
How to:
■ Control depth-of-field
■ Use the rule-of-thirds
■ Get sharper results
■ Make the most of flash
…and lots more!
Essential
Photo
techniques
explained
IN ASSOCIATION WITH
PENTAX
focused on photography
warehouseexpress.com

Welcome

Use this supplement to master the basics of photography and start getting great shots

Remember when you first started taking pictures? I can. I went out with my first SLR (a Miranda Automex III) with so many photographic techniques racing around my head that I didn't know which one to use when. Inevitably, I ended up with a right load of dross!

It's for that very reason that when we hatched a plan for this second in a series of three beginner-friendly supplements, we wanted to cover all the key photographic techniques that no self-respecting snapper should be without. Contained within these pages are, among other things, the secrets to depth-of-field, the facts you need to know for great composition and a demystification of apertures and shutter speeds. If you're new to picture-taking, this supplement will have you taking better pictures in no time. If you're an old photographic hand, this is a great opportunity to brush up on your techniques.

When you've read it, please let us know what you think. You can contact me via email, roger.payne@archant.co.uk, but I'd also encourage you to visit our new-look website. Register at www.photographymonthly.com and you'll be able to upload pictures to your own gallery, comment in our forums and pick up a whole load of extra tips and techniques.

You can also download our first supplement, *Master Your DSLR in Minutes*, if you missed it on the news-stand.

I'll see you next month.

Roger Payne, Editor

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What's the problem?

Are your pictures plagued by user-error, failure to read the camera manual or a disengaged brain? Here's *PM*'s round-up of the most common picture faults – and how to fix them

"WHY ARE MY PICTURES SHAKY?"

Turn to page 8 for advice on how to combat camera shake.

"THE SUBJECT'S OUT OF FOCUS"

The solution lies in your AF points. Find out more on page 12.

"THE SUBJECT HAS COME OUT BLURRED"

It's a question of shutter speed. The answer's on page 10.

"HOW DO I DISGUISE A BUSY BACKGROUND?"

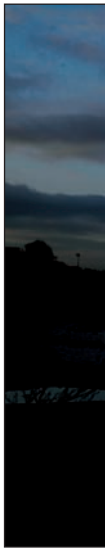
Controlling depth-of-field will help, so turn to page 13 now.

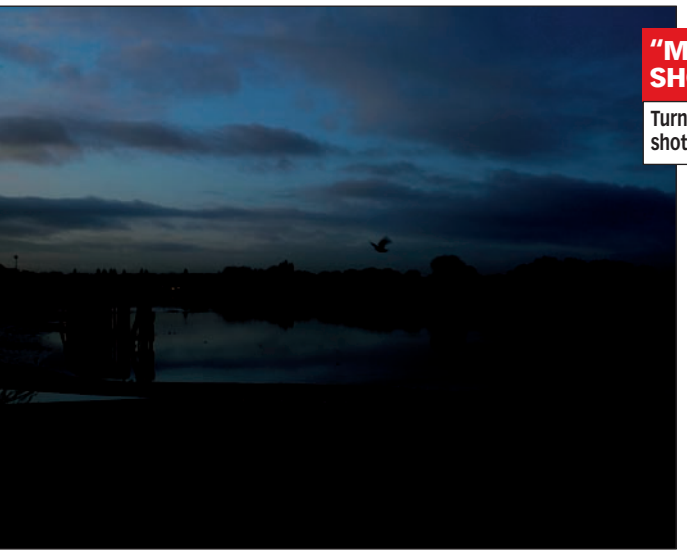
"THE FLASH TURNS MY SUBJECT WHITE"

Find out how to harness the power of your DSLR's pop-up flash on page 16.

"THE SUBJECT'S LOST IN THE FRAME"

Get hints and tips for successful composition on page 22.





"MY LOW-LIGHT SHOTS ARE RUBBISH"

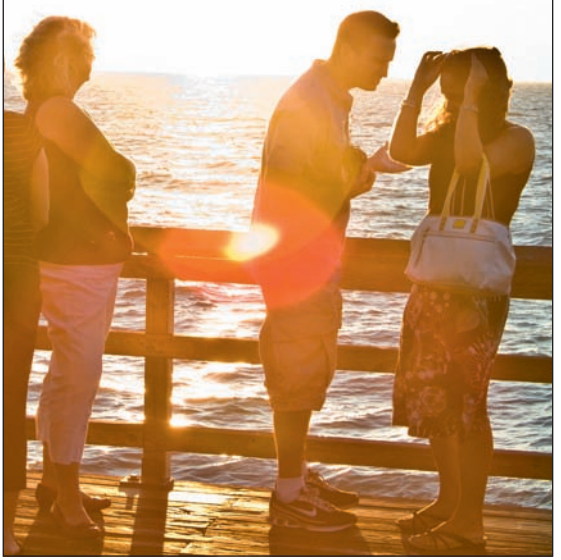
Turn out sparkling night-time shots with our advice on page 26.

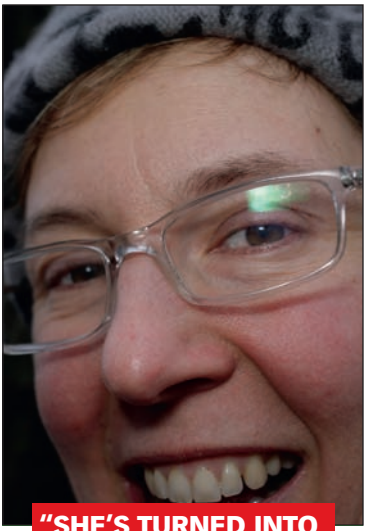
"WHY ARE MY SHOTS SO PALE?"

