

COMPLETE D-SLR SKILLS COURSE



Learn all about Depth-of-Field

Sharp or blurred? The choice will be yours after
you've learnt to control focus & aperture!

DIGITAL MAGAZINE
CREATED BY

**DIGITAL
Photo**

**HOW TO > BLUR BACKGROUNDS > GET SHARPER SHOTS
> CONTROL DEPTH-OF-FIELD IN PHOTOSHOP**

ALL NEW D-SLR
& PHOTOSHOP
SKILLS!

GET CREATIVE WITH FOCUS

WHAT YOU NEED ANY D-SLR
WHAT YOU'LL LEARN FOCUS SKILLS 

If you want to get the best from your D-SLR and produce top-quality shots, you need to master focusing & depth-of-field - just follow this simple guide to find out how!

MASTERING FOCUS & CONTROLLING DEPTH-OF-FIELD are hands down the most important skills you'll learn as a creative photographer. Fact. The ability to choose and control what is in and out of focus in an image is what separates considered pictures from snapshots - and it's one of the easiest ways to mark out professional looking photos from more naïve compositions.

In this guide you'll learn how to take control of focusing and use it to your advantage, so whether you want to reproduce pro-style narrow depth-of-field effects or retain pin-sharp detail throughout the frame we've got you covered.

USE
YOUR
CAMERA
LIKE YOU
REALLY
SHOULD!

DON'T SHOOT THE LAZY WAY!

If you don't harness depth-of-field control, you'll always end up with so-so pictures...



MASTER FOCUSING EFFECTS

... but by controlling simple camera settings like aperture and autofocus you can produce pro-style pics with any D-SLR and lens!



SEE HOW EASY IT IS TO MASTER APERTURE OVER THE PAGE >>

SET UP
YOUR
D-SLR FOR
CREATIVE
PHOTO
EFFECTS!

WHAT IS DEPTH-OF-FIELD?

A picture's depth-of-field is best defined as the amount of it that is acceptably sharp - anything outside of this area is considered to be unsharp and therefore outside the depth-of-field.

So, if you were looking at a landscape where everything from the details in the

foreground to the distant scenery was sharp, it would be said to have a very large depth-of-field. On the other hand, if you were looking at a portrait or a still-life picture where only the subject was in focus and the background was fuzzy and diffused, that would be

said to have a very small, or shallow depth-of-field.

There are several factors which control how much depth-of-field is present in your shots and which parts of the picture are sharp - the aperture (the 'hole' in your lens that's described by an f/number), the focal length you're

shooting at and point at which you've focused - all of which we'll cover in the following pages.

It's learning how to utilise these techniques and knowing where and when to use them that's the key to controlling focus and depth-of-field, and ultimately getting successful pictures.

HOW APERTURE AFFECTS WHAT'S IN FOCUS

The larger the aperture you set when shooting, the narrower the depth-of-field in your picture will be and the smaller amount of it will be in focus.



APERTURE **F/2.8**

LARGE DEPTH-OF-FIELD



APERTURE **F/11**

MEDIUM DEPTH-OF-FIELD



APERTURE **F/22** NARROW DEPTH-OF-FIELD

FOCUS POINT



KNOWLEDGE

APERTURES & DEPTH-OF-FIELD IN ACTION

The easiest way to understand how the aperture you set dictates your picture's depth-of-field is to focus on a subject fairly close to the lens, then take a few shots of it, decreasing the aperture (increasing the f/number) each time you hit the shutter. You'll quickly see how the background gets sharper the smaller the aperture you use...



APERTURE **F/2.8**



APERTURE **F/5.6**



APERTURE **F/11**



APERTURE **F/16**



APERTURE **F/22**

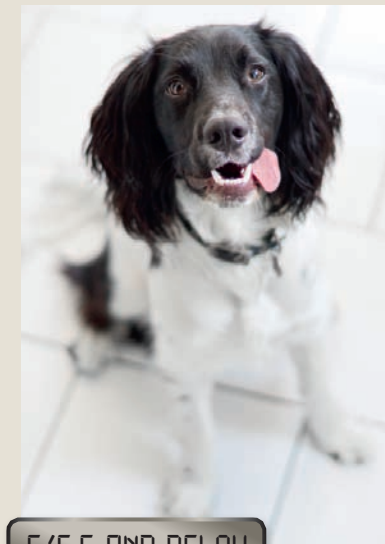


START GETTING THE BEST FROM YOUR D-SLR & LENSES!

EXPERT ADVICE

PICKING THE RIGHT APERTURE

Here's a rough guide to how the depth-of-field generated by different apertures can be put to good use and which subjects are appropriate for them. Of course, rules are made to be broken, but if you're new to controlling focus and depth-of-field creatively, this is a good place to start...



