focus is on the result of the action. In this situation, the present perfect is often used with *yet* and *already*. This use contrasts with the past simple, used for actions that were completed in a finished period of time. To avoid too much complexity, other uses of the present perfect are not mentioned here.

To introduce the language, you could ask students questions about what they have done today and what they did yesterday. Elicit answers, put them on the board and guide them towards making any corrections necessary. Then ask them to decide which relate to unfinished time (*today*) and which relate to finished time (*yesterday*). Finally, ask them to write, in pairs, similar questions about this year and last year. They should use the present perfect for this year and the past simple for last year.

7 If you have not done so already while working through the grammar point, ask students to identify and underline examples of the present perfect in the conversation in Activity 5 or, if they prefer, the audio script on page 79, which is in the correct order.

> See Activity 5 above.

8 For controlled practice of the present perfect vs. the past simple, students complete the conversations using the appropriate tense of the verbs in brackets. Answers can be checked and discussed in pairs.

> **1** Have you charged, charged
> **2** Did you repair, I didn't
> **3** have you tried, restarted
> **4** Have you received, haven't received, Have you checked

9 Students now ask and answer questions using the prompts, thus performing further controlled practice. Stronger classes can do this in purely spoken form as a mingle. If so, you may want to do Activity 10 first. Weaker students could write the questions and answers first.

> **1** Have you checked the manual yet?
>   Yes, I have.
> **2** Did they contact support last week?
>   No, they didn't.
> **3** Have you checked the cable yet?
>   Yes, I have.
> **4** Did you test the broken computer yesterday?
>   No, I didn't.
> **5** Have you tried inserting another DVD?
>   Yes, I have.

Pronunciation

10 ▶ 44 While listening to some sentences that use the present simple, students mark the stressed syllables.

> **1** The com<u>pu</u>ter's crashed three times to<u>day</u>!
> **2** I've re<u>boo</u>ted the com<u>pu</u>ter.
> **3** Have you re-in<u>stalled</u> the <u>soft</u>ware?
> **4** I <u>ha</u>ven't had time to <u>fin</u>ish the re<u>pair</u>.

Speaking

11 Students use prompts to ask and answer questions about their own experiences of IT problems, for personalised, freer speaking practice. This extends the grammar point to a slightly different use of the present perfect, though the idea of 'unfinished time period' from the Language box still applies: the unfinished time is the student's lifetime; in other words, this covers lifetime experiences.

12 In pairs, students now have conversations using the prompts in the Partner Files section at the back of the Course Book.

Diagnosis

Speaking

1 Students look at two photos and discuss what is happening. Then they discuss any personal experiences they may have of calling a help desk.

> **1** Students' answers will vary, but the man is probably calling the help desk about a problem with his computer. The woman is answering the phone in a call centre.
> **2** Students' own answers

Vocabulary

2 Ask students to look at the form and explain that it is a form that might appear on an operator's screen in a call centre. The form is for recording details of the caller, the problem and the action taken. In pairs, students use context to match words from the form to the definitions given.

> **1** issue tracking system   **2** ticket   **3** tier
> **4** escalate

Listening

3 ▶ 45 Students now listen to a conversation between a help desk technician and a customer. While listening, they complete the form in Activity 2. Before listening, make sure that students know *missing* and *accounting* (*accounting* appeared earlier in the book). During feedback, elicit from students whether the problem has been solved at this stage (It hasn't, which is the reason for it being escalated to the next tier.).

> **1** Marten Schwarz   **2** Account Office   **3** 7
> **4** can't/won't install   **5** error type 3
> **6** downloaded again and reinstalled
> **7** Escalate to Tier 2

4 Students listen a second time and answer three comprehension questions.

> **1** a missing file on the caller's computer
> **2** The problem will be escalated to tier 2 support. A software engineer will call back within twenty-four hours.
> **3** tier 1

Language

The language of speculation and deduction is useful for diagnosis, the topic of this section. Diagnosis is often carried out through a trial-and-error process: the first step is to speculate about what might be the cause of the problem, then checks are made to see if this is correct. If not, another round of speculation and checking begins.

To introduce the language, you could follow this procedure:
- Play track 45 again from *OK. Have you tried downloading ...* (A's second turn from the end). Ask students to write down what the technician actually said about the cause of the problem (*there might be a missing file*).

- Ask: *Was the technician sure about the cause of the problem? How do we know?* (No. She said *might*, not *is*).
- Elicit other language that conveys the same lack of certainty, such as *I think ...*, and the language in the Language box.

