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The Essential Guide to **DIGITAL** **PHOTOGRAPHY**

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Introduction: The Digital Photography Revolution

I took my first photography class in high school, in the late 1970s, two or three decades before the emergence of digital photography. The difference between learning photography in the film-based age as compared to the digital-based era of today is like the difference between listening to songs a vinyl record player and playing them on a 40-gig iPod.

Thus, in 2002, I revitalized my interests in photography, buying my first compact digital camera, an [Olympus Camedia C-720](#). About the same time, Apple came out with its first image management and editing software, iPhoto 1.0. Finally, I could afford to study photography and learn it in ways that I never could in high school.



A few years later, I purchased a [Canon Rebel XT](#) and a little later, a [Canon 30D](#), which enabled me to start shooting weddings and other events on a professional level. For me, getting paid to take photos most certainly would not have happened if not for the advent of digital photography.

The digital age has changed the entire scope, possibilities, and profession of photography. With the ability to shoot and instantly review images as they are taken, photographers are able to learn and explore image making in powerful new ways. Digital photography has taken us out of the darkroom and into the *lightroom*—where we can see more, do more, and learn much, much more.

Thus, *The Essential Guide to Digital Photography* is for readers wanting to learn digital photography for first time or build upon existing skills. It's for readers who want to take photography beyond the simple point-and-shoot experience to more advance skills and techniques.

This guide is by no means comprehensive. Rather, it's an introduction to some essential things you need to know to get started, and it outlines further resources that you can use to grow as a photographer. This guide is based on my own experiences and growth as a student of photography, as well as what I have learned from teaching workshops to beginning shutterbugs.

If you haven't already done so, I encourage you to print out this document or at least read and annotate it your favorite PDF reader. The best way to learn photography is hands-on. So have your camera beside you as you read this guide.

I hope *The Essential Guide to Digital Photography* will reveal that the craft of photography is something almost anyone can learn without it costing a ton of money. I try to keep the language as non-technical as possible. I include guidelines about choosing a digital camera, learning basic features of your camera, selecting image editing software, and basic workflow for processing photos after you take them.

The guide ends with additional resources that will provide you with even more skills and techniques that will make digital photography fun, enlightening, and maybe even profitable.

As with all [MakeUseOf.com](http://makeuseof.com) articles and guides, we welcome your feedback, questions, and suggestions. We want MakeUseOf.com to be your go-to site for learning all things digital.

Section 1

Digital Camera's

Part 1: What Type of Digital Camera Should I Buy?



Choosing a Camera

With the wide variety of digital cameras on the market today, most beginning photographers ask, "Which camera should I buy?" The answer to that question usually depends on how much money you can spend and/or what type of photography you want to do.

There are three types of popular consumer-based cameras: basic point-and-shoot, compact, and DSLR (digital single lens reflex) cameras. The biggest difference between the first two cameras and a DSLR is that with the latter camera you can change lenses, whereas with the former types the lenses are fixed.

Which camera you buy should be based on your budget and the type of digital photography (e.g. nature, wedding and event, portrait, sports, family photography) you would like to do.

Please note: the images of cameras included in this guide are not necessarily my personal or professional recommendations of a particular camera or equipment. My experience with digital cameras has largely been with Canon models, so I don't feel qualified to recommend specific models of cameras that I haven't tried. I suggest you use this guide and do some research on the type of camera you would like to purchase.

Point-and-shoot Cameras



Point-and-shoot cameras are the most widely used of the three types of cameras. Most people treat these cameras as they are named in the industry. They pick up the camera, compose a shot and shoot. They're not too concerned about advance features (e.g. White Balance and ISO controls, for instance) and control over manual exposure. They shoot largely in Automatic mode, which means the camera sets the exposure settings for them.

(Note: See the Glossary at the end for some basic camera and photo terms used and discussed in this article.)

Here are the advantages and disadvantages of point-and-shoot cameras.

Advantages

- Relatively inexpensive, ranging from \$200-\$400.
- Convenient, lightweight and small enough to carry in your pocket or bag.
- The lens of a point-and-shoot usually has a range of focal lengths, from wide to medium long.
- Automatic features that help users take photos.

Disadvantages

- Can't change lenses and sometimes can't use other accessories like external flash.
- Often slow in operation, which means you might get blurry shots, or you might miss shots all together.
- May be limited in exposure features, such wide range of aperture or high ISO speeds.
- Small LCD screen for reviewing images.

Point-and-shoot cameras are your best buy if you're not looking to make digital photography a serious hobby or profession. If your budget for a camera is limited, point-and-shoot cameras are good option.

If all you can afford is a point-and-shoot camera, don't think you can't get make great photos, because you can. These cameras are great for everyday family and vacation photos. If you own a DSLR camera, a point-and-shoot makes for a great backup and secondary camera that you can keep in your car or travel bag. Take a look at this [Flickr Point and Shoot](#) group to see the possibilities of what point-and-shoot cameras can do.