If your images are too bright, or too dark, get to grips with correct exposure on page 18.

"THE SUN'S RUINING MY PICTURES"

Read page 20 to find out how to get succesful backlit shots.





"SHE'S TURNED INTO PINOCCHIO! WHY?"

Bad lens choice, that's why. Turn to page 28 for help choosing the right lens for the job.

Say goodbye to **camera shake**

When it comes to taking sharper pictures, it's useful to know the difference between shots suffering from camera shake and those showing signs of subject movement or poor focusing.

- **Camera shake: movement blur occurs across the entire picture area, usually in one direction.**
- **Subject movement: scene is relatively sharp – with only the subject looking soft or blurred (see page 10)**
- **Poor focusing: main subject is out of focus. Focus point is locked onto another part of the image – possibly the background (see page 12).**

What causes camera shake?

If you see signs of camera shake in your pictures it simply means you're using a shutter speed that's too slow to hold the camera steady.

Most people can hold an average-sized DSLR and standard 18-55mm zoom steady at around 1/60sec or faster. Any slower (say, 1/4sec) and you'll start to see camera shake. This becomes more pronounced the longer the exposure and the longer the lens.

If you switch to using a longer lens, you have a greater risk of camera shake – not least because telephoto zooms (eg. 55-200mm) and superzooms (eg. 18-200mm) tend to weigh more, but also, they magnify the blurry effects of camera shake more, too.

Most modern DSLRs offer some form of image stabilisation mechanism (see panel below right), promising up to three f-stops greater camera steadiness. This means, with image stabilisation, you should be able to get steadier shots at around 1/6sec, using a standard 18-55mm lens.

How to combat shake

There are lots of ways to beat camera shake. First, learn how to hold the camera steady – brace yourself with weight evenly balanced, elbows tucked in and breathe out as you gently squeeze the shutter.

Next, if you're working handheld, always choose 1/60sec or faster, depending on the lens you're using. As a rule of thumb, if you've got a telephoto zoom on the camera (covering, say, 55-200mm) pick the longest focal length and translate it into a corresponding fast shutter speed (in this case, around 1/200sec).

Finally – be sure to rest the camera on something. If you don't have a tripod, lean against a wall or sturdy tree. Try to avoid touching the camera during the exposure by using a cable release, self-timer or remote control.

COLIN VARNDELL

COLIN VARNDELL

ABOVE **There are several ways to combat shake: you can use a faster shutter speed, a tripod and/or image stabilisation technology. Make sure you use one of them to avoid this kind of wobbly result.**

Lens and camera stabilisation

Manufacturers have devised two main ways to combat camera shake.

■ Mechanical image stabilisation uses an in-camera system (as in Sony's Alpha cameras) where, as camera movement is detected, the camera's sensor moves to compensate – maintaining image projection onto the image plane. The advantage here is that the image is stabilized regardless of which lens is used.

■ Optical image stabilisation (eg. Nikon's Vibration Reduction and Canon's Image Stabilising lenses). This works by varying the optical path to the sensor – using a floating element inside the lens itself. This is moved by electromagnets to keep the lens aligned with the vibration detected using gyroscopic sensors. Some lenses have a secondary mode that combats vertical shake only – useful when panning (see page 11).

Freeze & blur **action**

Moving subjects represent one of the most exciting challenges in photography. Whether you want to freeze the subject mid-action to capture a moment unseen by the naked eye, or record the movement as a more flowing, blurred element in a scene, learning to use different shutter speeds will open up a wealth of new creative opportunities.

COLIN VARNDELL

RIGHT **The key to freezing a moment of action is a fast shutter speed. Set shutter-priority mode, 1/500sec or faster to freeze a bird's wings and let the camera worry about the aperture.**

BELOW **Different shutter speeds create different effects. A slow speed of one second or longer blurs the waterfall, while 1/30sec shows greater sharpness.**

LEE BEEL

Freezing action

Locate the camera's exposure mode dial and select 'Tv' or 'S'. This refers to shutter-priority mode, which will allow you to select any shutter speed you want, while the camera will automatically select the correct corresponding aperture to ward off under- or overexposure (see page 18).

Now, try to assess how fast your subject moves. Action can generally be grouped into four categories (see the chart opposite) with corresponding shutter speeds to freeze it – 1/8000sec being the fastest shutter speed available on modern DSLRs. If you take a picture and find the subject is blurred, keep selecting a faster shutter speed until you can freeze it sharp. It's usually just a matter of trial and error, zooming in on the image on your LCD monitor to assess sharpness.

You may find you can't select a fast enough shutter speed to freeze the action – perhaps the camera will tell you 'shutter speed too fast' or the shutter speed will start flashing. This means there's insufficient light to make a correct exposure (see page 18) or that your lens doesn't have a sufficiently wide maximum aperture to make a correct exposure. If this happens, try increasing the ISO setting from ISO 100 to ISO 200 or 400.

Blurring movement

Using a deliberately long exposure (sometimes called a 'time exposure') turns a moving subject into a blur. This technique works brilliantly with natural subjects such as waterfalls, waves and trees, but also looks great at dusk, for moving cars and fireworks (see p26).

PETER ATKINSON/DEEPING CAMERA CLUB

ABOVE **Grab a piece of the action. To get a sense of movement in a shot, follow the subject through the frame. This technique is called panning – and practice makes perfect!**

For best results you'll need a tripod to keep your DSLR stock-still during the exposure and make sure the rest of the scene stays nice and crisp. Select shutter-priority and the slowest shutter speed available. If the shutter speed flashes, there's too much light available, so reduce the ISO setting if possible. If it's still too bright, wait for light levels to drop or invest in a neutral density filter.

