

Capture

101

Whatever the subject, we'll help you capture it.



Capture 101 ♦ May 2014



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If you've outgrown your point-and-shoot camera, it might be time to make the move to a digital SLR. Here's how to choose the right one.

How to Buy A New D-SLR Camera

By Jim Fisher April 9, 2014

If you're feeling limited by what your point-and-shoot camera can do, there are plenty of reasons to consider a D-SLR. These advanced shooters feature larger image sensors, superior optics, robust manual controls, faster performance, and the versatility of changeable lenses. All this added functionality doesn't come cheap, though, as the cost of a D-SLR can add up, especially when you start buying lenses. And the cameras are understandably larger and heavier than their compact and mirrorless interchangeable lens counterparts. You also need to remember that you're buying into a camera system. If your first D-SLR is a Canon, chances are that your next one will be as well, simply for the fact that you'll be able to make use of existing lenses and accessories. Here are the most important aspects to consider when you're shopping for a digital SLR:

Understanding Sensor Size

Most consumer D-SLRs use image sensors that, while much larger than those found in point-and-shoot cameras, are somewhat smaller than a 35mm film frame. This can be a bit confusing when talking about a camera's field of view, as focal lengths for compacts are often expressed in terms of 35mm equivalency. The standard APS-C sensor features a "crop factor" of 1.5x. This means that the 18-55mm kit lens that is bundled with most D-SLRs covers a 35mm field of view equivalent to 27-82.5mm. If you're upgrading from a point-and-shoot that has a 3x zoom lens that starts at about 28mm, the D-SLR kit lens will deliver approximately the same field of view.

THERE ARE MANY inherent advantages to a larger sensor. It allows you to better control the depth of field in images, making it possible to isolate your subject and create a blurred background. This blur is often referred to by the Japanese term bokeh. Much has been written about the quality of the bokeh created by different lenses, but the general rule of thumb is that the more light a lens can capture—measured numerically as its aperture, or f-number—the blurrier the background can be. A lens with a maximum aperture of $f/1.4$ lets in eight times as much light as one of $f/4$, and can create a shallower depth of field at an equivalent focal length and shooting distance.

Another reason to go for the big sensor is to minimize image noise. A 14-megapixel D-SLR has much larger pixels than a point-and-shoot of the same resolution. These larger pixels allow the sensor to be set at a higher sensitivity, measured numerically as ISO, without creating as much image noise. Another advantage to the larger surface area is that changes in color or brightness are more gradual than that of a point-and-shoot. This allows more natural-looking images with a greater sense of depth.

Some higher-end D-SLRs, like the Canon EOS 6D\$1,699.99 at Dell, feature sensors that are equal in size to 35mm film. These full frame cameras are much more expensive than their APS-C counterparts. If you do see yourself moving up to a full frame camera in the future, be careful in buying lenses. Some lenses are designed to be used with APS-C sensors. Canon refers to its APS-C lens line as EF-S, while lenses that cover full frame are EF. Nikon takes a similar approach, calling APS-C lenses DX and full frame lenses FX. Sony, the only other manufacturer that currently offers a full frame D-SLR camera, adds a DT designation to its APS-C-only lenses.

Choose a Camera that Feels Right
It's very important to choose a camera that feels comfortable in your hands. While most D-SLRs are similar in size and build, the styling of the handgrip, position of controls, and other ergonomic features can differ drastically. The camera you choose should be one that you are most comfortable using. If a D-SLR is too big or small for you to hold comfortably, or if the controls are not laid out in a way that makes sense to you, chances are you won't enjoy shooting as much as you should.

Get the Best Viewfinder
By definition, a D-SLR features an optical viewfinder that shows you the exact image that the camera's lens is capturing—but not all of these viewfinders are created equal. A mirror directs light from the lens to the viewfinder, which is one of two types. The first, the pentamirror, is generally found on entry-level cameras like the Canon EOS Rebel SL1\$449.00 at Amazon and Nikon D5200\$599.99 at Dell. This type of viewfinder uses three mirrors to redirect the image to your eye, flipping it so that it appears correct, as opposed to the upside down and backwards image that the lens is actually capturing.