F/5.6 AND BELOW

Wide apertures let in a lot of light, increase the shutter speed and allow any parts of the scene away from the point of focus to blur very quickly. This means they're great for action, wildlife and portrait photography, but require careful focusing.



F/8 TO F/11

Due to the way they're constructed, the optics of a lens will tend to produce their sharpest results at the middle apertures, so setting the lens within this range is helpful when detail is paramount, as in product photos and still-life images.



F/16 AND ABOVE

Smaller apertures give a large depth-of-field so they're great for ensuring front-to-back sharpness in landscape shots. Because the hole in the lens is so small though, diffraction of light can occur, so though the depth-of-field is greater, image quality can suffer.

YOU CAN MASTER THIS VITAL SKILL NOW!



FRAMING & FOCUSING FOR PERFECT DEPTH-OF-FIELD

Once you've decided on the amount of depth-of-field you want in your shot and therefore which aperture to use, you need to think about where to focus and how to frame the subject. The point at which you focus in your shot will make an enormous difference to how and where the depth-of-field is generated and therefore which parts of the shot look sharp.

This is particularly critical when using very wide apertures that generate a shallow plane of sharp focus. For instance, if you're using a fast aperture like f/2.8 and focusing on a subject that's only about six feet away, the depth-of-field can be just a few centimetres. That means careful focusing is important – it's the difference between getting the eyes in a portrait sharp or missing those vital details.

Another way that depth-of-field is affected is in how close to the lens you focus – the closer you focus, the easier it will be to generate a shallow depth-of-field. Conversely, close focusing makes getting front to back sharpness more difficult, but there are ways to work around this, such as focus stacking which you can read more about on page 12.



Though the same aperture has been used in both of these shots, framing and focusing make a big difference...



Focusing on a subject further from the camera and at a wider focal length, the perceived depth-of-field is greater, even though on close inspection the background is still blurred.



"Careful focusing is important if you want those vital details"

EXPERT ADVICE

THREE WAYS TO FOCUS YOUR D-SLR BETTER

Getting the depth-of-field you want isn't just about setting the correct aperture – where and how you focus is really important, too. Here are some of the easiest ways to improve your focusing and get perfect sharpness right where you want it in your pictures...



PICK THE RIGHT MODE

Set your AF mode according to the subject you're shooting and you'll have a much better chance of getting the depth-of-field in the right place. Single (One Shot or S-AF) is perfect for portraits and landscapes, while Continuous (C-AF or AI Servo) will help you track fast-moving subjects, so it's great for sports and wildlife. Finally, Manual is by far the best option for controlling focus for macro or still-life subjects (especially in conjunction with Live View – see right).



USE LIVE VIEW

Most photographers favour composing via the viewfinder and see Live View as the domain of compacts, but it can be incredibly useful when focusing manually. On screen you'll get a perfect preview of where the focus is falling and you can zoom in for even more clarity.

CHANGE YOUR AF POINT

Most D-SLRs have at least five AF points, so it makes sense to use them! Changing the active AF point so that it covers the part of the scene which you want to be sharpest will save you from having to lock the focus and recompose – something that can spoil critical sharpness when working with a very shallow depth-of-field. Changing your AF point varies from camera to camera, but most enthusiast models will have an AF Selector button on the rear. Press this, then use the D-Pad, thumb stick or similar to cycle through the AF points available.



KNOWLEDGE

IMPROVE THE LOOK OF DEFOCUSED AREAS

Any areas that are outside of the depth-of-field in your shots will look blurred, but how this blur appears can be very different from one picture to the next – even in shots taken at the same aperture, focal length and on the same lens. The way that out-of-focus areas appear is known as bokeh

(pronounced bo-ké), which comes from the Japanese word "boke", meaning "blur" or "fuzziness".

Many photographers fret about the shape of the bokeh (it's said that good

bokeh should be seen as perfectly flat discs of light), but there's not much you can do about this, because it's governed by the shape of the aperture in your lens. What's more useful is knowing that if your background is dim, the bokeh will be quite flat, but if you shoot into the light, you'll get a pleasing sparkle.



GOOD & BAD BOKEH

Both shots were taken using the same f/5.6 aperture on the same lens, but highlights in the background produce pleasing bokeh, while without them the picture looks flat and dull.



TURN THE PAGE FOR PRACTICAL PROJECTS!

Now you've got a good understanding of depth-of-field it's time to get practical. There are four great camera and software techniques on the following pages that will help you achieve everything from perfect shallow-focus effects to the ultimate in front-to-back sharpness!



