

Digital cameras

NEED TO KNOW

IMAGE QUALITY

Image quality depends partly on the camera's maximum resolution – or the number of pixels (tiny coloured dots making up the image) it can record. Before deciding how many megapixels (millions of pixels, or Mp) to go for, think about how you'll use the images.

For top-quality, 6x4-inch prints, you need at least 2.2Mp; for 7x5-inch prints at least 3.2Mp; for 10x8-inch prints at least 7.2Mp. You can get good, but not the best, prints at around half these numbers. For viewing on a computer, you can shoot at 1Mp or lower. Reducing the resolution settings shrinks photo file sizes, saving memory card space.

ZOOM

A zoom lets you get closer to the subject. There are two types: optical and digital. Digital zoom helps you get even closer by increasing pixel size, but image quality suffers. Optical zoom is the one to use. Its power is often expressed as a range – for example, 38mm to 105mm. The first figure refers to the lens at its shortest setting. The lower the number, the wider the possible angle of view – useful for landscape shots, for example. The second figure is how far the zoom extends. The higher the number, the closer you can zoom in on distant objects. On a typical compact digital camera, this figure is around 105mm, though some go beyond 400mm.



1 Panasonic

BEST BUYS

Our latest batch of digital cameras ranges in price from £100 to £550. Often, more money buys you more features, a more powerful zoom and more advanced technology for a better overall performance. But you can buy a very good camera for less if you choose well. All those we tested take satisfactory pictures and most are pretty easy to use.

Our Best Buys excel, though: all scored, or just missed, a ☆ for image quality. A lot of them also score ★ for flash pictures. Our Best Buys tend to be a little more expensive, and several cost over £400.

The **Panasonic (1)**, £530 from John Lewis, performed best overall. Shutter delay (the time from pressing the shutter button to the photo being taken) is one of the shortest we've seen at just 0.1 seconds. This is faster than many digital SLR cameras, which are noted for short shutter delays. It's quite heavy at almost 800g, but it has a huge 35-420mm

zoom, one of the biggest. This will really help you capture faraway objects.

It has manual focus, which is useful for close-ups, shooting out of focus for artistic effect, or in dim light, for example, when the autofocus system may not focus on what you want.

It also has very effective image stabilisation, which helps keep photos sharp that might otherwise be blurred by your hands shaking when you don't use a tripod. This blur is sometimes known as 'camera shake'. Image stabilisation is still quite rare on digital cameras, and it's especially useful with a powerful zoom like this one, as camera shake and blurring are more likely when you've zoomed far in. Excellent features, combined with very good image quality and classic good looks, make this a very attractive camera.

The **Fujifilm (2)**, around £320 online, is an excellent choice for close-ups. Shutter delay is also impressively

short. However, its burst mode is limited (see 'Mode settings', above right), and the price doesn't include battery charger or rechargeable batteries. For long-term cost-effectiveness, we recommend you buy a set (about £15).

A 24-85mm lens makes the **Nikon (3)**, £450 online, a fantastic option for landscape shots. Image quality is among the best, too. It also has a feature called 'BSS' (best shot selector). This takes ten images in quick succession and keeps the sharpest. BSS simulates the effect of image stabilisation but it's not as good. Overall, though, the Nikon is a great camera.

At just under 200g, the **Canon (4)**, £280 online, is a light, pocketable camera with a high resolution of 7.1Mp and a shutter delay of 0.2 seconds.

The thinner **Canon (5)** is even lighter, at 152g. Its movie quality is good and, at £180 from PC World, it's our cheapest Best Buy. Like the

MODE SETTINGS

Most cameras, like this Panasonic, have several modes to help you take the best picture under certain conditions. They normally give good results, and are quick to select. Sometimes, you

simply turn the mode dial on top of the camera to the correct position (see above).

Macro mode is very common for detailed close-up, butterfly-on-a-flower-type photos.

In burst, or continuous shooting, mode, the camera takes several shots one after the other, useful for images of a moving scene. Some cameras keep snapping until the memory card is full, while others limit shots taken in this way.

Most cameras have several 'scene modes' for specific scenes and photo effects; some have over 20. In portrait mode, when you stand close to the subject, then zoom in as well, the background goes out of focus, making the subject centre of attention. The closer you get, the more out of focus the background. Photo colour might also be warmer than normal, improving skin tones.

Sports mode freezes movement, such as a ball in mid-air, and is good for capturing action. On some cameras, you can use it with burst mode.

Some modes are rarer. Beach and snow modes, for example, help prevent photos being 'washed-out' in bright sunshine and snow. Party mode helps with indoor photos in dim light.



2 Fujifilm



3 Nikon



4 Canon



Nikon (3) and Canon (4), its zoom power is limited.

The Fujifilm (6), £400 from Comet, Currys and Dixons, has a whopping 9.1Mp, handy if you want top-quality prints a bit bigger than 10x8 inches. It has a powerful 28-300mm zoom lens and, unusually, ISO settings up to 1600 for more control when shooting in dim light. Only a few digital cameras have ISO settings over 400. Its shutter delay is only 0.3 seconds, and it's ready to shoot in just 1.7 seconds. (Some cameras take five seconds or more.) Image quality isn't quite as stunning as on some other Best Buys, but it has no real weaknesses and, overall, it's a great camera.