Compact Cameras



Compact cameras are very similar to point-and-shoots. Some stores and websites use the two terms interchangeably. But in my view, I see compact cameras as a little larger than point-and-shoots, with maybe a higher zoom and exposure range, and a larger LCD screen. Examples of compact cameras are [the Canon Powershot G11](#), the [Coolpix P100](#), and the [Fujifilm FinePix S2500HD](#) Expect to pay between \$400 and \$800.

Advantages

- Relatively cheaper than bottom-line DSLR cameras.
- Camera controls are often easier to access because they are not buried inside the camera's menu.
- Physically larger than point-and-shoot cameras, providing better grip on the body of the camera.
- The lens of a compact camera usually has a range of focal lengths, from wide to medium long.
- May include additional features not included in point-and-shoots, e.g. swivel LCD screen and video capture.

Disadvantages

- Pretty much the same disadvantages for point-and-shoot cameras.
- Can be heavier and more inconvenient to carry around as compared to a point-and-shoot camera.

DSLR Cameras



The biggest difference with DSLR cameras is that you can exchange lenses, and they are way faster than point-and-shoot and compact cameras. Examples of DSLRs are the [Canon 50D](#) (which is the main camera I shoot with these days) and the [Nikon D90](#).

Advantages

- With DSLR cameras you have the ability to use a wide variety of lenses, from extremely wide and to very long zoom lenses.
- The camera operation of DSLR cameras is a lot faster. There's little or no exposure lag between shots. My Canon 50D for example can fire up to 6.3 frames per second in high speed shooting.
- An external flash/strobe can be attached to these cameras, making for better camera lighting than the built-in camera flash.
- Higher exposure ranges, e.g. high ISO ranges, additional spot metering modes, Flash compensation feature.
- Larger size DSLRs make for a better grip and more steady shots.

Disadvantages

- DSLRs are more expensive, starting at around \$800, upwards to \$3,000 and more.
- These cameras are of course not compact and sometimes you have to carry an extra lens or two in your camera bag in order to shoot in various lens ranges.

If you are looking to make digital photography a serious hobby or profession, you will want to eventually get a DSLR. They provide you much more control over your photography than point-and-shoots and compact cameras.

Resources

[PC World: Top 10 Compact Point-and-shoot cameras](#)

[DP Review](#) is a long established site that features often detailed reviews of digital cameras and other photography equipment.

[Dealnews.com](#) provides price comparisons for cameras and other electronic products.

[What kind of digital camera is best for me?](#) This article outlines the type of features to look for based on how you plan to use a digital camera and breaks down camera types according to the type of buyer you are (budget buyer, serious amateur, business user.)





Nikon Coolpix P80

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From [liangjinjian](#)



From [Guerino Giancola](#)



From [Rudy Sempur](#)



From [real_orion](#)



From [Funky Tee](#)

Flickr.com Camera Groups

If you're researching a particular camera to buy, I suggest you go to Flickr.com and do a group search for your chosen camera. For example, in this [Flickr group for Nikon Coolpix P80](#), users post photos taken with the camera and discuss their use of the product.

Also, check out this resource: [Flickr.com list of cameras](#). The Camera Finder included on the webpage not only shows popular camera brands, it also provides links to sets of photos taken by Flickr members using a particular camera model.

Part 2: Basic Features to Consider When Buying a Camera

Many people shoot in what is called Automatic mode, which allows the camera to make all the settings for you. But I imagine if you're reading this guide, you want to learn advance features and techniques of digital photography. This part of the guide briefly describes some basic features you will want to consider when purchasing a camera. Or if you already have a camera, you will want to be familiar with these features.

Megapixel/Memory Size

Many camera buyers think the higher number of megapixels a camera has, the better the quality of photos. This is largely not so. Megapixel size accounts for the size of the prints you make at a typical resolution of 240ppi. You want to make sure that camera you purchase will be at least 3-5 megapixels, which enables you to make 4x6 to 8x10 prints. Most cameras these days will start at this size. If you're doing professional photography, you will want to get at least an 8 pixel size camera, or larger, for larger size prints if needed. At the same time, however, if you're shooting with say an 8 megapixel camera, your image files will be two to three times larger than with a 3 megapixel camera.