SEE HOW EASY IT IS TO MASTER APERTURE OVER THE PAGE >>>



APERTURE F/5.6

FINAL IMAGE

Even at f/5.6, a pleasingly defocused background can be achieved, which will make all the difference in your portrait images.

**PROJECT 1****BLUR THE BACKGROUND**

The ability to get a pleasingly defocused background behind your subject is central in creative photography - learn how to do it right here!

IT'S GREAT TO HAVE AN

understanding of the science behind depth-of-field, but what you really want to know is how to control focus for real using your D-SLR! And that's just what you'll learn how to do in this tutorial, achieving one of creative photography's essential effects - a picture with a nice sharp subject and a contrastingly fuzzy and defocused background.

This technique is really easy to do and can be achieved on any digital SLR or creative compact, so

long as it has an Aperture priority shooting mode. You certainly don't need pro-spec lenses with super-fast apertures either, because we're going to show you how it can be done using a D-SLR with a variable aperture kit lens.

As you'll have already read, there are several ways you can produce a shallow depth-of-field in your pictures - using low f/numbers, longer focal lengths (zooming in) and focusing close to the camera - all of which are used in this technique.

"you'll learn to achieve one of creative photography's essential effects..."



At f/16, the background is held in too sharp a focus, so it becomes distracting and spoils what would otherwise be a pleasing portrait. This can happen if you leave your camera set to its Auto or Program mode.



1 START SET MODE & ZOOM. Set your shooting mode to Aperture priority (look for A or Av on the Mode dial, or in the shooting menu). Next, set the aperture to its widest setting by changing the f/number to the lowest you can. This will vary from lens to lens, but anything up to f/5.6 will produce good results. Next, zoom in - the longer the focal length the more exaggerated the effect will be.



2 FOCUS & SHOOT. Frame up and, either in the viewfinder or via the camera's screen, alter the position of your Autofocus point so that it covers the subject. Now gently squeeze the shutter button to shoot. If you don't want to, or can't move the AF point, half-press the shutter button to lock focus, then recompose, but don't move towards or away from the subject before firing off a shot.



3 FINISH CHECK THE RESULTS. Examine your pic on the screen. If the depth-of-field isn't shallow enough, move your subject away from the background and towards the camera - this will increase the amount of blur because the background is further from the point of focus. Finally, zoom right in to check the sharpness on the subject. If the focus is off, you'll need to reshoot.



APERTURE F/22

FINAL IMAGE

By using small apertures (setting a high f/number), front-to-back detail is guaranteed.

PROJECT 2

INCREASE THE DEPTH-OF-FIELD

Shoot with a large depth-of-field and enjoy detail from the foreground to the background

SOMETIMES IN YOUR PHOTOS you'll want everything in the scene to be sharp, so that objects right from the foreground through to those in the distance have lots of detail to enjoy. This kind of large depth-of-field effect is achieved in a very similar way to getting a shallow depth-of-field, but instead of using very large apertures, you need to use very small ones.

Traditionally, hyperfocal distancing was used to ensure maximum sharpness – a system that, based on the focal length and aperture you're using, told you where you'd need to focus to get the largest depth-of-field. Unfortunately this relies on lenses with barrel markings, something that modern zooms usually lack. It's also very time-consuming, so here's an easy work-around...

CAMERA STEP-BY-STEP



1 START APERTURE PRIORITY. Set your camera's shooting mode to Aperture priority (A or Av) using the Mode dial on the body or the main menu. Now close the aperture right down by setting the highest f/number (usually f/16 or f/22). Now check the shutter speed – small apertures slow up the exposure, so you may need to increase the ISO sensitivity to compensate if you're handholding the camera.



2 FRAME UP & FOCUS. Next, zoom out to a wide view, frame up on the scene and move your chosen AF point so that it covers an area about a third of the way into the view – this will maximise the depth-of-field because at wide focal lengths it extends around two thirds further than the focus point than towards you. Using one of the AF points on the lower third is a good guide.



3 FINISH CHECK THE SHARPNESS. After shooting, bring the picture up on your camera's screen and zoom right in on the foreground to check that it's in sharp focus. Do the same with the background. If the foreground is sharp but the background not, try focusing a little further into the scene. If the opposite is true, focus a little closer to you. That's all there is to it!



PROJECT 3

FOCUS STACK FOR ULTIMATE SHARPNESS

Take a series of shots at different focus points and combine them in Photoshop or Elements for maximum sharpness

EVEN WITH A LENS stopped down to a small aperture such as f/16, it's often impossible to get the image sharp all the way from the foreground through to the very far background. By locking off your camera on a tripod and manually focusing at different points of the frame, you can then blend the shots to create an image that has massive depth-of-field, with sharpness running from front to back. So, if you want ultimate sharpness right the way through your shots, read on to see how it's done...