The second type of optical viewfinder is the pentaprism. This is a solid glass prism that does the same job as the pentamirror. A pentaprism is generally heavier and brighter than a pentamirror. The extra brightness makes it easier to frame images and to confirm that your photo is in focus. Pentaprisms usually start appearing in mid-range D-SLRs, like the Canon EOS 70D\$999.00 at Amazon, and are standard issue on pro bodies like the Nikon D4. The Pentax K-50\$496.95 at Beach Camera is a rare entry-level model with a pentaprism that features 100 percent coverage; that affordable camera also boasts full weather-sealing for use on rainy or snowy days. You should also pay attention to

magnification and coverage numbers for pentaprism finders, as they give you an idea of the actual size of the finder and how much of the captured image can be seen. In both cases you'll want to look for a higher number.

Another Option: The EVF
A few cameras on the market offer a third viewfinder option—an electronic viewfinder. Sony cameras that feature fixed, translucent mirrors, like the Alpha 77\$1,398.00 at Amazon, are referred to as SLTs. Rather than redirecting light to your eye, the semi-transparent mirror in these cameras redirects it to an autofocus sensor. If you aren't set on an optical finder, these cameras are worth considering. Even Sony's flagship full-frame Alpha 99\$2,298.00 at Buydig.com uses an OLED EVF, eschewing the glass pentaprism found in other full-frame SLRs.

Shooting and Autofocus
D-SLRs have another big advantage over point-and-shoots—speed. The time that it takes between hitting the shutter button and the camera capturing a picture, referred to as shutter lag, and the wait time between taking photos—recycle time—are often concerns with compact cameras. D-SLRs generally focus very quickly and deliver shutter lag that is nearly immeasurable.

Continuous shooting is measured in frames per second. At minimum, you should look for a camera that can shoot 3 frames per second, although sports and nature shooters will want to look for a camera that can shoot faster than 5 frames per second. Of course, the autofocus system has to be able to keep up with the frame rate. Basic D-SLRs like the Nikon D3300\$596.95 at Buydig.com often only have a few autofocus points, which can slow performance. Continuous shooting and autofocus performance go hand-in-hand, so it is important to look for a camera that does both well.



Live View and HD Video

Video recording is now a standard feature in D-SLRs. When shopping for a D-SLR, look for one that continues to autofocus while recording. You should also check its autofocus speed when taking photos using live view, as that can often be very slow. A microphone input jack is important if you plan on using the video function often—an external mic will capture much better sound than the camera's built-in microphone.

Be Realistic about Accessories

Most first-time D-SLR users aren't going to purchase a whole bevy of lenses, but there are a few to consider to supplement the kit lens that ships with the camera. The first is a telezoom to complement the standard 18-55mm lens. There is usually a matching zoom, starting at 55mm and ranging up to 200mm or 300mm, that will help you get tighter shots of distant action. Plan on budgeting \$200-300 for this lens. Another popular lens choice is a fast, normal-angle prime lens. Before zooms were popular, film SLRs were often bundled with a 50mm $f/2$ lens. Because of

the smaller sensor in consumer D-SLRs, a 35mm $f/2$ is the current equivalent. The standard-angle gives you a field of view that is not far off from that of your eye, and the fast aperture makes it possible to shoot in lower light, and to isolate your subject by blurring the background of your photos. Prices for these lenses vary a bit depending on your camera system, but expect them to run you between \$175 and \$350.

Even though consumer D-SLRs have built-in flashes as a rule, many photographers opt to use a more powerful external flash. These flashes emit more light and can often be repositioned so that you can use reflected light to illuminate a subject. Bouncing flash off of a ceiling to brighten a room is possible with a dedicated flash unit, but not with the ubiquitous D-SLR pop-up flash. Depending on your needs for power, recycle time, and movement, dedicated flash units can cost anywhere from \$150 to \$500.

Is a D-SLR Too Big?

Want speed and top-notch images, but don't want to haul a heavy D-SLR? You

may also want to consider a mirrorless camera, like our Editors' Choice Olympus OM-D E-M10\$699.00 at Amazon. That camera uses a Micro Four Thirds sensor which is just a bit smaller than an APS-C D-SLR sensor, and replaces an optical viewfinder with an electronic one. This class of cameras, which was launched by Olympus and Panasonic in 2008, relies on live view rather than optical viewfinders. This makes it possible to pack larger sensors into smaller bodies, giving you many of the image quality advantages of a D-SLR without the added bulk.