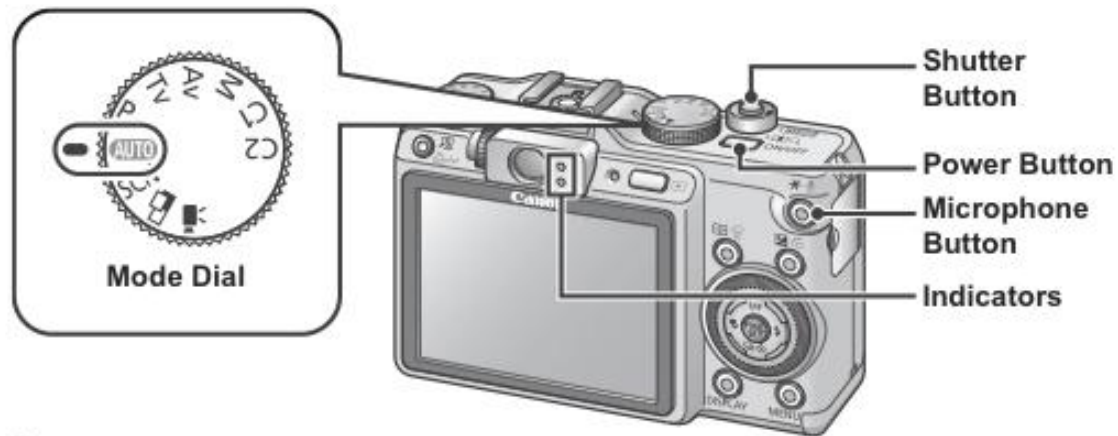
Image Stabilization

Cameras that include image stabilization can sometimes help reduce the blur that occurs from the movement of a camera or subject. You still must learn to steady your shots, but image stabilization can often assist and or warn you when the ambient light for the shot is too low or when the camera is having difficulty focusing on the subject.

Menu Controls

When examining a camera, notice how easy or difficult it is to access the different control features. If you plan on using your camera a lot, beyond the simple point-and-shoot mode, you will want camera controls to be easily accessible. At best, a cameras exposure setting (aperture, shutter speed, and other modes) should be accessed outside the camera.





Also, when considering a particular camera, take sample shots with it, and notice what type of information you can see before and after you take a photo. Does the camera show information about exposure settings in the LCD screen? What and how many buttons do you have to push to see that information? In general is the information easily accessed?

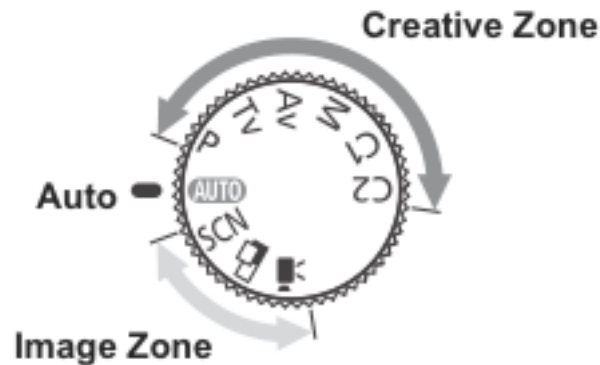
Optical Zoom vs. Digital Zoom

Point-and-shoot and compact cameras are often advertised as having 3x, 4x...digital zoom. But digital zoom is not the same as what is called optical zoom.

Without getting too technical, digital zoom means that the subject in the camera is enlarged almost like when viewing something through magnifying glass. The resolution and focus is not as good as with Optical zoom. See this photo [example](#) illustrating the differences between optical and digital zoom.

By default, your non-DSLR camera should be set to shoot in Optical zoom, which "uses the optics (lens) of a camera to bring the subject closer" ([Photoxels.com](#).) So optical zoom is what you should primarily use on your point-and-shoot camera.

Manual Exposure Features



If you are looking to do advance photography, check to make sure your camera includes manual exposure capabilities, which include full manual exposure, aperture and shutter priority, wide ISO range, and flash compensation. These advance features are a part of compact and DSLR cameras. You cannot use these features when you're shooting in Automatic mode or some preset modes, such as night or portrait mode.

With advance features you have more control over certain shooting situations. For example, you can shoot in what is called Shutter priority mode, which provides control over how you want a moving subject to look when captured. If you shoot with a slow shutter speed (e.g. 1/15th of a second), the subject will have some blur to depict movement. If you select to use a fast shutter speed (e.g. 1/2500th of a second), you can freeze the moving subject. See this MakeUseOf tutorial article for more explanation: [Aperture and Shutter Speeds for Beginning Photographers](#).

RAW Capabilities

If you plan on doing detailed processing of your photos in programs like Photoshop, iPhoto or Lightroom (more about image editors Part 6), you will want to make sure your camera can shoot in RAW, as well as JPEG mode. All cameras can shoot in JPEG mode, but not all, especially point-and-shoot cameras, can shoot RAW photos. The difference between the two modes is that with JPEG some image data is compressed in each shot, which makes for a smaller image file, whereas with RAW photos all image data is retained. Images shot in JPEG and RAW modes don't look any different. But when you're processing photos in an RAW image editor, you have more control over making changes to White Balance, exposure contrast, saturation, sharpness, and other settings. If for example your white balance control is set for

indoor shooting, but you're actually shooting outdoors, you can edit and outdoor white balance setting when you open the image in a RAW image editor. (A little more about that later)

The biggest draw back to RAW photos is that the files are a lot larger and thus fill up memory cards very fast. You also must use a RAW image editor (see part 6) to process RAW photos.

