Laptops

NEED TO KNOW

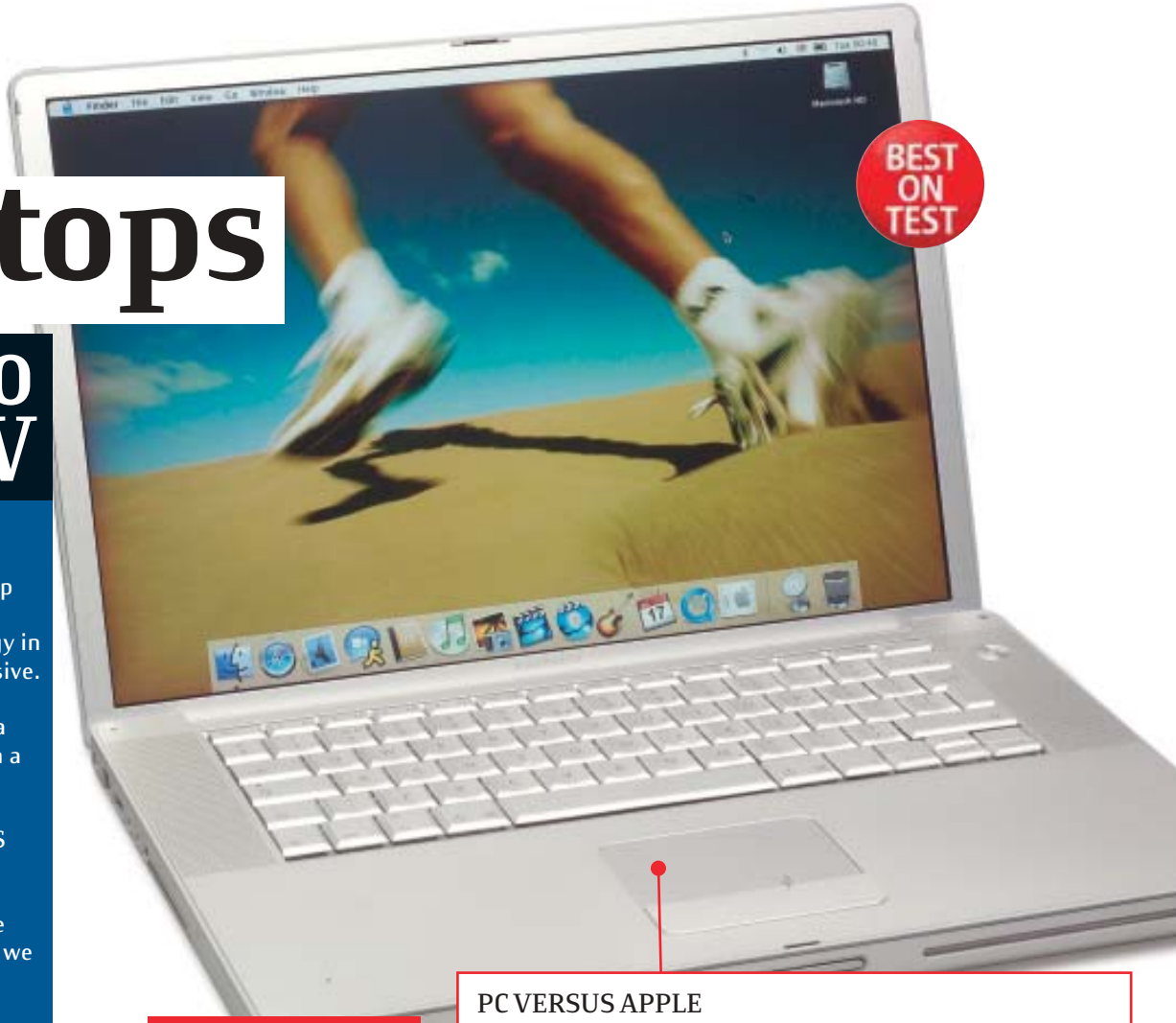
You'll pay more for a laptop with the same capabilities as a desktop computer because the miniaturised technology in a laptop is more expensive. For the same reason, expect to pay more for a small, light laptop than a larger, heavier one.

STANDARD FEATURES
DVD burners and the ability to access the internet wirelessly have become standard since we tested laptops in 2003. Powerful 3D graphics chips, which are needed to play computer games, are more common, too. Sheer processing power has improved, as have the memory and battery life you get for your money.

FIRST STEPS
Most manufacturers let you tailor the laptop to your needs. You can add extra memory, for example. Before parting with your cash, there are three choices you need to make. The first is between a Windows-based machine and an Apple Mac (see 'PC versus Apple', right).

The second is to think about weight and size. If you won't carry it around, a heavier, cheaper laptop will suit your needs (see 'Weight and size', p44).

Finally, be clear about how you will use it. You'll need more processing power and memory to edit videos than to write Word documents, send emails or browse the web (see 'Saving the pennies', p45).



