Computing Support

STARTER	1	Find out what the most common computing problems are for your classmates and how they get help with these problems. Use this form to record your results.

Problems	Sources of help
viruses	
monitor problems	
mouse problems	
computer hangs	
printer problems	
computer crashes	
other	

Ask questions like these:

1   Have you ever had a problem with a virus?
2   Have you ever had a software problem?
3   What kind of problem?
4   What did you do about it?
5   How did you get help?

LISTENING	2	Study this form used by computing support staff in a help centre to record problems reported by phone. What questions would you ask to get this information? Compare your questions with your partner.

3   🎧   Now listen to this recording of a computing support officer, David, advising a user. Complete the form to record the main details of the problem.

4   🎧   Listen again to note the questions asked by David. How do they compare with the questions you produced in Task 2?

Help Desk Technician's Name		Date of Call	Time Commenced

Reported By		Address	

Under Warranty	Service Tag No.	Make	Model

Processor	RAM Size	Operation System	Network Type

Problem Description		Diagnosis	

Cleared by Phone		Job Number	

Passed to Supplier	Time	Ref. No.	

Passed to Third Party	Time	Ref. No.	

Requires Visit	Time	Visiting Technician	

Equipment Required		Comments (e.g. case history)	

Fig 1

LANGUAGE WORK   Diagnosing a fault and giving advice

Study this extract from the recording:

It sounds as if you may have a driver fault.

David is trying to identify the cause of the problem. He's not completely certain. Compare these versions:

1   It sounds as if you may have a driver fault.
2   It sounds as if you have a driver fault.
3   You probably have a driver fault.
4   You must have a driver fault.

Each statement is more certain than the one before. You can use the expressions studied in Unit 16 to show how certain you are. When you are sure you know the cause of the problem, you can use must as in example 4.

Study this further extract:

You could try to reinstall the sound drivers.

Here David is giving advice. Advice usually follows diagnosis.

In Unit 14, you studied these ways to advise someone to do something.

Using an imperative:

1   *Try* to reinstall the sound drivers.

Using the modal verb *should*:

2   You *should* reinstall the sound drivers.

Using *recommend*:

3   *I recommend* reinstalling the sound drivers.

You can also use:

4   *I recommend that* you reinstall the sound drivers.
5   *I advise you to* reinstall the sound drivers.

Or phrases such as:

6   *The best thing to do* is to reinstall the sound drivers.

5   Study these steps to take before you phone for technical support. Rewrite each one using the clue given.

1   Reboot your PC to see if the problem recurs, (should)
2   Use your PC's on-board diagnostic and repair tools. (recommend)
3   Record the details of the problem so you can describe it accurately. (good idea)
4   Note your system's model name and serial number. (advise)
5   Keep a record of hardware and software you've installed along with any changes you've made to settings. (strongly recommend)
6   If you think hardware may be at fault, figure out how to open the case. (should)
7   Visit the vendor's website and check the FAQs. (best thing)
8   Avoid phoning in peak times. (never)
9   Have your system up and running and be near it when you call. (good idea)
10   When you reach a technician, tell him or her if you may have caused the problem. (advise)

6 Diagnose these faults and provide advice on each problem.

1 My laser printer produces very faint copies.
2 When I print, three or four sheets come through the printer at the same time.
3 My spreadsheet does not seem to add up correctly.
4 Everything I type appears in capitals.
5 My PC is switched on but the monitor screen is blank.
6 I tried to print a document but nothing came out of the printer.
7 My monitor picture is too narrow.
8 My monitor screen flickers.
9 My mouse responds erratically.
10 The time display on my computer is one hour slow.
11 When I print out a page, the first two lines are missing.
12 My computer sometimes stops and reboots itself. The lights dim at the same time.

PROBLEM-SOLVING **7** As a class, find out how many had problems with any of these items of hardware in the last twelve months. Calculate the percentages and compare results with these findings from a national survey.

% of users reporting problems in the last 12 months		
	Your class	Other users
Hard disk		17
CD-ROM drive		15
Modem		15
Mouse		13
Monitor		12
Motherboard		11
Sound card		7
Cooling fan		7
Floppy disk drive		7
Battery		7
Keyboard		6
Power supply		6
Memory		5
Graphics/Video		5
CPU		3

| SPEAKING | 8 | Work in pairs, A and B. Advise your partner on his/her computing problem. Ask for advice on your computing problem. Complete this form for your partner's problem. |

Student A   Your problems and advice are on page 187.
Student B   Your problems and advice are on page 193.