Resources

[RAW, JPEG and TIFF](#): This article explains the difference between these three shooting modes.

[Tips For Taking Digital Photography Using Live View](#): Live View is a feature in some newer camera allows you to view and frame subjects in the camera's LCD screen rather than the view finder. Live View also provides you a preview how your exposure settings will look for capturing the subjects before you snap the picture.

Part 3: Essential Accessories for Your Digital Camera



As you develop your skills as a photographer, there are some essential accessories that you will want to have as part of your camera bag.

Additional Media Card

Most likely the camera that you purchase will come with a memory card, but with minimal memory storage. Most point-and-shoot and compact cameras will use some form of Secure Digital (SD) or SmartMedia (SM) cards, while DSLR cameras will typically use CompactFlash cards.

Most contemporary digital cameras start at 8-12 megapixels, which create relatively large size image files. So you will want to have a few memory cards of a minimum of 2 to 8 gigabytes in size. If you are shooting in RAW mode, the file sizes can be 3 to 5 times larger than regular JPEG images files.

The larger the size of a memory card the more image files it can hold. I've never had a media card fail on me, but I shy away from shooting with larger than 8 gigabyte size cards when shooting weddings. I prefer to have my photos spread across several 4 gig cards so if one fails I have fewer photos to recover than if I shot with 8 or 16 gig cards.

If you do photo shoots requiring several media cards, it might be useful to label and number your cards so you won't leave out a collection of photos in the importing process. You should also label your media cards with your name and phone number just in case one is misplaced on location.



I also keep a spare card in a small pouch on my camera's shoulder strap, strictly for backup for when other cards are filled, or when I forget to put a card back into my camera. My spare card has saved me in more than a few occasions.



See my MakeUseOf article, [10 Things To Know About Digital Camera Memory Cards.](#)

Backup Battery

Camera batteries come in various makes and sizes, from Lithium-ion batteries to standard alkaline AA or AAA batteries. Alkaline batteries are typically used for point-and-shoot cameras and external flash strobes. Because cameras and flashes can eat up batteries very quickly, it is best and more cost effective to use rechargeable batteries.

For cameras or external flashes using alkaline rechargeable batteries, I have found that [Maha PowerEx](#) rechargeable batteries and chargers have among the longest cycle chargers.



The so-called 15-minute charges you see on sale at say Best Buy are very unreliable and should only be used for quick, short time, charges. Those chargers actually degrade batteries rather than strengthen them.

Any DSLR camera you purchase should come with a rechargeable battery and battery charger. Batteries for these cameras are typically not alkaline. However, you should purchase an additional backup that can be used in your DSLR camera.



You can purchase a [battery grip](#) for your DSLR camera that holds two batteries, which is great for wedding and event and sports photography.

A Tripod

To get the best landscape, portrait, micro, and night photography shots, a tripod is another useful accessory. The prices for a sturdy tripod can range from \$40 to a \$1000. I would suggest not investing in a high-end tripod until you understand what your needs are as a photographer.



External Flash

All contemporary DSLR cameras come with a hot shoe for external flashes and strobes, which are a must for better flash photography. While your on-camera flash can be useful in a pinch, an external flash allows for more light output and better control over the direction of the light. Built-in camera flashes go only in one direction, whereas the light of an external flash can be bounced off a wall, helping to create a softer portrait shot. However, external flashes eat up battery charges quite fast in intensive shoots, so be prepared with several sets of charged batteries.



Extra Lenses



As I pointed out earlier, the advantage of using a DSLR camera is that you can shoot with different size lenses. Your camera may come with an 18-55mm or 28-105mm lens that is typically useful for candid and everyday photography. But depending on the type of photography you do, you'll want to add other lenses for various types of shooting.

For example, if you're doing portrait photography, you might want to start off with an affordable 50mm f/1.4 or 1.8 fast lens (see glossary for information about aperture settings.) *(Note: When a lens has wide aperture, e.g. f/5.4, f/4 to f/1.8, it is considered a fast lens.)* These lenses are typically lightweight with a fixed focal length. But they can be powerful for creating an effective shallow depth of field, whereby the

background is blurred, and the foreground is nice and sharp. The photo below is an example.



A wide range of lenses exist to choose from. What you decide to get should be based on the type of photography you do. If you shoot wild life photography you will want to get one or more good long range lens of say 200mm or longer. If you're shooting lots of close-up nature or product photography, you will want to invest in macro (extreme close-up) lenses for those purposes. Lenses can be very expensive, but they are a practical investment for helping you get the type of shots you want.