1 APPLE
DESKTOP REPLACEMENT

PC VERSUS APPLE

You have to weigh up cost, ease of use and style. On the face of it, Apple Macs are more expensive than Windows-based PCs, and there's less software available, particularly games.

But Apple fans argue that Macs are easier to use. For example, since Apple makes both the hardware and the software for its computers, an Apple manual will combine hardware and software instructions. Buy a PC and, chances are, you'll get instructions for the Windows operating system and more for the hardware.

Our reliability data shows that users find Macs more reliable than Windows PCs. Fewer viruses and less spyware are written for Macs than PCs, too, which makes them simpler to maintain.

Visual design is key in Apple products. Pull out this Apple PowerBook on the train and you'll receive a few envious glances.

BEST BUYS

Apple topped two of the three categories of laptop, providing the best desktop replacement and entry level machines. Best Buys are those with the highest score in their category.

DESKTOP REPLACEMENT

The **Apple PowerBook** (1) 15 inch, £1,580 from www.apple.com/uk, is ideal if you want to ditch your desktop computer to save space. It tore through our tasks, burning a CD of MP3 files in just over four minutes. At 2.6kg it's not too heavy; machines with similar abilities usually weigh in at over 3kg. It has a screen with precise detail and rich colours.

Unfortunately, because it's a Mac, there are few games available. If game-playing is your vice, pick a Windows-based machine, such as the Fujitsu Siemens Amilo A1630 (3), £1,100 from Comet (with 100GB hard drive), but it isn't a Best Buy, being let down by its versatility score.

ULTRA PORTABLE

Desktop replacements are heavier so less easily carried. If it's a small, light laptop you want, the **Fujitsu Siemens P7010 Life Book** (6), £1,459 from www.laptopsdirect.co.uk, is excellent. It's smaller than a sheet of A4, weighs just 1.5kg and is powerful enough for most people's needs – it converted a CD into MP3 files in just over four minutes. That's faster than some laptops more than twice the weight.

Although we didn't test it, the Apple PowerBook 12 inch, £1,049 from www.apple.com/uk, is an option. It's similar to the Best Buy Apple PowerBook (1) and weighs 2.1kg.

ENTRY LEVEL

The **Apple iBook** (9) 14 inch is good value at £900 from www.apple.com/uk. Unless you give it intensive tasks – burning a CD of MP3s took just under six minutes – you'll hardly notice a difference between it and the Best Buy Apple PowerBook (1). Windows users should buy the Sony (10).

Jargon buster

Athlon Name of a processor made by AMD.
Celeron A less powerful, cheaper Pentium processor.
Centrino A collection of computer chips, including a CPU, from Intel for laptops. It allows you to connect to the internet wirelessly.
CPU The computer's processor or 'main brain'. The faster, the better, but you can't simply compare speeds across different brands and types of CPU. Speed is expressed in GHz.
DVD RW or DVD burner Means that you can create, or 'burn', your own DVDs.
Firewire Superior alternative to USB. Useful for quickly transferring digital video from most camcorders to a computer.
G4 Name of the processor found in Apple laptops.
Hard disk or hard drive The long-term storage part of your computer. Capacity is measured in gigabytes (GB). Hard-disk speed is measured in RPM. The greater the RPM, the quicker the drive will read and write data.
Pentium Name of processor made by Intel.
Ram A computer's short-term memory measured in megabytes (MB). The more you have, the faster your computer will run.
USB (universal serial bus) A connector used to plug digital cameras, for example, into a computer.
Video card, graphics chip or GPU A chip that handles 3D graphics, such as those in games and some video-editing software. It often has its own memory, video Ram. You need 128MB of this for the latest games.
Wireless or Wi-Fi (802.11) Lets your computer connect to the internet and other computers wirelessly.

6 FUJITSU
ULTRA PORTABLE

WEIGHT AND SIZE

An 'ultra-portable' laptop is pared down to a minimum weight and size, often without a built-in DVD drive. Instead you plug it in separately. This Fujitsu (6) weighs just 1.5kg. Ultra portables usually have good battery life of around five hours.

An ultra portable doesn't have masses of computing power or hard disk storage – there's 60GB on this Fujitsu. But it's plenty for web browsing and photo editing.

At the other end of the spectrum is the 'desktop replacement' laptop. It offers the capabilities of a desktop computer without taking up the space. Typical features include a more powerful CPU and more storage – 80GB on the Apple (1), for example – and shorter battery life. The picture below shows how an ultra portable (on top) and desktop replacements (underneath) compare in size.

TABLE NOTES

We tested the most popular brands of laptop from our reliability survey ('Buying a new computer,' October 2003, p30).

Specification
Price What you should expect to pay on the high street. Dell sells only by phone or online.
Weight Includes battery.
Processor The processor in the model we tested. Other options may be available. **Hard drive** Other hard drive sizes may be available. **Ram** Other amounts of Ram may be available. **Screen size** w denotes widescreen.