CAMERA STEP-BY-STEP



1 START COMPOSE. Set your camera up on a tripod and frame your shot. Next set your mode to Manual and the aperture to f/11-13 for crisp results. Now use your viewfinder's exposure meter bar and dial through the shutter speeds until it's in the centre of the scale. Take a test shot to check it's correctly exposed.

2 SET YOUR FOCUSING. With your camera set up ready for the shot, switch from autofocus to manual focus, so you can control the focus yourself. There's often a AF/MF switch on the camera body or lens, though in some cases you may have to dive into your camera's menu to change this.



3 FINISH TAKE A SERIES OF SHOTS. Now focus on the closest part of the shot, in this case the daisy, and take a shot. Then gently twist the manual focus ring so the focus shifts further back to the middle distance and take another shot. To finish, focus on the background and take a shot. In some cases, you may find you need to take more than three shots, but once done, you're ready to merge them...



APERTURE F/13



APERTURE F/13



APERTURE F/13

START IMAGES STEVIINGTON1, 2, 3.JPG

By taking three shots of the same subject at different focus points across the frame, we can achieve a massive depth-of-field once we've merged them in Photoshop.

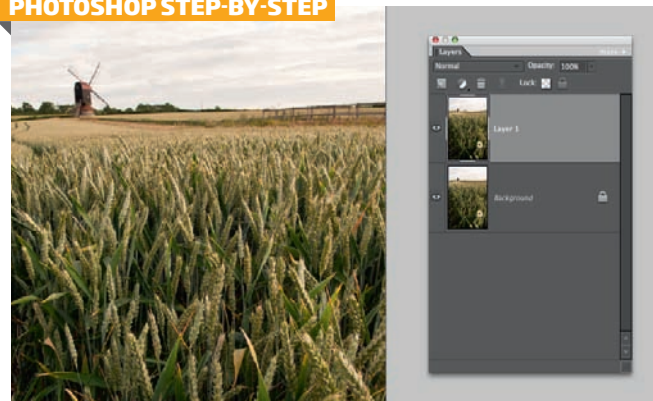


FINAL IMAGE

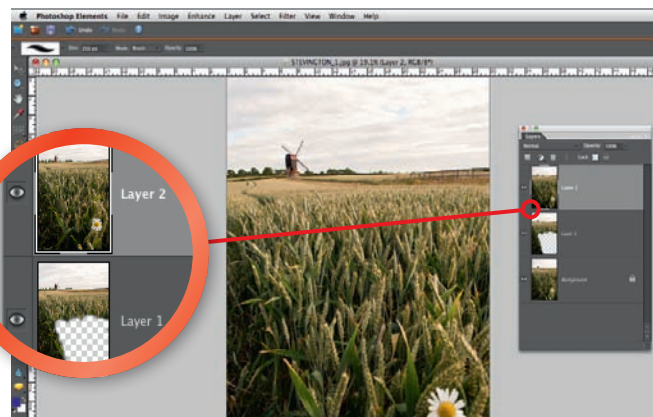
The three merged files have created this one single image with a massive depth-of-field running from front of the picture to the very back.