The 692g Konica Minolta (7), £400 from Jessops, has a 28-200mm lens and image stabilisation but, like the Fujifilm (2), its burst mode (see 'Mode settings', above) is quite limited.

The 1,042g Samsung (8), £550 from Currys, Dixons and



5 Canon



6 Fujifilm

VIEWING IMAGES

You can view pictures on a TV, a great way of sharing them. Nearly all digital cameras, including this Fujifilm and the Samsung (8), come with a video cable to link to a TV's video-in port, which most modern TVs have. Put your camera into playback mode, normally shown by a ► symbol, flick through the TV channels and when the photos appear on screen, scroll through them with your camera's arrow buttons.



You can also use a DVD player that 'plays' Jpeg files (most do) to view photos on-screen. Transfer them from camera to computer, record them to a CD or DVD, insert it, and play. Or link the camera to a DVD recorder or video recorder to create a disc or video tape.

Jessops, is another camera with a big zoom, from 28mm to 420mm. It can zoom in as far as the Panasonic (1), but with its extra-wide 28mm setting, it's also great for landscapes. Shutter delay isn't the best, at about 0.8 seconds, but image quality is good, and it has manual focus and a truly huge LCD screen at the back – great for composing and reviewing.

The **Panasonic (9)**, £330 at John Lewis, has a 36-432mm zoom and image stabilisation, but no manual focus.

The **Nikon (10)**, around £550 online, also has image stabilisation and a powerful 35-350mm lens, but a long shutter delay of 1.1 seconds and a very slow start-up time of nearly five seconds. But its image quality is really impressive. Like the Nikon (3), it's one of the best in this area.

OTHER OPTIONS

Three relatively inexpensive cameras we tested narrowly

missed out on being Best Buys as they didn't excel quite enough. They are good cameras, though, and excellent value for money.

They are the Canon (11), £170 from Comet and Jessops, the Sony (14), £140 from Jessops, and the Fujifilm (16), widely available for just under £200. The Fujifilm is especially interesting. Like the Fujifilm (6), it has an ISO setting of 1600, which is great for taking pictures in dim light without flash.

Two of the cameras we tested, the Nikon (18) and the Kodak (31), have Wi-Fi, enabling you to transfer photos directly from the camera to a Wi-Fi computer or Wi-Fi printer without a cable. However, neither is a Best Buy: in fact, the Kodak came bottom overall. We'll be taking a closer look at Wi-Fi cameras in a future issue.

Digital cameras

MODEL

	Price (£)	Resolution
1 Panasonic Lumix DMC-FZ30	530	8
2 Fujifilm FinePix S7000	320	6.1
3 Nikon Coolpix 8400	450	8
4 Canon Digital Ixus 700	280	7.1
5 Canon Digital Ixus 40	180	3.9
6 Fujifilm FinePix S9500	400	9.1
7 Konica Minolta Dimage A200	400	8
8 Samsung Digimax Pro815	550	8
9 Panasonic Lumix DMC-FZ5	330	4.9
10 Nikon Coolpix 8800	550	8
11 Canon PowerShot A520	170	3.9
12 Canon PowerShot A610	280	5
13 Panasonic Lumix DMC-LX1	450	8.3
14 Sony Cyber-shot DSC-W5	140	5
15 Canon Digital Ixus 55	300	5
16 Fujifilm Finepix F10	195	6.1
17 Olympus SP-500UZ	300	5.9
18 Nikon Coolpix P2	280	5
19 Sony Cyber-shot DSC-T5	280	5
20 Kodak EasyShare P850	380	5
21 Konica Minolta Dimage Z6	300	5.9
22 Canon PowerShot A410	100	3.1
23 Casio Exilim EX-Z110	150	5.9
24 Fujifilm FinePix S5600	280	5
25 Nikon Coolpix S4	330	5.9
26 Sanyo Xacti E6EX	250	5.9
27 Hewlett-Packard Photosmart R817	230	5
28 Canon Digital Ixus i zoom	260	5
29 Olympus SP-350	300	8
30 Samsung Digimax A40	130	3.9
31 Kodak EasyShare one	400	4

USING THE TABLE

We tested the latest models from popular brands, and show all our previous Best Buys.

Specification

Price For Best Buys we give the cheapest widely available high-street price as we went to press. Prices for other models are a guide to what you should expect to pay. Online prices are in *italics*.

Resolution Number of usable pixels – may differ from that stated by the manufacturer. **Optical zoom** The lower the first number,

the wider the angle of view.

The higher the second figure, the closer you can zoom in.

Weight Includes battery, memory card, neck strap and lens cap.

Features

Scene modes See 'Mode settings', p51, for explanation. All these cameras have macro mode. **Burst mode** See 'Mode settings', p51,

for explanation. All cameras except the Samsung (30) have a burst mode. Some limit how many shots you can take in a row. **Link to TV** Allows you to link your camera

to a suitable TV for picture viewing.