Performance
Overall Speed at which the laptop completed tests, such as burning a DVD. **3D graphics** How well the laptop handled 3D graphics. You need a model rated ☆ to play the latest games. **Battery life** An average based on a mixture of both light and intensive use. **Versatility** Useful features such as a memory card reader or Firewire. **Ease of use** Includes instructions and ergonomics, such as keyboard quality.

KEY

★ ☆ ○ ◒ ●
Best Worst
Best Buy

SCORE

This ignores price and is based on:

Performance	25%
Ease of use	20%
Battery life	15%
Versatility	15%
Screen	15%
Construction, noise	10%

Laptops

DESKTOP REPLACEMENT
1 **Apple** PowerBook 15 inch SD
2 **Dell** Inspiron 6000
3 **Fujitsu Siemens** Amilo A1630
4 **Sony** VAIO VGN-A21Z[b]
5 **Toshiba** Satellite M30X-129

ULTRA PORTABLE
6 **Fujitsu Siemens** P7010 Life Book[c]
7 **Sony** VAIO VGN-S2HP[d]
8 **Toshiba** Portégé R100

ENTRY LEVEL
9 **Apple** iBook 14 inch
10 **Sony** VAIO VGN-B1VP
11 **Dell** Inspiron 510m
12 **Fujitsu Siemens** Amilo Pro V2020
13 **Toshiba** Satellite Pro A60

a Not tested for playing games **b** Being replaced

9 APPLE
ENTRY LEVEL

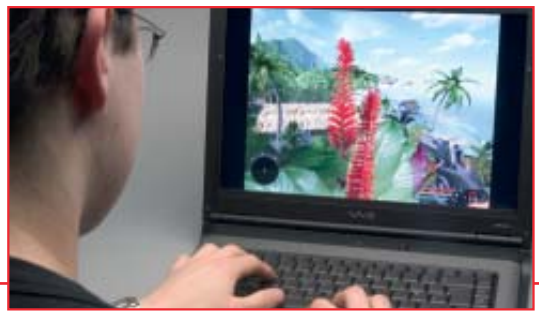
SAVING THE PENNIES

Last but not least, ensure that your chosen model has enough Ram and hard disk for your tasks.

If you want only to write letters, send emails, download music and browse the web, buy a cheaper computer. This Best Buy Apple (9) fits the bill. It has 512MB Ram (although 256MB Ram would do the trick) and a 60GB hard disk, which is ideal if you'll store digital music and take digital photos. If you won't, 40GB will suffice.

If you want to edit video, you'll need at least an 80GB hard disk (an hour of DVD-quality video uses about 2.5GB), 512 MB Ram (although 1GB would be nice) and a fast processor. Faster processors add more to the price.

For playing games, such as the one shown below, you'll need a similarly powerful machine that has a 3D graphics chip. This should be either a GeForce Go 6800 from Nvidia or a Mobility Radeon 9700 from ATI, such as on the Fujitsu Siemens (3) and Toshiba (5). New 3D graphics chips are released every six months or so, so ask whether it's the latest available. Games look better on a big screen, so buy a laptop with at least a 15-inch one.



Specification							Performance					Score
Price (£)	Dimensions hxwxd (mm)	Weight (kg)	Processor	Hard drive (Gb)	Ram (MB)	Screen size (in)	Overall	3D graphics	Battery life	Versatility	Ease of use	(%)
1,580	347x32x243	2.6	G4 1.67 GHz	80	512	15.4 (w)	☆	see[a]	○	☆	☆	66
958	355x41x265	3.1	Centrino 1.6 GHz	40	512	15.4 (w)	○	◒	○	○	○	58
1,100	356x39x270	3.6	Athlon 64 3700+	80	1024	15.4 (w)	☆	☆	○	◒	○	58
1,400	354x35x254	3.4	Centrino 1.7 GHz	60	512	15.4 (w)	○	○	○	☆	○	57
1,200	365x41x273	3.0	Centrino 1.7 GHz	60	512	15.4 (w)	☆	☆	○	○	○	57
1,459	262x36x200	1.5	Centrino 1.1 GHz	60	512	10.6 (w)	○	◒	☆	○	○	59
1,400	313x33x237	1.9	Centrino 1.6 GHz	40	512	13.5 (w)	○	◒	○	○	○	56
1,300	285x40x230	1.1	Centrino 1.6 GHz	40	512	12.0	○	●	☆	◒	☆	56
900	332x33x258	2.7	G4 1.33 GHz	60	512	14.0	○	see[a]	☆	○	☆	63
940	321x43x259	2.3	Centrino 1.6 GHz	40	512	14.0	○	○	☆	○	○	58
1,296[e]	330x43x270	2.7	Pentium M 2.0 GHz	60	512	15.4	○	◒	○	○	○	56
709	335x35x275	2.9	Centrino 1.6 GHz	60	512	14.9	○	◒	○	◒	○	52
685	340x50x290	3.2	Celeron 2.8 GHz	60	256	15.0	○	◒	○	◒	○	49

by VFGN-A317S **c** Processor upgraded to 1.2GHz **d** Being replaced by VGN-S3HP **e** Cheaper if you pick a lower specification