5 In pairs, students look at six situations and speculate about what the problem might be, using language from the Language box.

> *Suggested answers*
> **1** The computer might have a virus.
> **2** You must have saved it somewhere else./ Someone might have cleaned up the server.
> **3** He could be helping someone, somewhere else in the building.
> **4** The battery must be flat by now.
> **5** It/The problem can't be the cables.
> **6** The network cables might not be plugged in.

Reading

6 Students read a troubleshooting guide or 'script' of the kind that could be used by a help desk technician working in the call centre of a computer monitor vendor. It presents a series of questions that the worker might ask when someone calls with a particular problem. The guide also indicates the action to take in response to the caller's answers.

Students read the guide and complete the gaps with language from the Language box. This could be done in pairs or individually, with pairs then comparing their answers, to provide discussion and peer feedback.

> **1** must be switched on
> **2** may/might not be connected
> **3** may/might not be switched on
> **4** can't be a power problem
> **5** may/might not be connected
> **6** may/might be faulty
> **7** must be faulty
> **8** may/might be faulty

Speaking

7 In pairs, students roleplay using the troubleshooting guide: one is the caller and the other is the help desk technician. Students should have at least one turn in each role. They could change partners between turns. For each turn, they have the same problem (the blank monitor screen in the troubleshooting guide) but the caller will need to decide what the symptoms of his/her problem are before

commencing. Alternatively, you could give students the suggestions below.

1 *Can't see any lights on the computer or hear any sound from it. Cables are fine. No spare computer available.*

2 *Can see lights on the computer. Can't see lights on the monitor but it's switched on and plugged in. No spare monitor available.*

3 *Can hear the computer and see lights on the monitor. Spare monitor also doesn't work.*

The results students should reach from these are:

1 *unknown fault; site technician will visit*
2 *unknown fault; site technician will visit*
3 *escalate to site technician; video card may be faulty*

Extra activity

Ask students to work together to write their own troubleshooting guide (similar to the one in the Course Book) to solve a problem of their own choosing. This could be done in pairs or small groups and would work well for students currently working in IT or studying IT because they can choose a problem relevant to their own work or study.

When they have finished, students could swap their guides with another group, who would then try to follow them. Any problems they find could be discussed with the original authors who would then amend the guide as necessary. Finally, if appropriate, the guides could be put on the classroom walls so that they can be shared (this is unlikely to be appropriate if your class is in a formal business environment).

If this is done for homework, students could use their guides in a later lesson as the basis for roleplays similar to activity 7.

Solutions

Speaking

1 To introduce the activity, you could elicit from students the steps they generally take to solve a problem: if they are very familiar with IT, this could be an IT problem but otherwise, non-IT problems are fine. Then ask students to look in their books and, in pairs, put the steps there in the correct order.

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3 Decide which of the possible solutions is the most likely.

5 If that doesn't work, try another solution.

1 Check what the symptoms of the problem are.

6 Continue this process until something works.

2 Think of some possible solutions.

4 Try the most likely solution.

Listening

2 ▶ 46 Tell students that they will listen to two repair technicians in a computer shop talking about a computer that a customer has brought in for repair. Ask them to decide, while listening, whether they have solved the problem yet. If necessary, draw attention to this use of the present perfect from earlier in this unit.

no

3 Students listen again and tick the box or boxes corresponding to the tests the speakers have already tried. All three are mentioned, so students will have to pay attention to the tenses they hear.

After feedback, for review and further practice of the language point from the previous section, you could play the recording again, this time asking students to identify the points of speculation and deduction made by the speakers. Students with IT knowledge may be able to mention other possibilities using the same language.

test memory, replace memory

Language

This box covers two ways in which suggestions can be made, beyond the language of suggestions covered in Unit 1: *try* + noun/*-ing* and first conditionals with modal verbs to express consequences of a suggestion. These could be introduced by asking students to underline the suggestions in audio script 46 on page 79, or by eliciting suggestions (and consequences of a suggestion) about a problem (not necessarily IT-related) that is of relevance to your students.

4 Students complete the sentences in four conversations using the grammar in the Language box.

5 Students use context to match the bold words in Activity 4 to their definitions.

> **1** usage   **2** bloatware   **3** bill

Speaking

6 In pairs, students take the role of technicians discussing a problem and practise a conversation using the prompts provided. They should take both roles, changing partners in between, if possible.

> **Extra activity**
>
> Have students roleplay similar conversations based around problems they have experienced. They may need time to write down some prompts first.