Panning

Freezing a moving subject mid-action is all very well, but can lead to static, boring images. Panning is a more advanced technique that introduces an element of movement-blur to the background, while keeping the subject reasonably sharp.

The technique works best with subjects that move across the picture. Stand with your feet hip-width apart and keep your elbows tucked in. Now, with shutter-priority set, select a slightly slower shutter speed than you would to freeze the subject. As the subject enters the viewfinder, gently squeeze the shutter, smoothly turning your body (like a golf swing) to follow the subject movement during the exposure.

The viewfinder will black out as you press the shutter, but if you follow the subject at the right speed and same orientation as the line of movement, you'll end up with an image where the subject is fairly sharp but the background is transformed by the streaks of your own movement.

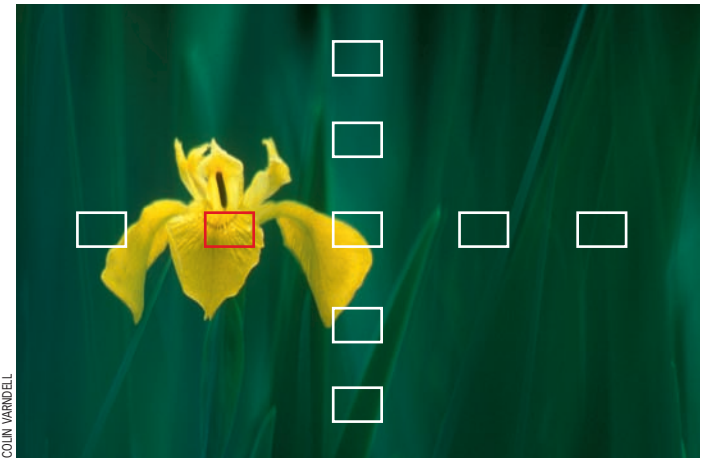
ESTIMATED SHUTTER SPEEDS

	FREEZE	PAN	BLUR
FAST			
Motorsport	1/2000sec	1/1000sec	1/500sec
Birds in flight	1/500sec	1/250sec	1/125sec
MEDIUM			
Child on bicycle	1/250sec	1/125sec	1/60sec
Football in the park	1/250sec	1/125sec	1/60sec
SLOW			
Pedestrian	1/125sec	1/60sec	1/30sec
Waterfall/waves	1/125sec	n/a	1/8sec

Use **AF points**

DSLRs use autofocus to measure the distance between the camera and subject. Your camera displays little squares or brackets in the viewfinder that indicate the areas it uses to focus. When you focus the camera, you need to place these squares over the intended subject.

Most DSLRs have between three and 11 focus points to choose from. A top DSLR may have up to 51 AF points (!), but many professionals prefer to select just the centre ones – because it allows for more control.



COLIN VARNDELL

ABOVE **For tricky scenes, select the focus point yourself. Modern DSLRs allow you to choose which of the focus points are active; they're usually identified by another colour in the viewfinder.**

Types of autofocus

DSLRs offer three types of autofocus:

■ Single-shot autofocus allows you to lock the focus for a single image by keeping the shutter button pressed halfway down. This is ideal if you want to compose your subject off-centre in the frame, as you can lock the focus on the main subject then recompose.

■ Continuous focus directs the camera to keep adjusting focus on a moving subject, as long as you keep it under the AF focus points and the shutter button pressed halfway. This is best used for action or fast-moving subjects.

■ Auto-Servo or AI Focus allows the camera to automatically change from single-shot to continuous focus if it detects movement in frame.

Soft results

If your image looks blurry, it could be down to the autofocus focusing on the wrong thing – especially if the subject is blurred but the background is sharp. It could also be down to a dirty lens or a slow shutter speed, so give your lenses a good clean and make sure the shutter speed is above 1/60sec, if you don't have image stabilisation lenses. Remember that to maintain the correct exposure when you increase the shutter speed, you'll need to choose a wider aperture, or raise the ISO speed.

Switch to manual

Sometimes it's best to turn your autofocus off and use manual focus; look for a switch saying 'AF/MF' on the camera body or on the lens barrel.

When a subject is stationary and off-centre, for example, it's sometimes easier to set the focus using AF and then switch to MF to prevent the AF 'hunting' for the subject. Also, when you're shooting right up close to your subject or using a macro lens, depth-of-field can be so shallow you're better off switching to MF and rocking back and forth till the subject comes into focus.

> "Most DSLRs have up to 11 focus points. A top DSLR may have 51!"

Another reason to switch to MF is that when shooting timid wildlife, the noise your AF motor makes can startle the subject. Instead, choose manual focus, rather than watch your subject take flight.

ADAM BURTON

Control depth-of-field

ALEX HARE

ABOVE To blur the background and isolate the subject, you need to get to grips with depth-of-field via your camera's aperture dial.

Manipulation of depth-of-field using your camera's aperture dial is an important creative skill. Once you've mastered it, you can turn a busy background out of focus and keep landscapes looking sharp as far as the horizon.

Don't be daunted by depth-of-field – it's only lens physics that determine what's sharp and what's not in your pictures. When you focus the lens, whether manually or using autofocus, you're determining the sharpest point of the scene. There may be details in front of or behind this

point that are also acceptably sharp: this sharpness zone in the image is called depth-of-field.

Another way of putting this is to say that depth-of-field is the distance between the nearest sharp object and the farthest sharp object from the camera.