If you do opt for a D-SLR, following our guidelines will help you to choose the camera and lens system that fits your needs and your budget. Just be sure to take time and research your purchase, and go to the store and pick up a couple of cameras to see which feels best. Finally, before you settle on a single camera, read our recent D-SLR reviews and check out The 10 Best Digital Cameras for the top digital SLRs we've tested.

Basic Photo Tips:



Aperture Shutter Speed and ISO

Article and all Photography By Bryan F. Peterson
August 2008

JUST AS IT WAS 100 years ago and just as it is today, every camera—be it film or digital—is nothing more than a lightproof box with a lens at one end and light sensitive film or a digital sensor at the other end. It is of course light that enters through a ‘hole’ in the lens (the aperture), and after a certain amount of time (determined by shutter speed) an image will be recorded (on film or digital media). This recorded image has been called—since day one—an exposure, and it still is. Sometimes, the word exposure refers to a finished slide or print: “Wow, that’s a nice exposure!” At other times, it refers to the film or digital card: “I’ve only got a few exposures left.” But more often than not, the word exposure refers to the amount, and act, of light falling on photosensitive material (either the film or digital sensor).

And in this context, it comes up most often as part of a question—a question I’ve heard more often than any other: “Hey Bryan, what should my exposure be?” And my answer is always the same: “Your exposure should be correct!” Although my answer appears to be flip-pant, it really is the answer. A correct exposure really is what every amateur and professional alike hopes to accomplish with either his or her camera. Up until about 1975, before many auto exposure cameras arrived on the scene, every photographer had to choose both an aperture and shutter speed that, when correct, would record a correct exposure. The choices in aperture and shutter speed were directly influenced by the film’s ISO (speed or sensitivity to light). Most photographers’ exposures would be based on

the available natural light. And when the available light wasn’t enough, they’d resort to using flash or a tripod.

The Do-it-all Setting

Today, most cameras, either film or digital, are equipped with so much automation they promise to do it all for you, allowing photographers to concentrate solely on what they wish to capture. “Just keep this dial here set to P and fire away! The camera will do everything else,” says the enthusiastic salesman at the camera shop. Oh, if that were only true! Chances are that most—if not all—of you who are reading this article have a do-it-all-for-you camera, yet you still find yourself befuddled, confused, and frustrated by exposure. Why is that? It’s because your do-it-all-for-you camera is not living up to that promise, and/or you have finally reached the point at which you

want to consistently record creatively correct exposures. The do-it-all camera often falls short of its promise, yielding disappointing results. Use your camera’s manual settings, or at the very least, know how light and shadow interact on film or digital media so that you can be assured of getting it right even when you are in auto exposure mode.

Setting and Using Manual Exposure

I know of no other way to consistently make correct exposures than to learn how to shoot a fully manual exposure. Once you’ve learned how to shoot in manual

lens opening to the number 5.6 (f/5.6). Place your subject up against the house or some six- to eight-foot shrubbery. Now, look through the viewfinder and focus on your subject. Adjust your shutter speed until the camera’s light meter indicates a “correct” exposure in your viewfinder and take the photograph. You’ve just made a manual correct exposure!

Operating in manual exposure mode is empowering, so make a note of this memorable day.

The Photographic Triangle

This does not mean that I want you to forever leave your camera’s aperture at f/5.6

to them as the photographic triangle. Locate the button, wheel, or dial on your camera or lens that controls the aperture. If you’re using an older camera and lens, the aperture control is a ring that you turn on the lens itself. Whether you push buttons, turn a wheel, or rotate a ring on the lens, you’ll see a series of numbers coming up in the viewfinder or on the lens itself. Of all of the numbers you’ll see, take note of 4, 5.6, 8, 11, 16, and maybe even a 22. (If you’re shooting with a fixed-zoom-lens digital camera, you may find that your apertures don’t go past 8 or maybe 11). Each one of these numbers corresponds to



exposure mode (it’s really terribly easy), you’ll better understand the outcome of your exposures when you choose to shoot in semi- or full auto exposure mode. With your camera and lens in front of you, set your camera dial to M for manual. (If you’re unsure on how to set your camera to manual exposure mode, read the camera manual!) Grab your kid or a friend to use as your subject and go to a shady part of your yard or a neighborhood park, or if it’s an overcast day, anywhere in the yard or park will do. Regardless of your camera, and regardless of what lens you’re using, set your camera dial to M Mode and the