Vocabulary

7 The topic now switches to occupational health and safety. Students match illustrations A–F to dangers 1–6 in the leaflet, then match the dangers to the appropriate advice, a–f. For maximum speaking practice and to provide the opportunity to learn from each other, run this as a pairwork activity. Before starting, make sure students are aware that illustration E shows toner cartridges in a colour printer and that these cartridges can get very hot.

> **A** 1   **B** 2   **C** 3   **D** 5   **E** 6   **F** 4
> **1** b   **2** d   **3** e   **4** a   **5** f   **6** c

Writing

8 Ask students to write sentences expressing suggestions about (and, where appropriate, consequences of) not following the advice in Activity 7. They should write one piece of advice for each item in 7.

Speaking

9 Students have conversations in which they warn each other of dangers from Activity 7. They should follow the pattern provided and should use language from the Language box. Below is an example, with advice for illustration A:
A: Be careful! You shouldn't sit like that, with a bent back!
B: Why not? What's the problem?
A: If you sit like that, you might get backache.
B: Oh! That's not good! What should I do?
A: It's better to sit straight.
B: Oh, OK! Thanks very much.

> **Extra activity**
>
> With students, come up with several IT issues relevant to their work, study or lives. Then put them in pairs and ask them to have conversations similar to those in recording 46, in which they speculate about what the cause of the problem might be and suggest possible solutions.

Your future in IT

Speaking

1 You could lead in to the topic of this section by talking with your students about their work aspirations, then ask them to continue their discussions in small groups. One question is provided that will work for most users of this book but you could also provide more based on your students' situation. Examples include:
What job do you think you will do? Is it the same or different from what you most want to do?
Think about your current job. What duties do you most enjoy? Least enjoy? Why?

Reading

2 Ask students to skim-read the CV and then match the headings to the gaps.

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

Speaking

3 Students now look in more depth at two of the headings in the CV, *Technical skills* and *Personal skills*, and personalise the concepts in discussion with another student by relating them to their own lives. With stronger classes, encourage students to take this as far as they can beyond the language on the page – they may be able to think of a wide range of personal and technical skills. Where there are things they wish to say but for which they are struggling with the language, supply them with the correct words: providing language when the student has a need to know it and have an interest in it is one of the best ways to ensure learning occurs.

Writing

4 Students use the model in Activity 2 to write their own CV. Alternatively, provide another model if your students require a different style of CV, such as one with a personal statement.

Language

Ask students to talk about their plans for after the course. Write responses on the board and try to elicit a range of different future forms, including the ones from the Language box on schedules in the previous unit (page 58), and discuss the differences between them.

Speaking

5 Students use the language in the Language box to talk about their own career plans. This can be done in pairs, and each student from these pairs can later report what they heard to another student. Interesting points from willing students can be shared with the class in feedback.

> **Extra activity**
>
> Ask students to write six or more sentences expressing their future plans, using language from the Language box. If students need help to think of ideas, put the following on the board as prompts: *further qualifications*, *personal skills*, *technical skills*, *positions*.

Business matters

In this section students discuss jobs and job interviews and then roleplay a job interview.

Speaking

1 Questions are provided for students to discuss their experiences of interviews. Younger students may not have experienced a job interview previously; instead, they can talk about other interviews they have had experience of (for example, at school) or about interviews they have seen on TV.

> **Extra activity**
>
> This is for students with some experience of the workplace. Ask them to discuss questions such as these, as appropriate to your context, in pairs or small groups:
> *1 How should you prepare for a job interview?*
> *2 What are your experiences of job interviews? How did you prepare? How did you feel before it? During it? After it?*
> *3 Have you ever interviewed anyone for a job? What did you do well in the interview? What didn't go so well?*
> *4 What advice would you give a young person applying for a job?*

2 Ask students to work in the same groups as in the previous activity to discuss what personal and technical skills they might need for the jobs in the box. This will review some of the vocabulary from the previous page.

3 Students now speculate and/or share knowledge about what kinds of questions are commonly asked in a job interview and when in the interview it is usual for the interviewee to ask questions.

4 Students first read the job advertisement at the bottom of the page, then decide which of the jobs listed to apply for. If students are already in an area of IT or know what career they are heading for, they should be encouraged to choose the job most closely related to that.

Then ask students to follow the steps provided: first, they prepare for the interview by thinking of questions and answers (depending on their role) that are appropriate for the chosen job role. Then they roleplay the interviews. Finally, they swap roles and repeat, with a different partner if possible.