Depth-of-field depends on three main factors:

- **the focal length of your lens**
- **the camera-to-subject distance**
- **the f-stop or aperture you choose.**

Focal length

As a rule of thumb, the longer your lens' focal length, the less depth-of-field you get, aperture-for-aperture (all other things remaining equal).

Doubling the focal length of your lens reduces depth-of-field by a factor of four, which means that depth-of-field gets much shallower at 55mm than at 18mm. Therefore, to ensure great depth-of-field in a landscape, you should always shoot at the shortest, widest end of your zoom. So for a standard 18-55mm zoom, you'll want to use the 18mm setting.

The opposite applies at the telephoto or 55mm end of your standard zoom. Depth-of-field is much shallower here and this is fantastic for portraits. A shallow depth-of-field means you can isolate your subject against a soft, out-of-focus background, disguising clutter and giving the subject more impact.

FOCAL LENGTH

TIM GARTSIDE

ABOVE **At the short end of a zoom, depth-of-field (front-to-back sharpness) is greatest.**

Focusing at the hyperfocal distance

MARK VOCE

This technique involves adjusting your focus to achieve even greater sharpness at small apertures. The focus position that gives greatest depth-of-field at a given aperture is called the hyperfocal distance. To find it (approximately), set a small aperture such as f/16 and focus about two-thirds into your picture. Even if the focus distance is closer than infinity, the far limit of sharp focus will be equal to infinity – which means even the far horizon will look sharp with the lens focused at this position.

Camera-to-subject distance

It's a curious fact that if you stand with your camera far away from your subject, both the subject and its background are likely to appear in focus. Move closer to your subject and you'll throw the background out of focus. The closer you are to your subject, the more the background will blur (subject-to-background distance also affects how blurred the background will look).

Your aperture setting

Perhaps the easiest way to control depth-of-field is to turn your camera's mode dial to aperture-priority (A or Av).

ABOVE **Zooming in leads to shallower depth-of-field.**

APERTURE (F-STOP)

TIM GARTSIDE

ABOVE **Compare these shots: the left-hand image was shot at f/2.8, while the right-hand image was taken at f/22, so it's sharp from front to back.**

CAMERA-TO-SUBJECT DISTANCE

ALEX HARE

ABOVE **Get physically closer to the subject to blur the background more.**

This mode allows you to set the aperture, while the camera selects a corresponding shutter speed to obtain a correct exposure.

A wide aperture such as f/4 gives shallow depth-of-field, while a small aperture such as f/16 increases depth-of-field. This means that f/4 will help to isolate your subject from its background better than f/16. Select f/16 and you can ensure everything from near to far is pin sharp. That's obviously good for landscape photography, where you want pin sharp foreground interest to lead the eye into the picture.

> "Select f/16 to ensure everything is pin sharp, great for landscapes"

You could shoot at f/22 or smaller for maximum depth-of-field. The famous landscape photographer Ansel Adams liked shooting at f/64, but this is only possible on large-format cameras, since a typical DSLR zoom lens stops down only as far as f/22 or f/32.

Maximum depth-of-field is achieved with a wide-angle focal length at a small aperture, focused at medium distance. The reason for focusing at medium distance is down to something called the hyperfocal distance (see panel).

Use **flash**


FILL-IN FLASH

Your DSLR's pop-up flash is a powerful creative tool when you learn how to control it. In Auto modes it will pop up by itself when the camera detects light levels are low. This is fine for quick-fire situations such as parties or indoor snaps, but results are better when you control your flash more – adjusting its output for fill-in, eliminating red-eye, making flash-and-time exposures or switching the flash off altogether. You can also place objects in front of the flash unit to modify its light. These could be a shop-bought flash diffuser, a sheet of fine tissue paper or even kitchen roll.

Fill-in flash

This mode makes the flash fire regardless of whether you're indoors or outdoors, in bright sunlight or in shade.

If it's a sunny day and you're taking a portrait, harsh shadows are cast under the eyes and nose. Fill-in flash can lighten the shadows, resulting in a more balanced-looking picture. To select fill-in flash, manually pop the flash into its up position when you're taking a picture.

Your DSLR may feature flash exposure compensation for subtler fill-in effects. The button is indicated by the lightning symbol next to the +/- exposure compensation symbol. Dial in -1 or -2 flash exposure compensation to reduce the amount of flash required.

Red-eye reduction

If you've ever taken a picture of someone with a built-in flash unit, you'll have already come across red-eye. This occurs because the flash reflects straight off the subject's retina inside the eye and the result is an all-too-familiar demonic countenance. In red-eye reduction mode, the camera either sends out a beam or else fires several pre-flashes a moment before exposure, causing the pupils to contract and thus reducing the amount of light reflected back. You may need to warn your subject beforehand though – a red-eye reduction strobe may confuse them!

Flash-and-time

If you're taking portraits in low light, you can opt to make a long exposure alongside the fill-in flash – a technique known as flash-and-time, slow sync flash or sometimes, night portrait mode. This results in a more even balance between your flash-lit main subject and the background, lit by ambient light. First switch to manual exposure mode (M), take a meter reading and select a shutter and aperture combination that will expose the existing light levels correctly. Now pop up the flash.

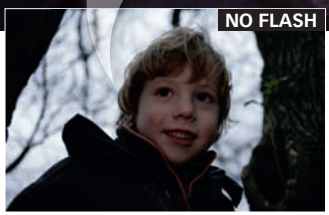
Modifying your flash

There are some pitfalls to using your DSLR's built-in flash unit. Firstly, if your subject stands right up against a wall, the flash will cast dark, well-defined shadows immediately behind the them. To avoid this, bring them a few steps away from the wall.