THIS GREAT TECHNIQUE
CONTINUES OVER THE PAGE >>

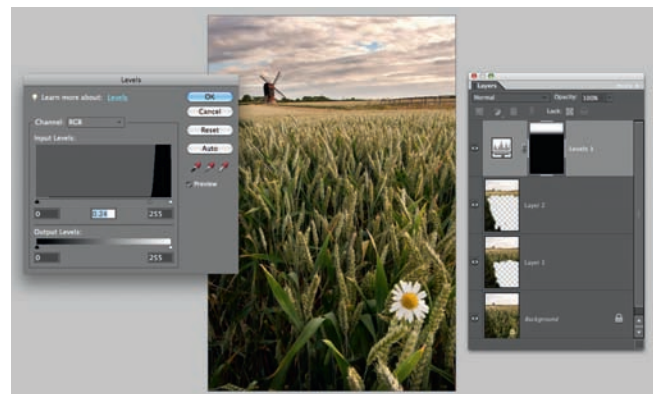
PHOTOSHOP STEP-BY-STEP



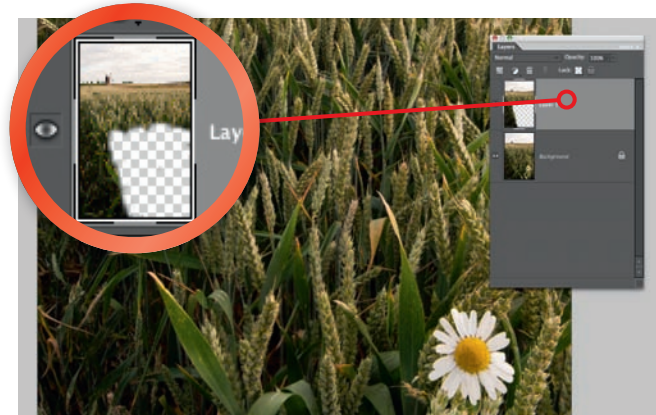
4 COPY & PASTE. Open up the shot focused on the middle of the scene and you'll see that both the foreground and background are blurred. Hit **Ctrl+A** to select the image and then **Ctrl+C** to copy it before hitting **Ctrl+W** to close the file. Now open up the pic focused in the foreground and hit **Ctrl+V** to paste in the copied file. Bring up your *Layers palette* by going to **Window → Layers**.



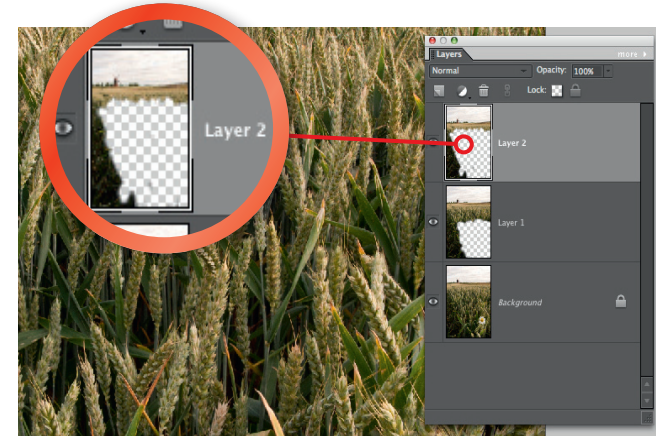
6 COPY SECOND LAYER. If you make a mistake and erase too much, go to **Window → History** (**Undo History** in Elements) and click back to the *State* before you went wrong and continue from there. Open up the pic focused in the background, select and copy it, then close the image as before. Click back on the working image and paste in the new Layer, making sure it's at the top of the *Layers stack*.



8 DARKEN THE SKY. With *Layer 2* still selected, make a Selection of the sky and then go to **Select → Refine Edge** (or hit the **Refine Edge** button) and enter a **Feather** value of **130px**. In your *Layers palette*, click on the **Adjustment Layer** icon and from the drop-down list, select **Levels**. In the pop-up box, drag the central arrow to the right until it meets the Histogram.



5 ERASE FOREGROUND. Making sure *Layer 1* is active, pick the **Eraser tool** from the Toolbox. With a **Brush size** of **250px** and an **Opacity** of **100%**, start to brush in from the bottom right-hand corner. Keep erasing until the sharply focused parts of the scene are running into one another and the picture is sharp from the front through to the middle of the scene.



7 REPEAT PROCESS. Again with the **Eraser tool** at the same settings, start working in from the bottom and deleting all of the blurred areas at the bottom, revealing the sharp ones below. Zoom in to make sure you don't erase past the in-focus area and, as before, click back in your *Undo History* if you make a mistake. Now go to the Toolbox and pick the **Rectangular Marquee tool**.



9 FINISH CROP THE IMAGE. Drag the left-hand arrow inwards until a third of the way across and hit **OK**. Now go to **Layer → Flatten image** and select the **Crop tool** from the Toolbox. Drag it out across the entire image and then rotate in the corner to angle the shot, before dragging in the corner handles so the crop doesn't overshoot the image, then hit **Return** to confirm the change.

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PROJECT 4

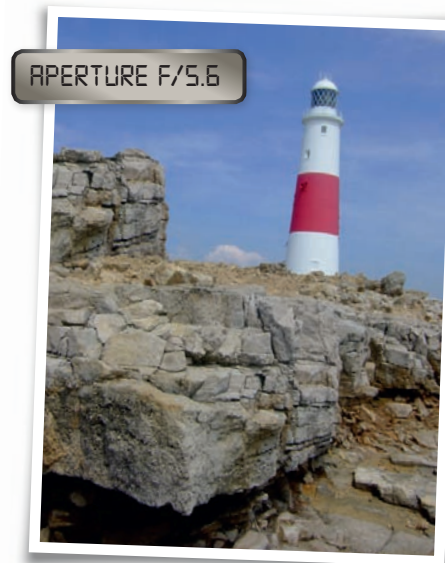
CREATE SHALLOW FOCUS EFFECTS IN PHOTOSHOP

Shots don't have to be sharp all the way through - here's how to make a shallow depth-of-field effect using software

AN IMAGE WITH AN ISOLATED point of sharp focus can be more intriguing and aesthetically pleasing than one that's sharp from front to back, but if you've already taken the picture, you can't dial in a large aperture remotely and reshoot the image in a different way!

