

4

Administration

- talk about past actions
- describe how to use databases
- explain sequences of system administration tasks
- explain how problems occur

Spreadsheets and formulae

Speaking 1 Work in small groups. Discuss these questions.

- 1 What do people use spreadsheets for?
- 2 Do you use spreadsheets? What for? What do you find easy/difficult about using them?

Vocabulary 2 Work in pairs. Match sentences 1–4 to sums a–d. Then rewrite the sentences using the words in brackets.

/ means the same as ÷

- | | |
|---|-------------------|
| 1 If we divide 8 by 2, we get 4. (divided by) | a) $8 + 2 =$ |
| 2 If we subtract 2 from 8, we get 6. (minus) | b) $8 - 2 =$ |
| 3 If we multiply 8 by 2, we get 16. (times) | c) $8 / 2 =$ |
| 4 The sum of 8 and 2 is 10. (plus) | d) $8 \times 2 =$ |


8 divided by 2 is 4.

Speaking 3 Work in pairs. Write eight sums each but don't show your partner. Then take turns to read your sums to your partner for him/her to calculate.

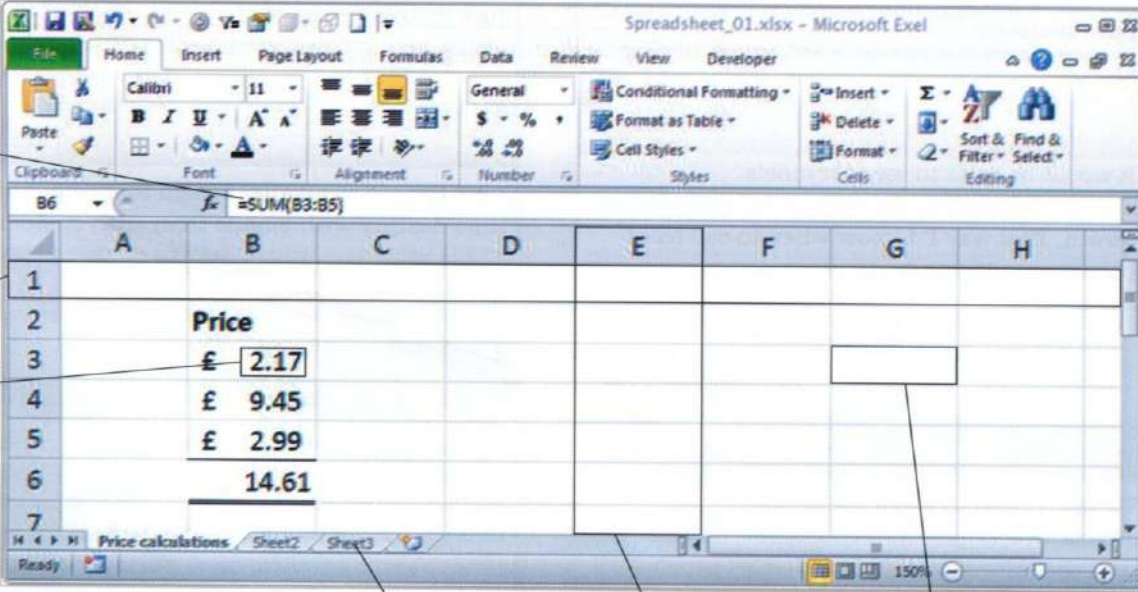
A: *What is 9 divided by 2?*

B: *4.5. If you multiply 10 by 4.6, what do you get?*

A: 46.

Listening 4  Listen to a trainer explaining a formula in this spreadsheet. Match these words to A–F in the spreadsheet. What does the formula do?