Note: When purchasing a lens, consider both the focal length as well the aperture range for the lens. You can purchase, for example, a new 70-300mm lens for say under \$300, but its aperture range will probably only be around f/4-5.6 with no image stabilization. This means it will be very difficult to shoot steady long range shots without a tripod.

A similar focal length lens with a wider aperture, say f/2.8, and image stabilization, will cost \$1500 and higher. This type of lens is faster and will provide better quality photos.

Camera Bag

As you start to acquire accessories, shop for a practical camera bag to store all your equipment. Many photographers end up purchasing three or four bags over time until they find one that is suitable to their needs. At home, I try to keep all my equipment in my bag so that when I'm ready to go on a shoot I don't forget anything.



Memory Drives

I will discuss image editing software later in this guide, but one of the essential requirements for digital photography is having enough computer memory to store and backup all the photos you take. I recommend keeping your photos on an external drive and backing them up on yet another external drive.

Images that you cherish the most should be backed up to one or two online storage sites and services, such as [Google's Picasa](https://www.google.com/picasa/), [Flickr.com](https://www.flickr.com/), and [Photobucket.com](https://www.photobucket.com/). These sites are free for a limited amount of storage. Exporting your favorite photos to your account means that your photos are stored off your computer, and in event of a computer failure you can retrieve you images.

Resources for Photo Sharing Sites:

[Top 4 Photo Websites To Share One Photo Everyday](#)

[5 Online Photo Sharing Sites Which Are Free Alternatives To Flickr](#)

If you're looking to do professional photography, you will want to back up client photos on separate CDs or DVDs—especially ones edited and produced for final purchase.

Part 4: 10 Features You Should Know About Your Camera

Just because some cameras are called point-and-shoot does not mean they should only be used that way. Many point-and-shoots include basic and advanced features that if you know what they are and how to use them enable you to do advanced photography.

The following tips will be best understood if you take out your camera and its manual and try out the suggestions as you read this section. If you don't have or can't find your camera's manual, you can go online and download a PDF copy of it from the manufacturer's site or on <http://www.manualsonline.com/>.

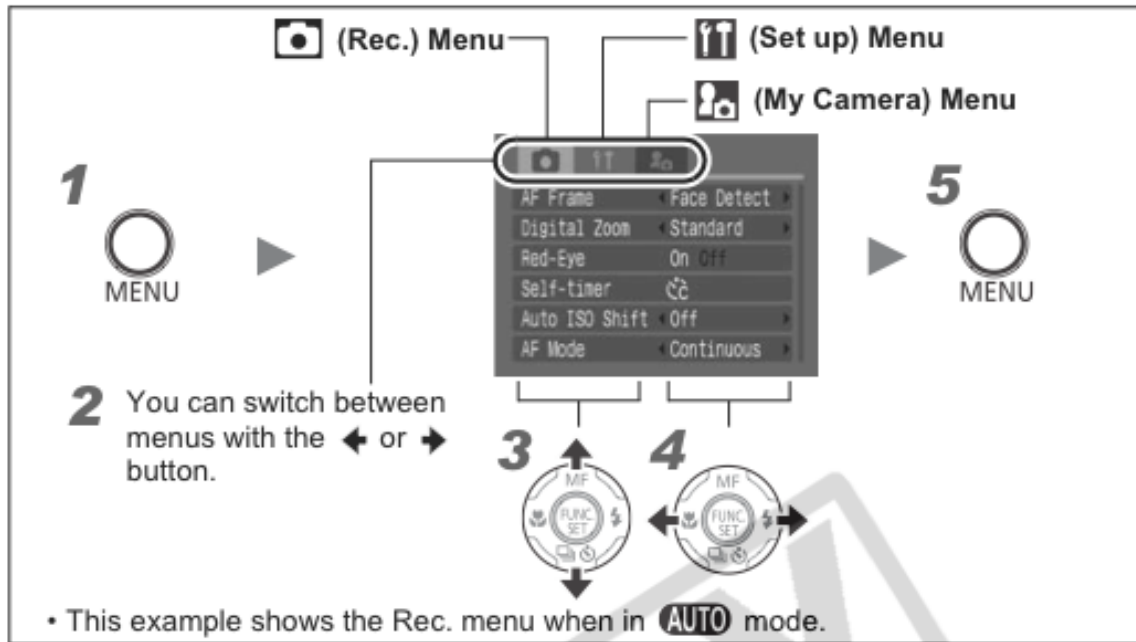
The illustrations used in this article are based on the Canon Powershot G9, but I will point out features that are typically found in most point-and-shoot and compact cameras, as well as DSLRs.

Basic Settings

Setup Menu

First off, know how to find the setup menu on your camera. Like computers, cameras come with default settings that you can customize for your particular needs or the way you shoot. Look in your manual to find out how to access your camera's setup menu. Notice what kind of settings you can change with the control dials on your camera and the menu settings that you can access and select through the camera's LCD screen.