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Reported By	Address

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Fig 2

<table>
<tr><td>**WRITING**</td><td>**9**</td></tr>
</table>

9 Study this brief report made from the completed form for Task 3. Then write your own report of one of the Task 8 problems using the form you completed for that task. Your report should have these sections:

paragraph 1   user's hardware, software, network connections, etc.
paragraph 2   description of the problem and the possible diagnosis
paragraph 3   action taken

Job No. E83905

The call was logged at 15.22 on 26th June. The user has an Apricot LS 550 with a Pentium III processor and 128 MB of RAM. The operating system is Windows 2000. The machine is networked - Windows NT. It is under warranty.

The machine is not playing MIDI sound files. This may be due to faulty sound drives.

The client was advised to re-install the original sound drivers. If this does not solve the problem, new sound drivers will be sent. A visit is not required.

SPECIALIST READING

A Find the answers to these questions in the text and table below.

1   Give two reasons why server computers often have connected hard drives.
2   Why is RAID 0 particularly suited to imaging and scientific work?
3   What is the advantage of using drive mirroring?
4   To store data, RAID levels higher than 1 require:
    a   At least double the disk space
    b   Up to about a third more disk space
    c   Less than half the disk space
5   Where is the backup data stored in a RAID 5 system?
6   Which levels of RAID can reconstruct data lost in failed drives from the backup data spread across the remaining drives in the array?
7   Which level of RAID is the fastest?

RAIDING HARD DRIVES

Server manufacturers connect hard drives to ensure that data is adequately protected and can be quickly accessed. Computer engineers call such an arrangement a
5   redundant array of inexpensive disks (RAID). By arranging drives in sets, users hope to take advantage of the higher seek times of smaller drives. A special hard disk controller, called a RAID controller, ensures
10   that the RAID array's individual drives are seen by the computer as one large disk drive.
    RAID schemes are numbered, with higher numbers indicating more elaborate
15   methods for ensuring data integrity and fault tolerance (or a computer's ability to recover from hardware errors).

B Re-read the text and table to find the answers to these questions.

1   Match the terms in Table A with the statements in Table B.

Table A
a   RAID
b   RAID controller
c   An array
d   Striping
e   Mirroring
f   Check data

	RaidO	Raidl	Raid 2-4	Raids
Fault tolerance?	No	Yes	Yes	Yes
What does it do?	Called disk striping, RAID 0 breaks data into blocks that are spread across all drives rather than filling one before writing to the next.	Called disk mirroring, RAID 1 uses two identical drives: data written to the first is duplicated on the second.	RAID 2-4 are rarely used and simply enhance the striping provided by other RAID levels.	Called striping with parity, the popular RAID 5 writes error-correcting, or parity, data across available drives.
What are the advantages?	Improved disk I/O throughput - the fastest of all RAID configurations as it distributes read/write operations across multiple drives. Good for imaging and scientific work where speed is important.	If either drive fails, the other continues to provide uninterrupted access to data.	2 enhances 0 by using additional drives to store parity data. 3 enhances 2 by requiring only one error-checking drive. 4 builds on 3 by using larger block sizes, boosting performance.	If one drive fails, its contents are recovered by analysing the data on the remaining disks and comparing it with the parity data.
What are the disadvantages?	The failure of any single drive means the entire array is lost.	Inefficient use of disk space.	Uses dedicated disks to store the parity data used to reconstruct drive contents. Up to 30% more hard disk space needed than 1.	Not as fast as RAID 0.

Table B

i   Information which is used to restore data if one of the RAID drives fail

ii A process of spreading data across a set of disks

iii Redundant array of inexpensive disks

iv A set

v   A device for controlling a set of hard disks

vi The technique of writing the same information to more than one drive

2 Mark the following statements as True or False:

a   Small disks tend to have lower seek times than large disks.

b   RAID controllers make one large hard disk act like a set of small disks.

c   In RAID systems, one disk is filled with data before the next disk is used.

d   A higher numbered RAID array uses a more elaborate system to protect the integrity of data.

e   RAID 0 provides good data recovery.

f   Small file servers do not usually use RAID level 3.