Alternatively, place a diffusion material in front of the flash to soften the light, such as a piece of tissue paper or a shop-bought diffuser. Your camera's through the lens (TTL) light meter will automatically compensate for the diffuser.

> "Fill-in flash can lighten harsh shadows"

Despite all these modes, there are times when you want to turn the flash off because you like the quality of the existing light. This is especially true early in the morning or evening – just remember to use a tripod instead.



JULIAN LASS

ABOVE Selecting fill-in flash removes shadows from faces, brightening portraits and creating a more balanced-looking image.

Buying a dedicated flashgun

Your camera's built-in flash is a great way to start with flash photography, but buying a dedicated flashgun for your DSLR allows for even greater power and control.

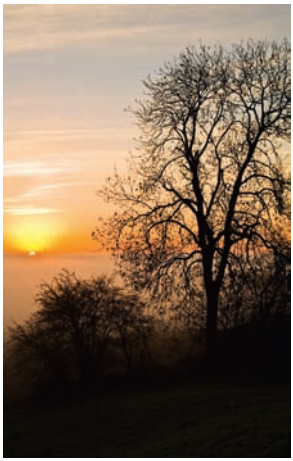
By taking the dedicated flashgun out of the camera's hotshoe you can gain even greater flexibility – but you will need the correct synchronisation cord (or 'sync lead'), for your camera and flashgun. The advantage is that you can precisely angle the direction of the flash for more flattering results, and combat red-eye with ease.

A flashgun offers more control.

Make correct **exposures**

The brightness or darkness of an image depends on the amount of light that strikes the sensor. If insufficient light hits the sensor, your image will look dark or underexposed. If too much light hits the sensor, you get a washed-out, overly bright or overexposed image.

Two main factors determine the amount of light reaching the sensor: the aperture and shutter speed*. Both aperture and shutter speed must work together in order to produce a correct exposure.



WAYNE BRITTLE

ABOVE **Where you meter from makes a huge difference to exposures. With extremes of light and dark, metering from a mid-tone avoids potential problems.**

Aperture-priority mode

To become more aware of exposure, it's best to experiment with the semi-automatic modes, aperture-priority (A or Av) and shutter-priority (S or Tv). In aperture-priority, you select the aperture while the camera chooses the correct shutter speed, and vice versa in shutter-priority. These modes are great for learning how shutter speeds and aperture values relate to each other.

Try this small experiment. In aperture-priority, set f/16 and look at the front of the lens. As you take a shot, you should be able to see the aperture window inside close down to a small hole. Now select a wide aperture such as f/4. You won't see the aperture close down much at all, which shows f/4 is a wide aperture. A wide aperture lets in more light than a small aperture. Setting a wide aperture is useful for low-light shooting (see page 26), while selecting a small aperture is good for increasing the depth-of-field (see page 13).

Fast and slow lenses

Some lenses have a maximum aperture of f/2 or even f/1.4. These are 'fast' lenses, because they allow you to select a faster shutter speed in low light. Most zooms supplied with DSLRs have a maximum aperture of f/3.5, which though wide compared to f/16 is slow when compared to a fast lens.

Thinking in f-stops

Both apertures and shutter speeds are measured in 'stops' and it's useful to learn the standard sequences by heart.

■ The aperture sequence is usually more restricted as it's determined by the speed of the lens in use. From widest to narrowest, the sequence goes: f/2, f/4, f/5.6, f/8, f/11, f/16 and f/22. DSLRs also allow you to choose half or third values between these 'f-stops'. For example, the aperture halfway between f/5.6 and f/8 is f/6.7.

■ The shutter speed sequence, from slowest to fastest, goes: 30 seconds, 15, 8, 4, 2, 1, 1/2sec, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/4000 and 1/8000. As with apertures, your DSLR selects values between these full stops, so 1/90sec is halfway between 1/60sec and 1/125sec.

> "Aperture and shutter speed work together"

Each f-stop increase in aperture represents a halving of the light, so by stopping down from f/4 to f/5.6 you're reducing the amount of light entering the lens by a half. If you use aperture-priority, the camera compensates by doubling the exposure length, going down a stop from 1/500sec to 1/250sec.

*Your ISO rating also affects exposure but for now, let's keep it set to ISO 100 so one of the variables remains fixed.

CRAIG ROBERTS

ABOVE What a difference a stop makes. If your first attempt is too bright (top), the shutter speed is too long, letting in too much light, so switch to a faster speed (main). Too fast, though, and there won't be enough light, underexposing the scene (above).

Where to meter from?

Whatever the scene before you, your camera assumes it has 18% reflectance – the average brightness of a typical scene. However, some subjects, such as a snowy landscape, or a black cat lounging on a pile of coal, are not 18% grey. Snow for example has between 90 and 100% reflectance.

You can compensate by identifying an appropriate mid-tone area and switching the camera to spot metering to take a reading. The skin on the back of your hand reflects roughly 18% of light, as do both grass and pavements.

Place the spot-metering circle in the centre of your viewfinder over your mid-tone area and press the shutter button halfway to lock the exposure while you recompose. Sometimes you may have to make your own DIY mid-tone to meter from, in the form of an A4 sheet of mid-tone grey card. Position it in the same light/shade as your subject and make sure it's parallel to the front of your lens when you take a meter reading from it.

Shoot backlit subjects

Everyone loves shooting on a sunny day, but when the sunlight shines from behind your subject, or when you're shooting directly into the sun, it can be difficult to meter correctly. Typically this leads to underexposing the backlit subject – turning it into a silhouette. This looks great at sunrise and sunset, but if you want to keep the shadow detail instead, you have several options:

■ Switch to spot metering – a more selective form of metering which requires you to go in close and take a reading from the shaded subject.