- | | | |
|---------------|----------------|------------------|
| 1 cell ____ | 3 formula ____ | 5 value ____ |
| 2 column ____ | 4 row ____ | 6 worksheet ____ |



The screenshot shows the Microsoft Excel interface. The formula bar at the top displays the formula `=SUM(B3:B5)`. The spreadsheet grid shows a column of prices: £ 2.17, £ 9.45, £ 2.99, and a total of 14.61. Labels A-F point to the following elements:

- A: The formula bar
- B: Row 1
- C: Cell B3
- D: The 'Price calculations' worksheet tab
- E: The 'Price' column header
- F: Cell G3

Speaking

5 Work in pairs. Student A, look at the information on this page. Student B, look at the information on page 70. Follow the instructions.

we usually write the multiplication sign as x but spreadsheets often use *

Student A

Read these formulae to Student B. Then listen and write down the formulae Student B reads to you.

=if(A=20,B2,0)
equals if ... open bracket ... A equals 20 ... comma ... B2 comma ... nought ... close bracket

1 *=C2+(B7-B3)*

2 *=B7*C8/C9*

3 *=A2-SUM(B2:B20)*

4 *=SUM(C7:J7)-7*

Language

Past simple

We use the past simple to describe finished actions or events in the past.
 Regular verbs (e.g. *check, correct*) usually add *-ed*.
 Irregular verbs (e.g. *be, go, get, choose, find*) have their own past simple forms.
 We use *did/didn't* + bare infinitive in questions and negative sentences.

Did you check the formulae in the spreadsheet?
 Yes, I **did**. I **found** one mistake. The others **were** all fine.
 I **corrected** it straight away.

6 Read audio script 17 on page 75. Which tenses are used? Complete this sentence.
 The speaker used the _____ to explain what a function does and the _____ to describe past events.

Listening 7 Listen to four employees explaining their problems with spreadsheets. Complete this table.

| Action | Problem |
|----------------------|----------------------|
| 1 typed in a formula | get an error message |
| 2 | |
| 3 | |
| 4 | |

Speaking 8 Work in pairs. Match these explanations and solutions to problems 1–4 in 7. Then roleplay the situations you heard.

- a) saved in another folder by mistake ____
 - b) misspelt the function in the formula 1
 - c) need to right-click on the cell, select 'Format cells', then select 'Date' ____
 - d) chose the wrong formula ____
- A: *Could you help me?*
 B: *Yes, sure. What's the problem?*
 A: *Well, I typed a formula into the spreadsheet but it gives me error messages every time I try to use it!*
 B: *OK, I think you misspelt the function in the formula ...*




9 Work in pairs. Take turns to describe an IT problem. Explain what happened and how you solved the problem. Then form new pairs and describe your first partner's problem to your new partner.

Databases

Speaking 1 Work in small groups. Discuss these questions.

- 1 What database programs do you know?
- 2 What do people use databases for? Give examples.

Listening 2  19 Listen to a database administrator describing the structure of a company database to a trainee. Match these words to screenshots A–C.

- 1 report 2 table 3 form



B  Yearly Sales Report Customers

Sales to Holdburg Ltd

| Product | Q1 | Q2 | Q3 | Q4 | Total |
|--|-------------|------------|--------|--------|-------------|
| Northwind Traders Coffee | \$14,720.00 | \$230.00 | \$0.00 | \$0.00 | \$14,950.00 |
| Northwind Traders Beer | \$1,400.00 | \$5,418.00 | \$0.00 | \$0.00 | \$6,818.00 |
| Northwind Traders Marmalade | \$0.00 | \$3,240.00 | \$0.00 | \$0.00 | \$3,240.00 |
| Northwind Traders Mitzarola | \$0.00 | \$3,132.00 | \$0.00 | \$0.00 | \$3,132.00 |
| Northwind Traders Clam Chowder | \$1,900.00 | \$668.50 | \$0.00 | \$0.00 | \$2,568.50 |
| Northwind Traders Curry Sauce | \$980.00 | \$1,820.00 | \$0.00 | \$0.00 | \$2,800.00 |
| Northwind Traders Chocolate | \$1,402.50 | \$1,147.50 | \$0.00 | \$0.00 | \$2,550.00 |
| Northwind Traders Broyerberg Spread | \$250.00 | \$2,250.00 | \$0.00 | \$0.00 | \$2,500.00 |
| Northwind Traders Dried Meat | \$0.00 | \$2,208.00 | \$0.00 | \$0.00 | \$2,208.00 |
| Northwind Traders Dried Apples | \$530.00 | \$1,960.00 | \$0.00 | \$0.00 | \$2,490.00 |
| Northwind Traders Raisins | \$0.00 | \$1,960.00 | \$0.00 | \$0.00 | \$1,960.00 |
| Northwind Traders Fruit Cocktail | \$0.00 | \$1,560.00 | \$0.00 | \$0.00 | \$1,560.00 |
| Northwind Traders Dried Peas | \$300.00 | \$900.00 | \$0.00 | \$0.00 | \$1,200.00 |
| Northwind Traders Cajun Seasoning | \$220.00 | \$660.00 | \$0.00 | \$0.00 | \$880.00 |
| Northwind Traders Chocolate Biscuits I | \$552.00 | \$230.00 | \$0.00 | \$0.00 | \$782.00 |