and simply adjust your shutter speed for the light falling on your subject until the viewfinder indicates a correct exposure. Before you forge ahead with your newfound ease in setting a manual exposure, you need to learn some basic concepts about exposure. A correct exposure is a simple combination of three important factors: aperture, shutter speed, and ISO. Since the beginning of photography, these same three factors have always been at the heart of every exposure, whether that exposure was correct or not, and they still are today—even if you’re using a digital camera. I refer

a specific opening in your lens and these openings are called f-stops. In photographic terms, the 4 is called f/4, the 5.6 is f/5.6, and so on. The primary function of these lens openings is to control the volume of light that reaches the film or digital media during an exposure. The smaller the f-stop number, the larger the lens opening; the larger the f-stop, the smaller the lens opening. For the technical minded out there, an f-stop is a fraction that indicates the diameter of the aperture. The f stands for the focal length of the lens, the slash (/) means divided by, and the number represents

the stop in use. For example, if you were shooting with a 50mm lens set at an aperture of $f/1.4$, the diameter of the actual lens opening would be 35.7mm. Here, 50 (lens focal length) divided by 1.4 (stop) equals 35.7 (diameter of lens opening). Whew! It makes my head spin just thinking about all that. Thank goodness this has very little, if anything, to do with achieving a correct exposure.

Aperture

Interestingly enough, each time you descend from one aperture opening to the next, or stop down, such as from $f/4$ to $f/5.6$, the amount of light passing through the lens is cut in half. Likewise, if you

offer shutter speeds from a blazingly fast $1/8000$ s all the way down to 30 seconds. The shutter speed controls the amount of time that the volume of light coming through the lens (determined by the aperture) is allowed to stay on the film or digital media in the camera. The same halving and doubling principle that applies to aperture also applies to shutter speed.

Let me explain. Set the shutter speed control on your camera to 500. This number denotes a fraction—500 represents $1/500$ second. Now change from 500 to 250; again, this represents $1/250$ s. From $1/250$ s you go to $1/125$, $1/60$, $1/30$, $1/15$, and so on. Whether you change from $1/30$ s to

for you to achieve “perfect” exposures. But as you’ll learn later on, it’s rare that one always wants a perfect exposure.

ISO

The final leg of the triangle is ISO. Whether you shoot with film or use a digital camera, your choice of ISO has a direct impact on the combination of apertures and shutter speeds you can use. To better understand the effect of ISO on exposure, think of the ISO as a worker bee. If my camera is set for ISO 100, I have, in effect, 100 worker bees; and if your camera is set for ISO 200, you have 200 worker bees. The job of these worker bees is to gather the light that comes through the lens and make

$1/250$ s is indicated as “correct,” but when I adjust my shutter speed for a correct exposure, $1/125$ s—a longer exposure—is indicated. This is because your 200 worker bees need only half as much time as my 100 worker bees to make the image.

Understanding Exposure

Since this is such an important part of understanding exposure, I want you to pause in your reading for a moment and get out your camera, as well as a pen and paper. Set the film speed dial to ISO 200; (If you are a film shooter, do this even if you have a roll of film in your film camera that is not ISO 200, but don’t forget to set the ISO back to the correct number

speed for a correct exposure. Once again, write down this shutter speed. And finally, change the ISO to 800, and repeat the steps above.

What have you noticed? When you change from ISO 100 to ISO 200 your shutter speed changed: from $1/125$ s to $1/250$ s or perhaps something like from $1/160$ s to $1/320$ s. These shutter speeds are examples, of course, and not knowing what your subject was, it’s difficult at best to determine your actual shutter speeds, but one thing is certain: each shutter speed is close to if not exactly half as much as the one before it.

When you increase the number of worker bees (the ISO) from 100 to 200, you cut the

in the viewfinder; or, if you choose to stay in auto exposure mode, select shutter-priority, set a shutter speed of $1/125$ s, and the camera will set the correct aperture for you.

Now that you are armed with this simple yet invaluable information, let’s put it towards some truly creative uses!



change from an aperture opening of $f/11$ to $f/8$, the volume of light entering the lens doubles. Each halving or doubling of light is referred to as a full stop. This is important to note since many cameras today offer not only full stops, but also the ability to set the aperture to one-third stops, i.e. $f/4$, $f/4.5$, $f/5$, $f/5.6$, $f/6.3$, $f/7.1$, $f/8$, $f/9$, $f/10$, $f/11$, and so on. (The underlined numbers represent the original, basic stops while the others are the newer one-third options sometimes available).