■ Dial in a few stops of exposure compensation. This involves pressing the exposure compensation button, normally marked as +/-, and selecting +1 or +2. This will cause the background to be overexposed, but the shaded subject will brighten.

■ Use fill-in flash. Pull up your built-in flash unit and it will fire a blip of flash to help balance exposure between subject and background.

CRAIG ROBERTS

Combat flare

Ever spotted ghostly images in your shots, or rainbow-coloured rings? This is called lens flare and it's often hexagonal in shape as this is the shape of the lens aperture.

When you're using Live View, lens flare sometimes appears as a stripe across the LCD, but doesn't record like that. It's caused by sunlight hitting the front lens element. You can minimise it by using an inexpensive lens hood, or shading the lens with a hand or card, known in the trade as a 'flag'. You can also reduce it by keeping the front of your lenses spotlessly clean and removing dust and greasy fingermarks.

If you're using a lens hood, be sure to buy the correct one for your lens to avoid vignetting. This is when the hood sneaks into frame, appearing as dark shadows in the corners; it occurs mainly with wide-angle lenses.

> "Backlighting can cause flare – and silhouettes"

WAYNE BRITTLE

TOP **Shoot straight into the sunlight and you'll get flare. Which, depending on your taste, can add to your image.**

LEFT **At sunset, meter from a bright spot, but not the sun itself to render a shapely backlit subject as a bold silhouette.**

RIGHT **Backlighting provides a lovely effect here; compare it to the inset image, which was shot in frontal sunlight.**

COLIN VARNDELL

Understanding **composition**

It's a fact of life that beautiful landscapes and beloved friends and family don't always translate into beautiful photographs. If you want to do justice to a scene, here are some compositional tricks and techniques you can use to make the most of what's in front of you.

MARK SUNDERLAND

ABOVE **Be prepared to spend time exploring your subject from every angle, looking for dynamic shapes in the viewfinder.**

Use your feet

Whenever you're faced with an inspiring subject, it's best to set some time aside to explore it properly with your camera. Be prepared to walk right around it, vary your shooting height, and ask yourself what it is that looks so compelling. See if you can isolate that component. Be prepared to return in better lighting if possible, with a tripod or even a step ladder. At the very least get out of the car! The best shots nearly always involve a little physical effort, time and thought on your part.

Keep it simple

Many potentially great photos are spoiled by having two subjects that compete with one another; others are spoiled by a too-cluttered background or by some unwanted object sneaking into frame. The art of creating great pictures is in distilling the image down to its constituent parts and leaving everything else out. This means keeping composition as simple as possible, thus increasing impact.

Lead-in lines

Train your eye to start seeing strong linear elements such as roads, paths, walls, telephone wires, streams, fallen tree trunks etc as potential 'lead-in' lines. These are lines that will direct the eye from the edge of the picture area into the middle of the picture, or toward the main subject. They don't have to be straight: some of the most compelling landscape views use curvy natural lines (such as the sweeping line of a sandy bay) to direct the eye.

Foreground interest

Ironically, many of our grandest landscape views (giant mountains, enormous skies etc) fail as photographs because there's nothing interesting in the foreground to help anchor the scene. Too often, all the interest occurs

> "The best shots involve effort, time and thought"

ADAM BURTON

Split the image into thirds

The rule of thirds has been employed to bring visual harmony to images since Georgian times. The rule states that a picture should be divided into an imaginary grid of nine equal parts by equally-spaced lines, two horizontal and two vertical. Important compositional elements – the horizon, a lone tree, a boat at sea – should be placed along these lines or their intersection for greatest impact.

far away on the distant horizon so there seems to be nothing in particular to look at. This is especially true in wide-angle landscapes where the short focal length seems to push the horizon even further away. Foreground interest acts as a stepping stone into the scene, making it seem less remote, also providing a sense of scale for those distant mountains.

CRAIG ROBERTS

ABOVE **Add some interest to the foreground of your landscape shots. Boulders, stepping stones and flowers can all be pressed into service.**

CRAIG ROBERTS

Natural elements to use as foreground interest might include a shapely rock that says something about the geology of the area, or a handy clump of wildflowers.

Don't forget to use a small aperture and focus two-thirds of the way into the composition, to bring the whole scene sharp using hyperfocal distance (page 14).

Using colour

Colourful subjects make a powerful statement all on their own. Look for opportunities to isolate colour and fill the frame with it – especially where two contrasting or two complementary hues are close together. Limiting the colour palette in this way helps draw more attention to the subject. Likely contenders to try include a lone red poppy in an otherwise green meadow or field of oilseed rape; a billowing red deckchair abandoned on a sandy beach; a yellow balloon floating in a clear blue sky.

Dynamic diagonals

Triangular shapes have a certain sharp, directional energy about them, so sometimes it pays to seek them out for pictures. Another idea is to try aligning the camera on a squiffy angle to make a vertical or horizontal subject look more eye-catching, looming across the frame to form a diagonal line.

In a similar way, for portraiture and still lifes, many professionals try to photograph their subjects in groups of three or five, for instance positioning the faces so they make a subliminal triangle shape rather than a more regimented straight line.