C  Yearly Sales Report Customers

| Customer ID | Company | Given name | Family name | Job Title |
|-------------|---------------------|---------------|---------------|---------------------------|
| 18 | Holdburg Ltd | Sue | Al Omran | Purchasing Representative |
| 18 | Rittling | Catherine | Aulier Miconi | Purchasing Representative |
| 3 | Compaq | Thomas | Asen | Purchasing Representative |
| 17 | Quartile Marketing | Jean Philippe | Bagel | Owner |
| 1 | Arther Henderson | Anna | Bedacs | Owner |
| 12 | Langburg | John | Edwards | Purchasing Manager |
| 15 | Skills Maintenance | Alexander | Eggerer | Accounting Assistant |
| 23 | Work Skills Support | Michael | Entin | Purchasing Manager |
| 16 | Power Digital | Daniel | Goldschmidt | Purchasing Representative |

3 Listen again. Which option best describes what the database keeps track of?
 a) clients and orders b) stock and orders c) orders and full accounts

Vocabulary 4 Complete this manual with the words in the box. Then read audio script 19 on page 75 and check your answers.

fields form objects primary key query the database
 record report retrieve a record unique

A database has several parts. These are called (1) _____. The simplest of these is a table; most databases have at least two. Tables look like a spreadsheet. Each row in the table is a(n) (2) _____, containing information about one item, such as a person or something that the company sells. Each of these contains several (3) _____ with information about the item. For example, in a company's employee database, these might be family name, given name, phone number and so on. One important point is that one field in each record must be (4) _____ – the same data must not be in any other record. We call this field the (5) _____. It can be a staff ID number,

for example, but it can't be a given name because many people have the same given name.

Another type of object is a(n) (6) _____, which is used for entering data into tables. A third object type is a(n) (7) _____. This can show data from more than one table at the same time, looks good and is suitable for printing.

There are several ways to get data out of a database. One is simply to (8) _____ – for example, if we want to check the data in a single record, such as an employee's phone number. If we want to combine information from several tables or to do something with the data such as add up financial information from several records, we can (9) _____.

- Speaking** 5 Work in small groups. For each of these tables, discuss which field is a good primary key (more than one answer might be possible). Be prepared to give reasons for your answers.
- 1 A database table holding details of a club's members. The field headings are: *Given name, Family name, Email address, Membership number, Address* and *Mobile number*.
 - 2 A database table with details of products that a company holds in stock. The field headings are: *Product name, Product price, Number of units* and *Barcode*.
 - 3 A database table of patients in a hospital. The field headings are: *Family name, Given name, Date of entry to the hospital, Bed number, Case number* and *National identity card number*.
- The given name can't be a primary key because it isn't unique – many people have the same first name. ...*
- 6 Work in small groups. Discuss tables, fields and primary keys that you could use for records in databases in these cases.
- 1 a dentist's database of patients
 - 2 a language school's database of students
 - 3 a travel agent's database of airline tickets
 - 4 a database in an online multi-player game in which players can stop and restart their games whenever they want
- 7 Compare your answers in 6 with another group.

Language

By + -ing

We can use **by + -ing** to express how to do things.