Shutter Speed

Now let’s turn to shutter speed. Depending on the make and model, your camera may

$1/60$ s (decreasing the time the light stays on the film/digital media) or from $1/60$ s to $1/30$ s (increasing the time the light stays on the film/digital media), you’ve shifted a full stop. Again this is important to note since many cameras today also offer the ability to set the shutter speed to one-third stops: $1/500$ s, $1/400$ s, $1/320$ s, $1/250$ s, $1/200$ s, $1/160$ s, $1/125$ s, $1/100$ s, $1/80$ s, $1/60$ s, and so on. (Again, the underlined numbers represent the original, basic stops while the others are the newer one-third options sometimes available). Cameras that offer one-third stops reflect the camera industry’s attempts to make it easier

an image. If both of us set our lenses at the same aperture of $f/5.6$ —meaning that the same volume of light will be coming through our lenses—who will record the image the quickest, you or me? You will, since you have twice as many worker bees at ISO 200 than I do at ISO 100.

ISO and Shutter Speed

How does this relate to shutter speed? Let’s assume the photo in question is of a lone flower taken on an overcast day. Remember that your camera is set to ISO 200 and mine to ISO 100, both with an aperture of $f/5.6$. So, when you adjust your shutter speed for a correct exposure,

when we’re done here.) Now, set your aperture opening to $f/8$, and with the camera pointed at something that’s well illuminated, adjust your shutter speed until a correct exposure is indicated in the viewfinder. (If you want, you can leave the camera in the automatic aperture-priority mode for this exercise, too). Write down that shutter speed. Then, change your film speed again, this time to ISO 400, leaving the aperture at $f/8$, and once again point the camera at the same subject. Whether you’re in manual mode or auto-aperture-priority mode, you’ll see that your light meter is indicating a different shutter

time necessary to get the job done in half. (If only the real world worked like that!) This is what your shutter speed was telling you: Going from $1/125$ s to $1/250$ s is half as long an exposure time. When you set the ISO to 400, you went from $1/125$ s—passing by $1/250$ s—and ended up at $1/500$ s. Just as each halving of the shutter speed is called 1 stop, each change from ISO 100 to ISO 200 to ISO 400 is considered a 1-stop increase (an increase of worker bees).

You can do this same exercise just as easily by leaving the shutter speed constant, for instance at $1/125$ s, and adjusting the aperture until a correct exposure is indicated

How to Photograph Firework Displays

By Affendy Ahmad

How to Photograph Firework Displays? This is a commonly asked question by readers. Most of them have the same feeling in that its really hard to capture. I could understand that as capturing a fireworks display always involves the elements of both darkness and brightness. The darkness of the sky, or the surroundings, and the brightness of the fireworks, or sometimes the foreground. My simple advice to all is to “grab your camera equipment and give it a try” whenever there are firework displays in and around your area.

Here are some tips to get you started:

Planning is the most important when photographing Fireworks Displays and this is what most people tend to ignore. Always get to the location early. Be sure of where the fireworks are being setup and what part of the sky will it be lighting up. Try asking the organizers if possible of what they are planning. Look around the location and take note of the lightings and surroundings. You might want to decide now on what lenses and the focal lengths to use. Remember the first and most important thing in fireworks photography is planning and anticipation.

Framing and Focusing: Where to aim your camera? This is one of the most difficult part in photographing fireworks displays. You normally need to aim your camera before the fireworks goes off. I normally spend most of my time looking in the sky rather than looking at my view finder so that i could see what's happening around me and also anticipate the moment or the right time to shot.

Always manually focus your camera or put it on infinity. Its quite impossible to use auto focus mode in low light and you may end up missing a lot of shots. So set your focusing in advanced and fix your

focal lengths but remember to adjust your focusing if you happen to change your focal lengths.

Shutter Speed: Its not necessary to set your shutter speed to a very low setting. The temptation to keep your shutter open too long is because its dark and you need to do that. The problem is that fireworks itself are bright and you might over expose them and you may end up not having a clean and nice shot. What you may get is too much of the smoke in you photograph.