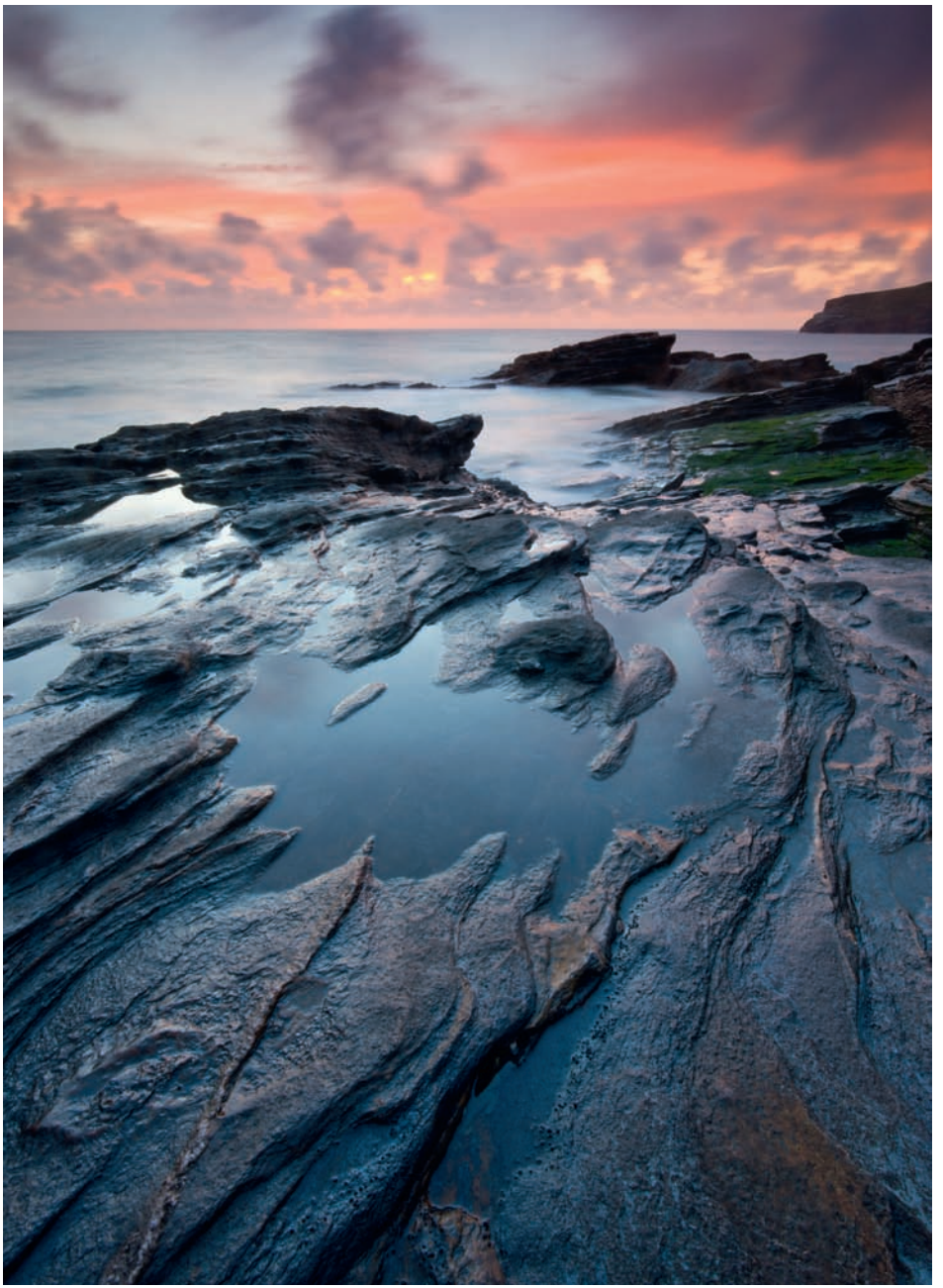
ABOVE **Bold colours and dynamic diagonals can create eye-catching shots – especially with a punchy blue sky as a backdrop.**

RIGHT **Here the rocks work as lead-in lines and foreground interest, revealing texture and subtle tones.**

Turn camera on its side

One of the simplest ways to alter composition and sometimes improve it is to turn the camera on its side. We get so used to holding the camera horizontally at eye level that if we turn the camera vertically for a change and crouch down or stand on a chair, the composition is always given a bit of a shake up.

The best time to use the camera on its side is when you're shooting a head-and-shoulders portrait or tall still life – you'll fill the frame with the subject more comfortably.



ADAM BURTON

Street lights and car headlights can add some real colour to a twilight shot. The shutter speed is likely to run into several seconds so don't forget your tripod.

TIM GARTSIDE

Working in **low light**

When light levels are low, you need a little ingenuity to avoid underexposure and camera shake – but the results are well worth the extra effort!

In low light, your camera's light meter will suggest you either: a) use really long exposures b) use loads of automatic flash and/or c) use a really high ISO setting.

Both a) and c) are fine, but can lead to pictures spoiled by image 'noise'; option b) will just look horrible: imagine trying to shoot a sunset using flash!

The whole point of low-light photography is to make the most of the colourful ambient light at the extremes of day – whether natural or man-made. Too much flash will quickly kill the atmosphere.

TIM GARTSIDE

Shooting outdoors

For scenic shots at dawn and dusk, the best approach is to switch to aperture-priority, turn off the flash and set the ISO to 100. Put the camera on a sturdy tripod and choose either auto white-balance or daylight – you don't want the camera to try to correct the warm colour cast at sunrise and sunset.

Now decide how you want the subject to record. At sunrise and sunset the contrast between the sky and foreground is often so great you have little option but to turn the foreground completely black by metering off the sky. This can look very dramatic if you've chosen a shapely, graphic subject to silhouette, such as a bridge.