Some cameras, for example, will allow you to change the exposure mode of the camera with a dial on the top or on the back of the camera, while smaller pocket-size cameras will require you to open a menu setting to make those changes.



Date and Time Stamp

If you haven't already done so, be sure your camera is stamping the correct date and time on your image files. This bit of information (or what is called "metadata" in the digital photography world) can be very useful for archiving and managing your photos.



Review Time

One of the best features about digital photography is the ability to review photos after they are taken. The default time for reviewing an image may be only a couple of seconds, but you can make the time longer or shorter. Look up the word “review” or “playback” in your manual to find out how to change the review time. I have my review set for 6-8 seconds, which gives me enough time to consider if I need to retake the shot.

Picture Count

If you never want to miss a good shot, you should know where to find the picture count on your camera. Typically the number can be seen on your camera's LCD screen when you review the images. Based on the size of your card and the resolution settings you're shooting in, the camera will display the number of photos shot and how many you more you can shoot with the inserted media card.

Format Your Media Card

There are two ways you can delete images from your media cards. You can delete (trash them) or you reformat your card to wipe clean image data completely. It is okay to simply delete/trash your images after they have been imported and backed up on your computer or other storage device, but after using your cards for several shoots you should reformat your cards.

Professional photographers advise not deleting images from your cards via your computer, even though your computer may ask if you would like to delete them. Deleting images via your computer could lead to your card getting corrupted. Furthermore, you want to make sure that your images are well imported and backed up before you delete them off the card. Look up the word “format” in your manual for specific instructions.



Also, avoid filling up your media cards completely. Change the card when you have 10-15 image captures remaining. I have read about media cards becoming corrupted when they are completely filled to the brim with image files.

Advanced Tips

Turn the Flash On/Off

Most cameras come with a built-in flash. Your camera's automatic features may cause your flash to fire when you don't want it to, such as when you're shooting in a shaded area. So learn how to manually shut off and turn on your camera's built-in flash. If you're shooting in Automatic mode, you most likely will not have the option to turn off the flash, and in that case you'll need to choose another shooting mode (such as Program mode, discussed later) in order to shut off the flash.



Likewise, if your photos are coming out a little blurred it means that you may need to use the flash or increase the shutter speed on your camera. If you can't do the latter, it's best to turn on the flash for that will automatically increase your shutter speed to 1/60th of a second, which is a better speed for holding a camera than at say a slow 1/10th of a second.

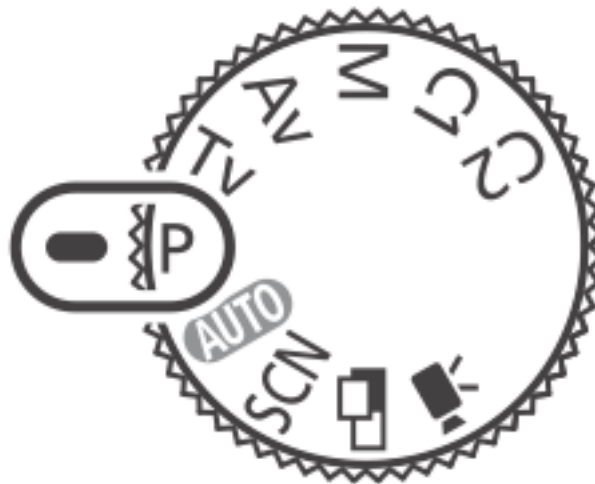
Built-in flashes also lead to what is called red-eye in subjects. Though some cameras come with a red-eye reduction feature, it doesn't always work sufficiently because the built-in flash is shooting light directly into the eyes, whereas with an external flash the direction of the light can be redirected, such as bounced off a wall or ceiling.

Shooting Beyond Automatic

Most beginning photographers shoot in Automatic mode, which is typically represented by a dial on your camera with a green "A" or "Auto" icon. When you shoot in automatic mode you're telling your camera to make all the decisions about exposure settings when you take pictures. Your camera will make the best guess about exposure settings based on the amount of and type of light hitting the camera's sensor.

But if you learn how to shoot beyond the automatic mode you gain more control over exposure settings and can be more creative with your photography. Even you don't understand what aperture and shutter speed means, start by shooting in Program mode and use what is called Exposure Compensation (explained below.)