Aperture: What aperture to use in Photographing Fireworks Displays? Many people thinks that they need to open up the aperture in order to capture them right. But remember, the lights that fireworks emit is quite bright. I normally set my aperture between mid to smaller f stop and i find it tend to work well. And again it will also depends on what shutter speed you have selected.

ISO: Shoot using the lowest ISO possible.

Capturing the Mood and Surroundings When photographing Fireworks Displays many people tend to just capture the Fireworks and forgetting the foreground or the background. Remember Fireworks Displays are often relates to celebrations and occasions and I personally feels your picture must relates to the occasions and it must tell you where, what and when. Don't forget to include other elements such as people, landmarks or other perspectives to make your photograph more meaningful and the Fireworks Display looking more spectacular.

Take as Many Shots as Possible and Track Results

Keep taking as many shots as possible and do a quick check occasionally. But remember, don't check after every shot or you may end up missing the action!



10 Tips For Beginner Photographers

By Darren Rowse

As a new photographer, these are some of the ideas that have helped get me going.

Don't go crazy with expensive equipment.

It's possible to get very nice photos with an inexpensive point and shoot camera. The more photos you take, the more you'll know about what kind of camera to get when it's finally time to upgrade to something new.

Consider a tripod.

On the other hand, an inexpensive tripod is worth getting, especially if you have shaky hands like mine. When I got a tripod, my satisfaction with my shots skyrocketed. For even more stability, use your camera's timer function with a tripod.

Don't overlook mundane subjects.

You might not see anything interesting to photograph in your living room or your backyard, but try looking at familiar surroundings with fresh eyes. You might catch an interesting trick of the light or find some unexpected wildflowers in your yard. Often a simple subject makes the best shot.

Experiment with your camera's settings.

Your point and shoot may be more flexible and powerful than you know. Read the manual for help deciphering all those little symbols. As you explore, try shooting your subjects with multiple settings to learn what effects you like. When you're looking at your photos on a computer, you can check the EXIF data (usually in the file's properties) to recall the settings you used.

Keep your camera with you all the time.

Photo ops often come when you least expect it. If you can keep your equipment relatively simple-just a small camera bag and a tripod-you might be able to take advantage of some of those unexpected opportunities. Or, if your phone has a camera, use it to take "notes" on scenes you'd like to return to with your regular camera.

Enjoy the learning process.

The best part of having a hobby like photography is never running out of things to learn. Inspiration is all around you. Look at everything with the eyes of a photographer and you'll see opportunities you never noticed before.

Take advantage of free resources to learn.

Browse through Flickr or websites like the Digital Photography School Forum for inspiration and tips. Also, your local library probably has a wealth of books on all types of photography. If you're interested in learning about post-processing, give free software like the GIMP a try.

Take photos on a regular basis.

Try to photograph something every day. If you can't do that, make sure you take time to practice regularly, so you don't forget what you've learned. An excellent way to motivate yourself is by doing the weekly assignments in the Digital Photography School forum.

Make a list of shots you'd like to get.

For those times you can't carry your camera around, keep a small notebook to jot down places you'd like to come back and photograph. Make sure to note any important details, like the lighting, so you can come back at the same time of day or when the weather's right. If you don't want to carry a notebook, send yourself an email using your cell phone.

Learn the basic rules.

The amount of information about photography online can be overwhelming. Start with a few articles on composition. Be open to what more experienced photographers have to say about technique. You have to know the rules before you can break them.

Essential Camera Equipment for Photography Students

By Lexy Savvides

Whether taking a photography course for school, university or pleasure, here are some tools to make the learning experience as smooth as can be.

Camera

Depending on your course, your camera of choice might be a digital SLR, or it might be a film SLR. There are plenty of bargains to be had on the second-hand market, and our guide on buying a used camera has lots of pointers on what to look out for. Otherwise, take a look at the best digital SLRs for beginners to get an idea of what cameras are available.

Lenses are another important consideration. All basic digital SLRs can be bought in a kit configuration with a standard 18-55 mm lens, but later on down the track, you might need macro lenses or perhaps a wide-angle lens for specialist shots. Check out our lens buying guide for specifics on what lens suits your needs.

Make sure to factor a memory card in to the purchase, ideally one with fast read/write speeds if you want to shoot images in RAW or dabble in video.