Manual focus Lets you focus where you want, useful for close-ups, when autofocusing won't work, or for deliberately shooting out of focus. **Image stabilisation** This counters camera shake.

Performance

Shutter delay A rating of ★ is a delay of 0 to 0.3 seconds, ● is a delay of more than 1.2 seconds.

Viewfinder/screen Includes how visible the screen is, for instance, in adverse conditions such as bright or poor lighting.

KEY

★ ☆ ○ ●
Best → Worst
■ Best Buy

SCORE

Ignores price and is based on:
Image quality 30%
Ease of use 25%
Features 12%
Viewfinder/monitor 12%
Battery life 10%
Flash 8%
Video quality 3%

Specification			Features					Performance					Score
Optical zoom (mm)	Size hxxwxd (cm)	Weight (g)	Scene modes	Burst mode (max photos)	Link to TV	Manual focus	Image stabilisation	Shutter delay	Viewfinder/screen	Ease of use	Image quality	Flash	(%)
35-420	8.5x14.5x14.5	778	15	unlimited	✓	✓	✓	★	☆	☆	☆	☆	73
35-210	8.5x13x11	617	5	5	✓	✓		★	○	☆	☆	☆	72
24-85	9x12x8	514	16	unlimited	✓	✓		☆	☆	☆	☆	○	71
37-111	6x9x2.5	197	10	unlimited	✓			★	○	☆	☆	★	70
35-105	6x9x2.3	152	7	unlimited	✓			☆	☆	☆	☆	★	69
28-300	9.5x14x15	795	6	40	✓	✓		★	☆	☆	○	☆	68
28-200	8.5x11.5x12.5	692	5	5	✓	✓	✓	☆	☆	☆	☆	○	68
28-420	9.5x13.5x17	1,042	12	unlimited	✓	✓		○	☆	☆	☆	★	68
36-432	7x12x9.5	353	10	unlimited	✓		✓	○	☆	☆	○	★	67
35-350	9x12x13	726	16	unlimited	✓	✓	✓	●	☆	○	☆	☆	67
35-140	7x9.5x4	238	14	unlimited	✓	✓		○	○	☆	○	☆	66
35-140	7x11x5	300	12	unlimited	✓	✓		★	○	☆	○	☆	66
28-112	6x11x5	228	15	unlimited	✓	✓	✓	☆	☆	☆	○	☆	66
38-114	6.5x10x4	255	8	unlimited	✓			★	○	☆	○	☆	66
35-105	6x8.5x2.5	155	10	unlimited	✓			★	○	☆	○	☆	65
36-108	6.5x10x3.5	203	6	unlimited	✓			☆	○	☆	☆	☆	65
38-380	7.5x11x8	430	20	unlimited	✓	✓		○	○	☆	☆	☆	65
36-126	6.5x10x4	185	16	unlimited	✓			☆	○	☆	☆	☆	64
38-114	6.5x9.5x2.3	135	10	unlimited	✓			★	☆	☆	○	☆	64
36-432	9x12x9.5	495	17	40	✓	✓	✓	●	☆	○	☆	☆	64
35-420	8.5x11x9.5	490	6	unlimited	✓	✓	✓	○	○	☆	○	☆	61
41-131	5.5x10.5x4	215	9	unlimited				☆	○	☆	○	☆	59
38-114	6.5x9.5x3.5	188	28	unlimited	✓	✓		☆	●	○	○	☆	59
38-380	8.5x12x13.5	520	6	40	✓	✓		★	☆	☆	○	☆	59
38-380	4x11.5x7	270	15	unlimited	✓			☆	○	☆	○	○	59
38-114	6.5x10x2.5	152	8	3	✓	✓		○	○	○	☆	○	58
36-180	6x9.5x3.5	187	9	4		✓		○	○	○	☆	☆	57
38-90	4.5x9.5x2.5	123	11	unlimited	✓			☆	○	☆	○	●	56
38-114	7.5x10.5x5	270	23	unlimited	✓	✓		●	○	●	☆	☆	56
35-105	6x11x4	193	11					●	○	○	○	☆	55
36-108	6.5x11x3	265	17	5	✓			○	○	○	○	☆	47

110 more digital cameras on test

The digital cameras in the table on p51 are recent models, plus our Best Buys. For more details on these and over 110 more models, go to www.which.co.uk/digitalcameras

Video clips These days, most digital cameras can record video, nearly all with sound.

Image quality is lower than with a good camcorder, but it's usually OK for a short clip to view on a PC or TV. If they're small enough, you can email clips to friends or copy them to CD or DVD.

The table below shows the cameras with the best video quality, and their total score.

Last report: Dec 2005

Model	Price (£)	Score (%)
Canon Digital Ixus 40	180	69
Fujifilm FinePix S5500	270	66
Canon PowerShot S2 IS	430	62
Panasonic Lumix DMC-FX8	250	61



7 Konica Minolta



8 Samsung

WIN

We've got five Panasonic Lumix DMC-FZ30s to give away. See p27 for details



9 Panasonic



10 Nikon

