Printers

NEED TO KNOW

We tested three types of colour printer: inkjet, laser and portable photo.

INKJET PRINTERS
The more colours of ink an inkjet printer has, the more accurately it produces the right colours.

Expensive models usually have separate cartridges for each colour; the cheapest have all the colours in one cartridge, so when one runs out you have to replace all the colours.

Image quality also depends on the paper you use. For the best results, use plastic-coated photo paper (up to £1 a sheet).

LASER PRINTERS
Laser printers give slightly more definition on text or the fine detail in images – the powder (or 'toner') they use to print doesn't bleed the way ink does. For the same reason, the type of paper you choose hardly affects printout quality. Lasers are also faster and cheaper to run than inkjets.

On the downside, they can't reproduce colours as accurately. And they're heavier and harder to set up.

PORTABLE PRINTERS
If you fancy something less bulky, try a portable printer.

They produce small photographs – typically 6x4in, though you can get a few different sizes (as with inkjets, you need a special kind of paper).

They're portable only in the sense that they're easy to carry – you still need to plug them into the mains.

1 Canon
INKJET

BEST ON TEST

BEST BUYS

To be a Best Buy, a printer has to produce high-quality output as quickly as possible. It must cope well with a variety of types of printout, such as text and photos, and be easy to use.

INKJET PRINTERS

The most expensive **Canon (1)**, £329 from Jessops, is the best all-rounder. It's the one to go for if you want high-quality photos but you also print a lot of text documents.

The quality of the photos shows itself in details, such as the weave on a fabric. Not everyone notices that fine level of detail – so if you're not a keen photographer, the next **Canon (2)** is the best choice. It does everything well and is the cheapest inkjet on test to run. It's great value at £79 from Jessops, outperforming printers that cost considerably more.

Another **Canon (3)**, £190 from Jessops, offers similar print quality, with an interesting extra – you can print to it wirelessly, without cumbersome wires. All you need is a computer with WiFi. (Its sister model **(4)** is identical but without the wireless capability; it's £100 from Comet, Currys, Dixons, Jessops and PC World.)

For the best photographic prints, nothing we've seen beats the **Epson (5)**, £246 from Jessops. Its prints are lifelike, and full of depth and colour. It's definitely a photographer's printer, less versatile than other Best Buys, and slower at printing text. And you pay a lot for a fairly slight improvement: expect to use £1.46 of ink for every A4 photo, twice as much as the top Canon (1).

Another of the Canons (8) is also worthy of a mention – at £20 from Currys, Dixons and PC World, it's excellent value. It isn't a Best Buy only because it takes a while to churn out photos – 50 seconds longer than the slowest Best Buy.

WIRELESS PRINTING

If your computer is WiFi compatible, you can use this Canon without a connecting cable – the data will fly through the air instead.

It's great news if you carry a laptop around: just plonk it on the desk, switch it on, and start printing. And it's handy for sharing the printer between computers, or if you want to keep your printer in a different room from your computer.

WiFi (also called 802.11b) is the name of the system for transmitting data. If your computer doesn't have it, plug a WiFi device into the USB port or fit a WiFi card in the computer (about £25).

Connect to a printer from the garden

LASER PRINTERS

If you need to print lots of colour pages quickly and cheaply, go for our Best Buy laser printer – the **Epson (13)**, £250 from John Lewis.

It copes well with magazine-style pages, where coloured panels and photographs are combined with plain text. This is a tricky job for a printer because text, solid colour and photos all make different demands. For a laser printer, photo quality is great, with surprisingly three-dimensional and lifelike results.

The Epson's also easier to use than most laser printers; it avoids various minor niggles, which all add up to make a significant difference.

BEST BUY

2 Canon
INKJET

BEST BUY

4 Canon
INKJET

BEST BUY

3 Canon
INKJET

BEST BUY

5 Epson
INKJET

BEST ON TEST

13 Epson
LASER

RUNNING COSTS

Running a printer is expensive. So it's galling when a printer asks you to change the cartridge way before you need to.

The Dell laser (16) we looked at is a case in point. It even brings up Dell's website on screen so you can order new toner cartridges. The trouble is, it says that toner is running out after 1,500 pages: a little premature, given that a cartridge prints around 6,900 sheets in total.

A new colour cartridge for the Dell costs £45. So if you changed it when you were warned, you'd effectively be throwing away £34. It is useful to have some warning before your printer's cartridges expire but it's misleading to have it so early in the lifetime of the cartridge.

If your printer lets you, change cartridges only

Follow this Dell printer's instructions, and it will cost you

when you see the quality of the printouts falling. (Some printers have built-in chips that stop you from printing when they think the ink or toner should have run out.)

PORTABLE PHOTO PRINTERS

Our Best Buy portable printers produce good results whether you're printing from a camera or a computer – surprisingly, the others cope well with only one or the other, not both.

The best one is the **Canon (18)**, £200 from Jessops – photo quality is great direct from cameras, outstanding if you connect to a PC. It doesn't accept memory cards, though, so you need a camera that's compatible with PictBridge (see below) before you can use it on the move.

If your camera doesn't have PictBridge, try the **Epson (19)**, widely available for £130. It produces impressive results from memory cards, PictBridge and PC; and it can even connect to Bluetooth mobile phones. The drawback here is the four-and-a-half-minute wait for a photo direct from the camera (by comparison, the Canon takes around a minute).

BEST ON TEST

18 Canon
PORTABLE

CONNECT TO A CAMERA

If you have a portable photo printer, you can produce prints when you're away from your computer – when you're on holiday, for example.