Remote shutter release

An essential tool for anyone wanting to work with stop-motion photography or long exposures, a remote shutter release will let you fire the camera's shutter without needing to touch the camera body. Some remote shutters also have timers, which allow you to leave the camera unattended and take shots at set intervals, useful for techniques like time lapses.

Each camera model and make will have a different remote shutter release, so make sure to check before buying. Also, if you want to save a bit of money, there are plenty of bargains to be had on sites like eBay, which sell cheaper, no-name brands.



Card reader

Yes, this is a boring one. It may seem like something you can get away with not having, but trust us; a card reader is one of the most useful tools for photographers who take a lot of images. Look for one with fast transfer speeds which makes the process quick and painless. There are even some USB 3.0 models available if your computer has a compatible port.



Post-processing Software

For digital photography, post-processing software is an essential tool for working creatively with images. Just like exposing images in the darkroom, software gives you the flexibility of being able to achieve certain visual effects. Depending on budget, there are plenty of tools to meet anyone's requirements. Some popular packages include Adobe Lightroom, Photoshop, its cheaper sibling Photoshop Elements, and Corel Paint Shop Pro.

Got a budget that stretches to a grand total of zero dollars? A free image editor will do in a pinch, either online (like Pixlr) or for download (try Gimp).

Tripod

Tripods come in all shapes and sizes, offering support for all sorts of cameras. Our best piece of advice? If you need a tripod, don't scrimp, get the best you can afford. Imagine mounting your camera kit, possibly worth thousands of dollars, on top of a flimsy tripod that might have cost a grand total of \$75. A gust of wind rushes past and...you get the picture.

Most tripods come with a standard head, which is used to mount the camera onto the unit itself. Heads are often interchangeable and there are plenty of different types, such as ball heads, pan or tilt heads and video heads, all designed for specific purposes.

If you're mounting a particularly heavy camera configuration, check the maximum load capacity of the tripod and head to make sure that it can cope with the weight.



Filters

Photographic filters generally attach, screw, or snap onto the front of the lens to change the properties of the light entering the optics. There are many different types of filters available, but the more common ones that photography students might need include polarisers, Neutral Density (ND) or colour filters. Clear, UV or Skylight filters are used more to protect the front element of the lens rather than add any particular effects, so it may be a worthwhile investment if you are worried about damaging your equipment. After all, it's better to break a cheap filter than an expensive lens.

Before buying, check the filter thread of your lens (often written on the inside of your lens cap) for the lens diameter measurement. Some common filter thread sizes are 52 mm, 58 mm, 68 mm and 72 mm, to give you an idea of the measurement to look for.



10 Photographers to Look to for Inspiration

By James Robertson

No matter what skill level you're at in photography, it's often helpful to take a break and spark the creative process on some new ideas by looking at the work of others; this shouldn't be confused with imitation, but rather used as a tool for building original ideas. The following list highlights the work and skills of creatives who offer inspiration throughout the industry that I, and many others turn to for a new perspective. Of course this is purely opinion, and readers who follow others who aren't listed are encouraged to promote them in the comments.

1

Peter Lik **Fine Art/Landscape**

While he doesn't offer the kind of informative content to the photo community as some others on this list, there's no arguing that Peter Lik knows what he's doing when it comes to shooting and marketing amazing landscape prints, as he's found unbelievable fame and fortune in the fine art world. His combination of surreal subject matter and expertise behind the camera creates a final product that will catch the eye of the most experienced photographers, and is in high demand for the walls of homes and offices around the world.

2

Kai Wong **Digital Rev – Misc**

The team at DigitalRev TV, a Youtube channel sponsored by the DigitalRev online photo store based in Hong-Kong, and hosted by Kai Wong, with co-hosts Alamy Leung and Lok Cheung have found a loyal fan base through their videos ranging from gear reviews and helpful tips to tongue-in-cheek skits and creative challenges. The content is appropriate and entertaining for all photographers, and continues to raise the bar for the standard of what a Youtube Channel can offer to the masses, with their latest venture being an hour long 3 part special in which the team travels to Amsterdam and completes tasks assigned by the evil yet brilliant "bloody producer".