If you're a compact user, you don't even get the option of shooting a narrow depth-of-field effect in the

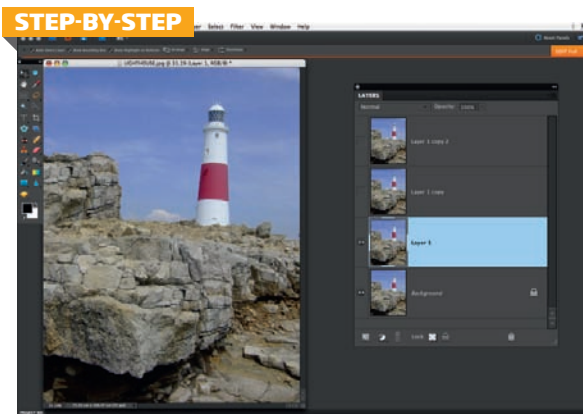
first place, because the very small sensor and short focal lengths always give you a shot that's sharp right the way through. Blurred backgrounds can be impossible to achieve with a compact, but with this technique, you can recreate them. What's more, it uses the standard Gaussian Blur filter found in Elements and Photoshop, so it works with any version of the software.



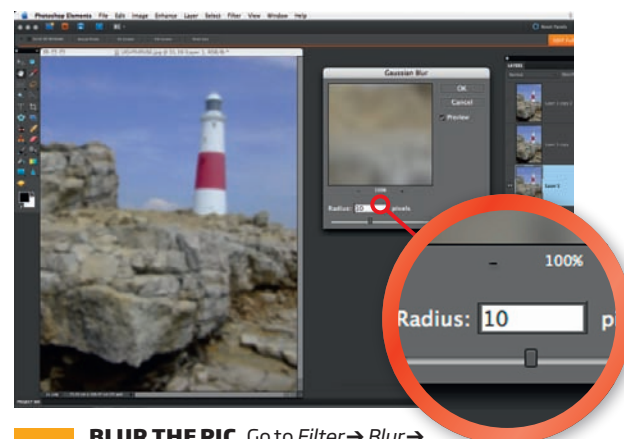
START IMAGE LIGHTHOUSE.JPG

Taken using a compact camera, our shot is sharp all the way through, but we want to isolate the focus to give a more arty look to the picture.

"Blurred backgrounds can be impossible to achieve with a compact camera"



1 START COPY THE LAYER. Open your picture into Photoshop or Elements and then hit **Ctrl+J** three times to end up with four copies of the original. Go to **Window → Layers** and you'll see them stacked up on top of each other in the **Layers palette**. Switch off the top two Layers by clicking on the 'eye' icons and then click on **Layer 1** to make it active.



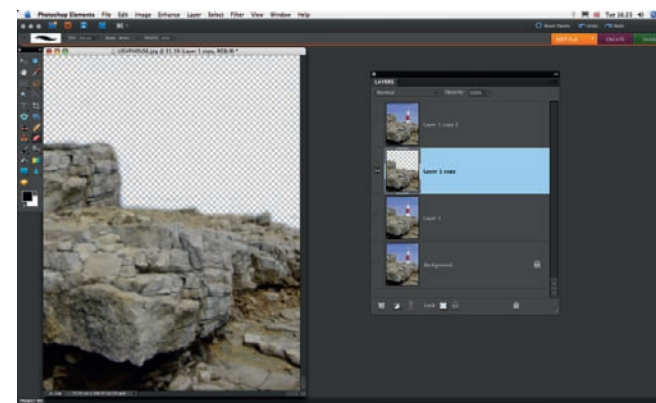
2 BLUR THE PIC. Go to **Filter → Blur → Gaussian Blur** and in the dialogue box, use a **Radius** of around **10 pixels** (try a little more if your image is bigger than our 6 megapixel example here). Keep **Preview** ticked and you'll see how blurred the image becomes, and when you're happy, click **OK**.