All the portable printers on test except this Best Buy Canon (18) accept memory cards from digital cameras (though the Dell (21) and cheaper Canon (22) don't take XD cards). You select photos using a screen like the one on the Best Buy Epson – the HP (20), Dell (21) and Lexmark (23) even let you look at pictures on screen.

Another way of connecting printer and camera is using a system called PictBridge. You connect the camera and phone using a cable, and then select pictures through the camera's menu system. Both printer and camera must support PictBridge.

BEST BUY

19 Epson
PORTABLE

Printers

INKJET

1	**Canon** Pixma iP8500
2	**Canon** Pixma iP3000
3	**Canon** Pixma iP4000R
4	**Canon** Pixma iP4000
5	**Epson** Stylus Photo R800
6	**Canon** Pixma iP6000D
7	**HP** Photosmart 8150
8	**Canon** Pixma iP2000
9	**Canon** Pixma iP90
10	**HP** Photosmart 7760
11	**HP** Photosmart 7450
12	**HP** Deskjet 3845

LASER

13	**Epson** Aculaser C1100
14	**Lexmark** C510
15	**HP** Color LaserJet 2550L
16	**Dell** 3000CN
17	**Konica Minolta** Magicolour 2400W

KEY

★ ☆ ○ ◐ ●
Best ➤ Worst

■ Best Buy

SCORE

Ignores price and is based on:
Print quality & speed	55%
Ease of use	20%
Versatility	15%
Environment & construction	10%

TABLE NOTES

We tested the latest releases from the biggest-selling brands.

Specification
Price Typical high-street price.
Mac Whether the printer works with Apple computers using the OSX operating system. For older Macs, check before you buy.

Printing
The portable printers produce only photos, so there are no ratings for text. Instead, we've shown photo quality from different sources: memory cards, digital cameras with PictBridge, and computers.

Using
Ease Quality of help manuals and layout, size and clarity of buttons.
Versatility Takes account of a variety of tasks, such as printing on to CDs. **Memory cards** Printers get full marks if they use all types of card. The Dell (21) and Canon (22) don't take XD memory cards.

Print costs
Costs for inkjets and lasers are for A4 pages. The three-year cost is for one photo, three text pages and two graphics pages a week. Costs for portables are for 6x4-in photos, including paper (you usually buy paper with the ink).

35 more printers on test

The main table shows Best Buys from previous tests, as well as newly tested models – but there are 35 more printers from previous tests still in the shops. See www.which.co.uk/printers for full details.

All-in-ones We also have test results online for printers with built-in scanners; you can use them as a photocopier without turning your computer on.
Here's how the models that are still available fared.

All-in-one printers/scanners	Price (£)	Score (%)
HP Photosmart 2610	230	67
Canon Pixma MP 750	219	66
Canon Pixma MP 780	259	55
Epson CX6600	130	56
HP PSC 2355	150	56

Last report April 2005

Specification		Printing				Using		Print costs				Score
Price (£)	Mac	Text quality	Text speed	Photo quality	Photo speed	Ease	Versatility	Black text (£)	Graphics (£)	Photo (£)	Three-year (£)	(%)
329	✓	☆	○	★	★	☆	★	0.02	0.02	0.71	138	78
79	✓	☆	★	☆	☆	☆	★	0.02	0.02	0.33	79	77
190	✓	☆	☆	☆	☆	☆	★	0.02	0.05	0.66	127	77
100	✓	☆	☆	☆	☆	☆	★	0.02	0.05	0.66	127	76
246	✓	☆	◒	★	☆	☆	○	0.04	0.12	1.46	282	74
199	✓	○	◒	☆	○	☆	★	0.02	0.08	0.64	133	67
150	✓	○	★	★	○	☆	☆	0.03	0.13	0.87	188	67
20	✓	☆	★	☆	○	☆	○	0.04	0.10	0.70	157	62
190	✓	○	☆	★	○	☆	◒	0.06	0.21	1.01	250	61
90	✓	☆	☆	○	◒	☆	☆	0.02	0.09	1.22	227	60
80	✓	☆	○	☆	◒	☆	○	0.02	0.08	0.61	129	54
60	✓	☆	☆	☆	●	☆	◒	0.05	0.17	0.92	220	49
250	✓	★	★	☆	★	☆	◒	0.01	0.05	0.18	50	69
299	✓	★	★	☆	★	○	○	0.01	0.08	0.16	54	66
250	✓	★	★	☆	☆	○	◒	0.01	0.06	0.20	54	65
247		★	★	☆	★	○	◒	0.01	0.05	0.34	69	62
245		☆	★	○	★	☆	◒	0.01	0.07	0.19	55	62

Portable photo printers

MODEL	Specification		Non-PC printing		PC printing		Using		Print costs	Score
	Price (£)	Mac	Memory card	Digital camera	Photo quality	Photo speed	Ease	Memory cards	6x4-in photo (£)	(%)
18 **Canon** Selphy CP600	200	✓	n/a	★	☆	○	○	n/a	0.28	65
19 **Epson** PictureMate Personal Photo Lab	130	✓	☆	☆	☆	◒	○	★	0.26	61
20 **HP** Photosmart 325	130	✓	☆	☆	○	◒	☆	★	0.40	59
21 **Dell** Photo Printer 540	123		○	○	☆	○	☆	☆	0.30	59
22 **Canon** Selphy DS700	170	✓	○	○	☆	◒	○	☆	0.64	53
23 **Lexmark** P315	60		○	○	n/a	n/a	○	★	0.61	52