Program Mode

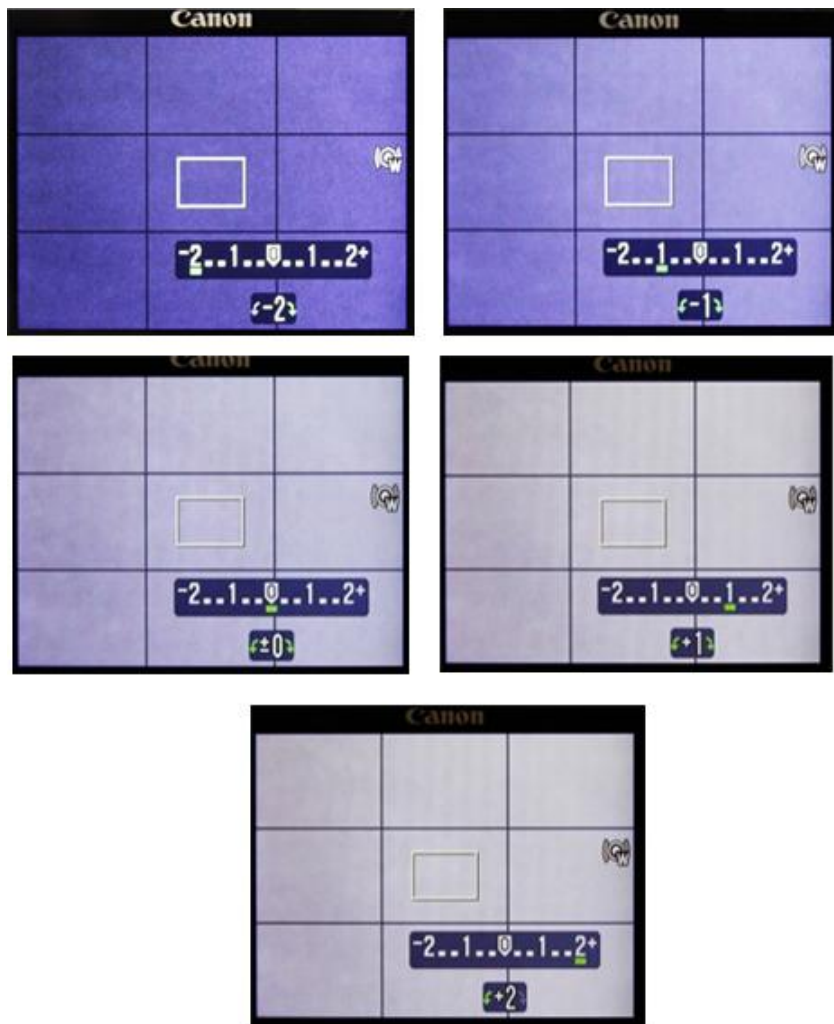


Program mode is similar to automatic in that it sets the exposure settings for the picture you're taking; however, in this mode you can control better how much light is allowed to enter the camera. If you shoot a photo in Automatic mode and then shoot the same subject in the same lighting condition in Program mode at their default settings should look pretty much alike. But in Program mode, you can use what is called Exposure Compensation to adjust for lighting. Look up in your cameras manual about how to change the shooting mode to P or program.

Exposure Compensation

If you notice that some of your photos come out too dark or too light, or that they seem flat and lacking contrast, you can use exposure compensation to adjust for lighting into your camera. You can only use this feature in Program, Aperture Priority, Shutter Priority or Manual Mode. It is typically deactivated in Automatic mode because, remember, you're telling the camera to make all the decisions for you.

The exposure compensation feature typically consists of a plus-minus meter that controls the amount of light coming into the camera. Dialling to the left means that less light will hit the digital sensor. Moving it to the right allows more light to hit the sensor. See the illustration below.



Typically you should only have to move the meter 1-2 stops either way. The four images below illustrate the use of exposure compensation shot at different settings.



-0.2ev



-0.3ev



0ev



+1.0ev

Look up the exposure compensation feature in your manual and find out how to use it on your camera. It can make a big difference in the exposure or light quality of your photos.

See also my and other video [tutorials](#) on YouTube to learn more about exposure compensation.

Continuous Shooting

Most contemporary digital cameras come with Continuous or multi-shooting features that take several shots per second. My experience is that this feature works most effectively on DSLR cameras than on compact and point-and-shoot cameras. A Canon 50D can fire off a maximum of 6.3 shots per second, whereas the compact Canon Powershot G9 can only manage 0.7 shots per second. How well this feature works also depends the speed of your memory card, your exposure settings, and the lighting conditions you're shooting in. The feature can be useful for shooting sport photography or for getting candid shots of children playing.

Self-Timer

If you're the main photographer in your family you most likely don't get yourself included in many of the photos you take. A self-timer can be useful for these types of photos.

Also, the self-timer is a good way to shoot close-up shots of say, a flower or Ebay product shots. By using the self-timer and a tripod, you will get less camera shake in your macro shots and thus less blurry photos.

If you want more flexibility beyond a timed self-timer, do a Google search for a remote trigger device for your DSLR. You will find it a useful accessory for all types of photography.