FINAL IMAGE

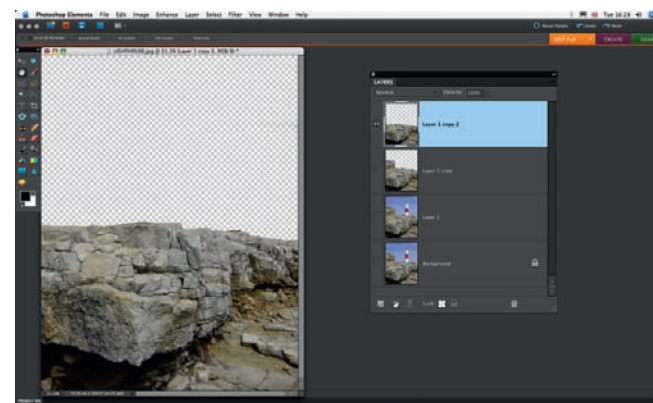
The depth-of-field extended from front to back on our original shot, but we've restricted it to the rocky foreground details to change the mood of the pic.



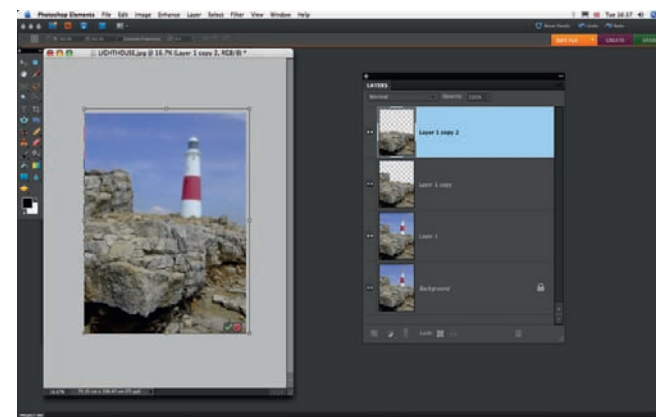
THIS GREAT TECHNIQUE CONTINUES OVER THE PAGE ➤



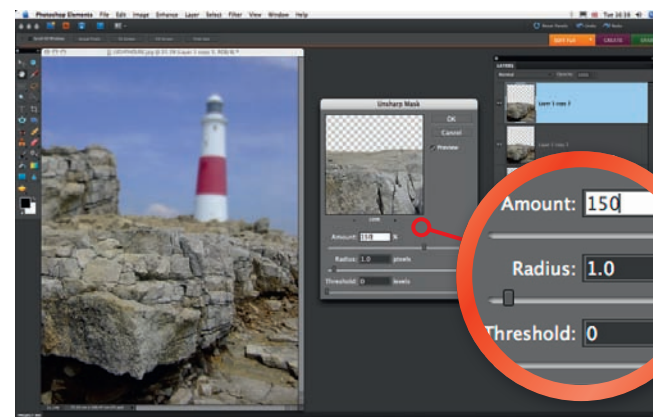
3 REMOVE THE SKY. Click on *Layer 1 Copy*, switch on the 'eye' icon, and apply *Gaussian Blur* again, this time with a *Radius* of around *5 pixels*. Now switch off all the other Layers to avoid confusion, and pick the *Eraser tool*. Use a soft-edged brush around *100 pixels* in size, and erase the sky and the lighthouse, leaving the rocky skyline and foreground in place.



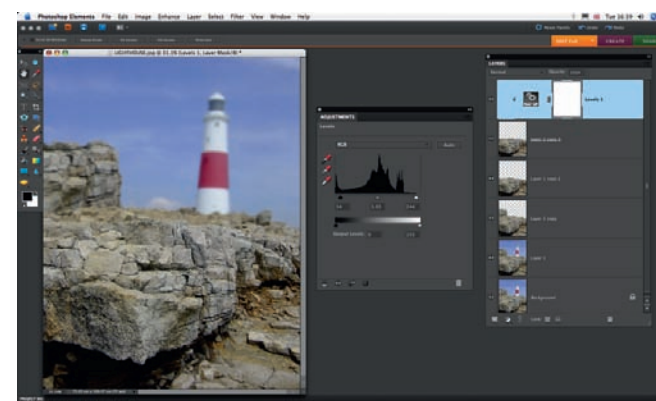
4 CUT OUT THE FOREGROUND. Switch on *Layer 1 Copy 2* at the top of the stack, and switch off all the other Layers. With a hard-edged *Eraser* (hold *Shift* and tap the right square bracket key to harden the brush), remove everything except the rocks occupying the bottom half of the picture. Take care with the top edge, and use a small brush to make the cut-out as accurate as possible.