*We can find the total number of hours **by querying** the database.*

***By running** a report, we can print a list of customers.*



- 8 Work in pairs. Ask and answer questions about how to do these things.
- enter data in a database (form)
- A: *How do you enter data in the database?*
- B: *You can do that by opening a form and entering the data into the fields.*
- 1 find information in a database (query)
 - 2 add a column of numbers in a spreadsheet (sum/formula/spreadsheet)
 - 3 make sure each record in a database is unique (use/primary key)
 - 4 print information from a database (run/report)

- Speaking** 9 Work in small groups. Read this scenario and discuss possible solutions for each problem.

A company has these problems:

- Information on paper takes up too much space in the office.
- It is difficult to find information on paper.
- Admin staff spend a lot of time entering data. Surely computers can do this?
- They enter the same data into different spreadsheets.

- Copying and pasting data from spreadsheets into word processor documents is very slow and doesn't look very good.

Possible solutions:

- scanning
- optical character recognition (OCR)
- set up a database
- run reports

By scanning all your documents, you will use less paper.

Systems administration

- Speaking** 1 Work in pairs. Read this definition of what a systems administrator does and write the words in the box in the correct column in the table.


A systems administrator is responsible for whole computer systems and networks.

deploys new software designs databases
looks after network security sets up user accounts
updates software across an organisation works on a help desk
writes software to sell to other companies

| A systems administrator's task | Not a systems administrator's task |
|--------------------------------|------------------------------------|
| | |

- 2 Look at the second column of the table in 2. Choose a job title from page 4 for each task.

Listening

- 3  20 Listen to a systems administrator asking a technician about the status of the company's computer systems. Is it a small company? How do you know?

- 4 Listen again and tick ✓ the correct column in this table. Were there any big problems?

| | Worked fine | Problem found | Not mentioned |
|------------------------------------|-------------|---------------|---------------|
| 1 deploy new software upgrades | | | |
| 2 deploy new software applications | | | |
| 3 backup systems | | | |
| 4 disk drives | | | |
| 5 set permissions | | | |
| 6 check logs | | | |
| 7 reset passwords | | | |



- Vocabulary** 5 Find words in the table in 4 that match these definitions.

- change; set again _____
- install on many computers at the same time _____
- settings on a computer, file or folder that say who can use it _____
- data that a program or computer produces while it runs, to show how well it is working _____

- 6 Complete these collocations and phrasal verbs from the conversation in 3 with the words in the box. Then read audio script 20 on page 75 to check your answers.

crash out out of running again smoothly (x 2)

- run _____
- lock (someone) _____ (something)
- disk _____
- check (something) _____
- be up and _____
- go _____

Language

While, before, after


| | |
|--|---|
| We can use while , before and after to show the order of events. | While you install the OS, the computer will ask you some questions. Before you reinstall the OS, back everything up. |
| If the same person is doing the action in both clauses, we can use the -ing form of the verb after these words. | After resetting the password, log in to check that the new one works. |

7 Use these prompts to write sentences with *while*, *before* or *after*.

install the software/do a full backup

Before installing the software, do a full backup.

- 1 install an operating system/the computer may reboot several times
- 2 deploy major software upgrades/train the users
- 3 replace the hard drive/everything will go smoothly
- 4 forget a password/reset it

Listening 8  **21** Listen to extracts from five conversations and write the action that should happen first in each case.

- 1 *email a report* 3 _____ 5 _____
- 2 _____ 4 _____

Pronunciation 9 Look at audio script 21 on page 75 and underline the sentences with *before*, *while* and *after*. Then listen again and mark the intonation on these sentences as rising (↗) or falling (↘). Does the intonation go up or down in *yes/no* questions? And statements?

Speaking 10 Work in pairs. Take turns to ask your partner to do these tasks. Use *while*, *before* or *after*.

- 1 check the logs/finish work for the day
- 2 check out the database problem/start work tomorrow
- 3 be in the server room/check the network cables
- 4 new designer arrives/set permissions on his computer

11 Work in small groups. Decide what precautions you would take in these situations. What would you do or check before, while or after doing these actions?