3

Eric Kim **Street Photography**

Another Youtube star, Eric Kim has found fame in the industry primarily through his POV street photography videos in which he mounts a GoPro to his camera and walks around major cities like LA and Chicago taking portraits of strangers with varying reactions. For those interested in doing street photography themselves, he also has a huge library of gear reviews, helpful tips (like zone focusing with manual lenses), and behind the scenes videos of his street photo workshops around the world. By putting this content out there, he's built an entire culture of self-proclaimed "Streettogs" among social network groups like Flickr and Facebook.

I encourage you to check out some of his videos regardless of your interest in the genre, it was because of him that I found myself picking up a Pentax k1000 last summer to shoot for myself, which in turn opened my eyes to a new perspective of shooting with my commercial work.

4

Fabio Bacciarelli **Photojournalism**

In a world where press photographers are losing their jobs left and right in favor of bystanders with camera phones, a few talented photographers are still willing to take their expertise and equipment into the action to share a story with the world. Fabio Bacciarelli was the gold medal recipient of the 2013 Overseas Press Club for his "Battle to Death" series highlighting conflict in Syria, and many of you were introduced to his work a couple months ago in this article about the awards. For anyone curious about what it takes to get the shot and be recognized today in the world of photojournalism, I would recommend taking a look at the up close and personal work on his site.

5

Yuri Arcurs **Stock**

Few photographers can boast the level of financial success that Yuri has found in the world of stock photography, one of the most competitive industries in the world. While we often think of stock photos as generic, coming up with the subject matter and being able to predict what will be in demand requires a consistent creative process as well as in-depth technical knowledge of lighting, framing, staging, etc. Unfortunately his site doesn't seem to have been maintained much within the past year, but I still recommend checking out some of his articles that provide insight into the market as well as his vast portfolio.

6

**Ian Ruhter
Fine Art**

While he's likely not as well known as many on this list, you can't get much more creative than turning an entire truck into a giant wet plate camera.

To create his art, Ian backs his camera truck up to face his subject whether it's a landscape, person, or event and uses his manually operated shutter to form an exposure on a giant metal plate coated in silver nitrate. This is obviously a simplified explanation of the process, but not only is this method time consuming and costly, an incorrect exposure or uneven coating on the plate can completely ruin the image; when done right, however, the results are amazing.

7

**Ryan Brenizer
Wedding/Lifestyle**

Best known for inventing the "Brenizer method", Ryan Brenizer displays an impressive and timeless portfolio of wedding and lifestyle portrait photography that pushes the limits of creativity in an industry that many consider to be plagued by mediocrity. If you're struggling to find originality in the environment around you, his work is a must-see.

8

**Jeremy Cowart
Commercial/Fine Art**

From working with some of the biggest Hollywood celebrities to pioneering a global movement called Help-Portrait to provide family portraits for those who otherwise wouldn't have one, Jeremy Cowart is the definition of creativity and inspiration. I was first introduced to his behind the scenes videos on Kelbytraining.com a couple years ago and have been following his work closely ever since. On top of all of this, he's somehow found time to not only travel the world with his LifeFinder workshops brining motivation to the masses, but also create intricate pieces of abstract art by merging graphics and photo skills with hours of hard work.

9

**Joe McNally
Photojournalism/
Commercial**

One of my favorite photographers of all time, Joe McNally not only has one of the most impressive client lists ever including National Geographic, Life, and the New York Times, he's still creating new content constantly to inspire the new generation of photographers, with helpful behind the scenes videos, three educational books, international workshops, and regular blog posts with fascinating stories behind his most intriguing portfolio work. It's easy to spend days if not weeks listening to all of his stories from his early career in journalism, and a good place to start is with his Authors@Google talk.

10

**Chase Jarvis
Commercial**

Lets be honest, who didn't see this coming? Chase Jarvis is pretty much a younger Joe McNally having worked with a huge list of big name clients that many dream of having in their portfolio, constantly updating his site blog with incredibly helpful content, and creating both CreativeLIVE, and my favorite photo information series ever Chase Jarvis LIVE which is now in it's fourth season and continues to bring the most inspirational guests you can imagine from around the world to his Seattle studio to cover everything from marketing your business creatively, to understanding media manipulation, and everything in between. He's also the creative mind behind the "Best Camera" concept which promotes the mentality of the best camera being the one you have with you. If you have a couple hours, check out this episode of Chase Jarvis LIVE with Ian Ruhter (#5 on this list) in which they take a wet plate shot with the camera truck in his studio.