If the main subject is a building or urban scene, it's best to wait until the window, street and traffic lights come on at dusk, adding a colourful mix of artificial lights to the composition. This time of day is sometimes referred to as 'The Golden Hour' – when there's still colour from the afterglow of sunset at the same time as all the town lights have been switched on.

Making a correct exposure in these low-light conditions is often a matter of trial and error even for the most experienced professionals. Take a centre-weighted meter reading from the subject itself at around f/8. The camera will automatically select a corresponding shutter speed that may extend to several seconds; make sure you don't jog the camera!

LEFT **Set the camera on a tripod for silhouette shots like this. Using aperture-priority, select f/8 and meter from the sky to record the rich colours of sunrise and sunset.**

Shooting low light indoors

If you're after a few discreet candid portraits of friends and family indoors without the fuss of setting up the tripod, it's best to avoid flash and instead select a higher ISO (around ISO 400-800). This way you'll be able to make the most of the available window light, handholding the camera with less risk of camera shake. If results look blurred, switch to a higher ISO (see Dealing with image noise, below).

In the evening, a gentle blip of fill-in flash may be necessary (see page 16).

Dealing with image noise

Image noise is the grainy multi-coloured speckling you get with very long exposures (eg. 10 seconds or longer) or using high ISO settings (eg. ISO 800-6400). Noise makes edges look soft, reduces image definition and spoils resolution of detail.

With long exposures, image noise can occur in the form of 'stuck' pixels. Some DSLRs combat these wayward pixels using long exposure noise reduction (NR) mode, where the camera automatically takes a 'dark frame' of the same length as the main exposure, with the shutter closed. The dark frame is used to help the camera's sensor identify and remove any stuck pixels in the main image.

One problem with NR in-camera is a tendency to blur the image edges – a small compromise to make. If your camera doesn't have NR, you can download NR software, such as Noiseware Community Edition, Noise Ninja or Neat Image. Otherwise, stick to ISO settings below ISO 400 or tackle any problem areas using your imaging software, afterwards.

ANGIE SHARP

ABOVE **For fireworks, use a tripod, ISO 100 and f/8. Keeping the shutter open on its B setting, slip a piece of card over the lens between explosions.**

MATT WHORLOW

ABOVE **With long exposures of 10 seconds or more, switch on your camera's noise reduction mode. If your camera doesn't have it, stick to ISO 400 or lower to avoid unsightly speckles.**

Choosing the **right lens**

Focal length is measured in millimetres and determines both the angle-of-view and the size of the subject in the frame.
■ A telephoto lens has a long focal length, which magnifies a subject and means you can stand further away from it, but has a narrow angle-of-view.
■ A wide-angle lens has a short focal length and a wider angle-of-view, so that you can fit more into the frame. This is handy if you're taking a picture of a building in a narrow street and you want to get it all in.

If you have a zoom lens, focal length can be changed by zooming in and out. A typical standard DSLR zoom is 18-55mm. A typical telephoto zoom is 55-150mm.

Choosing the right focal length is a creative decision and a skill in its own right. If your subject is small in the frame, it's very tempting to stay where you are and zoom in. Often a better option is to use your feet and move closer, until your subject fills the frame.

Because wildlife photographers can't get physically close to their subjects (for fear of frightening the subject away), they often use very long focal length lenses of 500mm and longer. Sports and action photographers do the same, largely because the places they are allowed to stand are often far from the action.

For example, a typical lens for a tennis match is around 400mm; a lens for cricket or motorsport needs to be nearer 800mm, because the stands are much farther away. A 150mm or 200mm focal length would be far too short for this type of photography, but don't despair: you can often get shots the professionals will miss using a shorter focal length and focusing on the crowds or atmosphere.

Flowers and bugs are difficult to photograph with a normal lens because you often need to get very close. You'll need a special macro lens that allows you to focus centimetres, or even just millimetres, from a subject.

Because lenses with longer focal lengths have shallower depth-of-field and allow you to throw backgrounds out-of-focus, they're surprisingly well suited to portraits. Longer focal length lenses also offer a more flattering perspective: noses are shortened and faces are flattened, which makes most people look more attractive. On a cropped sensor DSLR, try a lens with a focal length of between 55mm to 85mm for portraits.

Wide-angle lenses are great for landscape photography – just make sure the scene doesn't look too empty. To counter this effect, make sure to find some form of foreground interest.

> "Longer focal length lenses will magnify the subject in the frame"

ABOVE **You can photograph small subjects with a standard zoom: this one focuses as close as 25cm. For greater magnifications (such as 1:1) use a macro lens.**

ADAM BURTON

MATT WHORLOW

ABOVE Wide-angle lenses are well suited to sweeping vistas like this. Just take care with composition, so the image doesn't seem too 'empty'.

LEFT Get to know your telezoom lens. Pick a scene and take the same shot at different focal lengths without moving closer. Afterwards, enlarge the wide-angle shot and crop in tight to match the telephoto composition and you'll see perspective is identical to the telephoto shot.

Understanding perspective

Perspective refers to the way in which objects appear in a photograph – their size, position and the space in between them. When you're taking a portrait at close range, features closest to the lens will appear much larger than the rest of the face. Moving futher away from the subject helps flatten perspective. This shows that perspective is affected by the camera-to-subject distance, not the focal length of the lens itself (a common misconception).

Telephoto lenses are more flattering because you're standing further away from your subject. Use a wide-angle lens and stand far away from your subject and you'll achieve the same perspective (see examples above), though you'll have to crop in tight to see it!

RIGHT Tilting the camera backwards causes 'converging verticals'. Instead try to stand back and use a longer focal length.

ALEX HARE