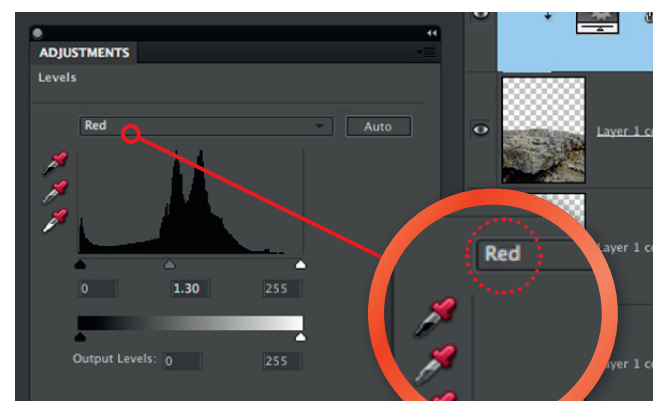
5 ENLARGE THE FOREGROUND. Hit *Ctrl+T* to enter *Transform* mode, and after creating a little bit of room (*Ctrl+Minus*), hold *Shift* (or make sure the *Constrain Proportions* box is ticked in the Options bar) and drag out a corner handle slightly. This will enlarge the foreground rocks and cover any blurred version of the same part of the scene. When you're happy, hit *Return* to confirm the *Transform*.



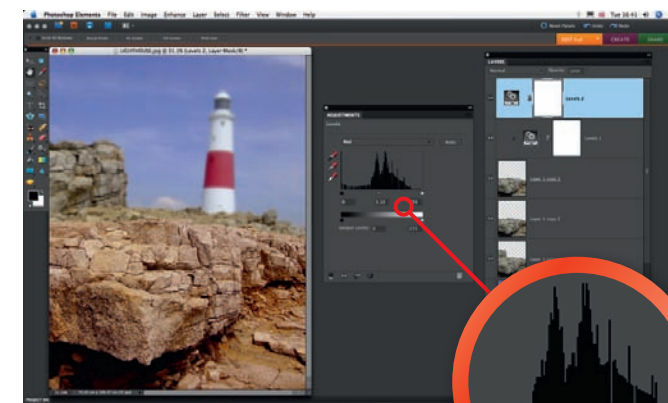
6 SHARPEN THE DETAIL. If you now switch on the other Layers, you'll see that the focus appears to recede as the details get further away, and to really emphasise this, we're going to sharpen the foreground. Hit *Ctrl+J* to copy the foreground Layer, and go to *Filter→Sharpen→Unsharp Mask* (*Enhance→Unsharp Mask* in Elements). Use settings of *150*, *1.0* and *0* and you'll see the rocks snap into sharp focus.



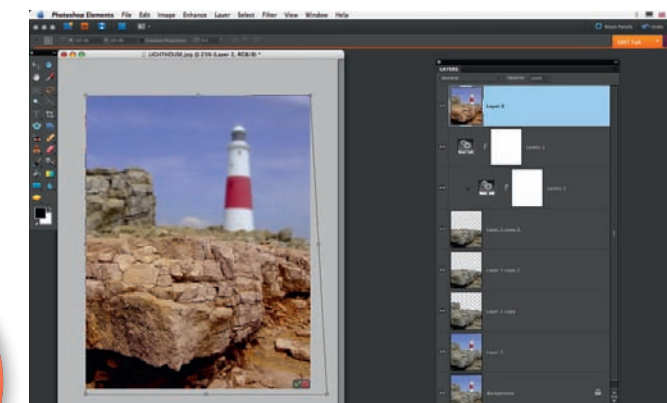
7 CREATE AN ADJUSTMENT LAYER. Click the *Adjustment Layer* icon and select *Levels* from the list. If you can *OK* the adjustment, do so, and then hold *Alt* and click on the line between the Layers to clip the Adjustment Layer to *Layer 1 Copy 3*. Now double-click on the Adjustment Layer thumbnail and move the *Input Levels* sliders under the Histogram to improve the contrast.



8 WARM-UP THE FOREGROUND. Before closing the Adjustment Layer, click on the *Channel* box, select *Red*, and move the middle slider a little to the left. Now select the *Blue* Channel, and move the middle slider a touch to the right. This warms up the colours in the rocks. Click *OK* (or just leave your Adjustment Layer, if this is not an option).



9 WARM UP THE BACKGROUND. Create another Adjustment Layer, and again choose *Levels*. This time we're going to adjust the whole image, so tweak the contrast using the *RGB* sliders, and then select the individual *Red* and *Blue* channels as before and move them a little to warm up the whole image.



10 SQUARE UP. We just need to straighten up a touch so hold *Alt*, click on the fly-out arrow at the top right of the *Layers palette*, and select *Merge Visible*. Release *Alt* after you've done this, and a new Layer will appear, containing everything you've done. Hit *Ctrl+T* and then, while holding *Ctrl*, drag out the bottom right corner until the lighthouse is vertical. Hit *Return* and the job is done!

LEARN MORE SKILLS

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