- 1 upgrade some software
- 2 remote access someone's desktop
- 3 switch off a server with users' computers networked to it
- 4 deploy new software

Writing 12 Write a response to this email. Use these prompts to help you.

- plug memory stick/old computer
- drag folders/memory stick/use Windows Explorer
- unplug memory stick/old computer/plug/new laptop
- drag folders/memory stick/new laptop

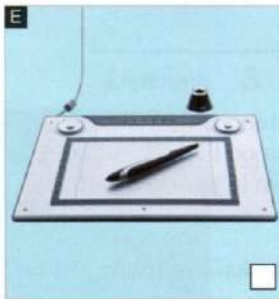


Peripherals

Speaking 1 Work in pairs. Make a list of as many peripheral devices (e.g. printer, screen) as you can. Then describe the items on your list to your partner. Can he/she guess what they are?

It's for listening to music. You wear it on your head.

Vocabulary 2 Match photos A–H to definitions 1–8.



- 1 NAS (network attached storage) device: a collection of drives in a single box, accessed through a network and thus more flexible than a device attached to only one computer ____
- 2 touchpad: part of a laptop computer used instead of a mouse for moving the cursor ____
- 3 stylus: a pen-shaped device sometimes used with some kinds of screens ____
- 4 graphics tablet and stylus: a flat pressure-sensitive pad and pen-shaped device, often used with graphic design software ____
- 5 touch screen: a screen that can detect when and where a finger touches it ____
- 6 projector: a device that shows a copy of the computer's screen on a large screen, often used in presentations ____
- 7 headset: a device people wear on their heads that includes a microphone as well as headphones ____
- 8 multifunction printer: a printer that also has other functions such as scanning, copying and/or faxing ____

3 Write *I* next to the input devices and *O* next to the output devices in 2. Which devices are both? Which device is neither?

Listening 4 22 Listen to an assistant systems administrator explaining a problem to his manager and complete this table.

| Action in progress | Problems |
|---|----------|
| The accountant _____ to save a spreadsheet to the NAS device. | 1 _____ |
| | 2 _____ |
| | 3 _____ |

Language

Past continuous and past simple

We use the **past continuous** to talk about an action that was in progress at a particular point in the past. We also use it when we want to emphasise that a past action continued for some time.

*I **was working** at 2 p.m. yesterday.
I **was working** all night.*

When a shorter action happens in the middle of another longer action or suddenly ends it, we use the **past continuous** for the longer action and the **past simple** for the shorter action. We use *when* before the past simple and *while* before the past continuous.

*He **was printing** from the multifunction device **when** it **stopped** working.
The printer **ran out** of ink **while** I **was using** it.*

Speaking 5 Work in pairs. Take turns to explain these problems to your partner. Remember to say what you were doing at the time. Use the Language box to help you.

- 1 printer: paper jam
- 2 headset: sound/stop
- 3 graphic tablet: move stylus/cursor not move
- 4 projector: light/stop working

Writing 6 Choose one of the problems in 5. Write a short email to your company's IT Support Office explaining the problem.

Business matters

Speaking 1 Work in small groups. Read this scenario and choose three of the problems. Discuss possible solutions to the problems you chose.

You are assistants to your company's systems administrator, Zafia. She is away for a few days, so you were looking after the company's IT systems. A few problems occurred, which, together, you solved. Each day Zafia is away, you have to write an email to her explaining what happened during the day. Here are some of the problems you've had to solve:

- salesperson's laptop: hard drive crashed
- Marketing Department: want a new report in their database
- internet connection: several dropouts
- backup system: failed
- new employee: locked out of the human resources database
- projector: wrong cables

Writing 2 Complete this log. Use problems from 1 or problems of your own choice.

| IT Department: daily log | | |
|--------------------------|---------|--------------|
| Time | Problem | Action taken |
| 1 | | |
| 2 | | |
| 3 | | |

Speaking 3 Work in pairs. Take turns to explain the problems from the log in 2 to your partner. Pay attention to the tenses you use, and use *while*, *before* or *after* where appropriate.

Writing 4 Read the scenario in 1 again and write an email to Zafia.