Section 2

Taking and Editing Photos

Part 5: Basic Exercises for Beginning Photographers

As I said in the beginning of this guide, essential photography skills can be learned with any camera. You don't need a high priced professional camera to take and make good photos.

This part of the guide includes a few basic exercises to help you get started with digital photography. You can learn more about the skills involved with these exercises by doing an online search. See also my MakeUseOf article, "[6 Digital Photography Websites with Free Tutorials](#)," for additional resources.

Exercise 1: Shooting Close

Take a look at photos you have taken in the past and compare them to photos in magazines taken by professional photographers. The one big difference you might notice between your photos and the ones taken by professional photographers is the subjects of your photos may not fill up the frame. Often, amateur photographers tend to shoot far away from their subjects, leaving too much dead space in the photo.



So practice shooting up close and filling up the entire frame with the object you are taking the photo of. Zoom in with the lens or physically move closer to the subject. With digital photography it won't cost you an extra penny to take several photos of the same subject, so practice shooting at various focal lengths and notice how close-up shots tend to look better.

Exercise 2: Learn Exposure Compensation

Even if you don't have a basic understanding the exposure features of your camera (e.g. shutter and aperture settings), I recommend you at least start learning about [exposure compensation](#). Look the term up in your camera's manual, and then go out and shoot subjects using various exposure compensation settings. See part 4 for more about this topic, and go online to learn more.

Exercise 3: Take Candid Shots

At the next party or event you attend, or at a family outing, practice taking candid shots. Too often we photograph people only when they pose for us. This okay, but candid, non-posing shots make for great images. With digital photography you can take as many photos as your media cards will allow, so shoot freely and delete unwanted photos later.



(Note: Beyond taking candid photos of family friends, it is legal to take candid shots of strangers on the street. For commercial photography in which you photograph models or in which ask people to model for you, you will need to have them sign a model release.

See this guide: "[Photography and the Law: Know Your Rights](#)." The purpose, however, of candid photography is not to demean or embarrass your subjects. It's used primarily as artful expression.

Exercise 4: Shoot for Exciting Color

Capturing rich colored subjects can often make for great photography. Practice going out and shooting in public places, of subjects rich in color such as signs, storefronts, and graffiti. Nature shots including colorful flowers are great for colorful shots.



Exercise 5: Night Photography

Try out some night photography shots. This will require a tripod and typically a pretty fast lens. If you don't know about exposing for night shots, start using the night photography preset or mode of your camera.



Go downtown and shoot a well-lit building or bridge. Use a fairly high ISO and slow shutter speed. When your camera is mounted on a tripod, you don't have to worry so much about shooting photographs at slow shutter speeds of upwards to one or more seconds. There are plenty of tutorials on this subject. Learning how to shoot night scenes can teach you a lot about the exposure settings on your camera.



See this tutorial ["Night Photography Tips for DSLR users,"](http://macphotographytips.net/) for more tips on night photography.

Part 6: Software for Editing Your Photos

Before digital photography, film-based images had to be processed in a darkroom or taken to a film processing shop. The skills required for processing negatives and producing prints was and still is very expensive, with an often high learning curve. When negatives were dropped off at a photo shop, they were typically processed in a machine with very little or no manual editing of negative or prints.

Digital photography has changed all that. Though there are photo editing services that will process your digital files for you, part of the joy and skill of digital photography is that you the photographer have more control over the process. In fact, learning to edit photos can actually help you take better photos.

Those who shoot with point-and-shoot cameras may often take their media cards to a small in-store photo service, and have those photos uploaded and processed straight from the card. But if you're looking to learn about digital photography, and you are shooting photos on a regular basis, you'll want to install image software on your computer that helps you manage, organize, and edit your images.

Such software will enable you to do many things including cropping and resizing your images, increasing the brightness and adding contrast to your images; enhancing the colors, and converting color images to black and white.

Camera Manufacture Software

In many cases, image editing software is included with the camera you purchase, especially in the case of compact and DSLR cameras. Both Canon and Nikon include editing software with their cameras. However, my experience with camera manufactures' software is that it's not always easy to use as other more popular image software that I briefly discuss below. On the other hand, default software that comes with your camera is not impossible to use, and it could save you money.

Online Editing Software

There are also a few online editing applications and services, such as Photoshop.com, in which you can get a lot of your basic editing needs done (e.g. cropping, exposure correction, color enhancement and gray scale conversion.)

Flickr.com and Google's Picasa services will allow you to upload and organize your images, and they include basic editing features for cropping and retouching images. Online editing, however, is typically too slow of a process for large quantity jobs, of say fifty or more photos.



Share photos with friends and family



...or explore public photos



Popular Editing Software

There are several image editing programs for Mac and PC users. They include Apple's iPhoto program, its Preview application that comes installed with Mac OS X software, and its professional program, Aperture. (Screen shot below: iPhoto '09)



For PC users, there's [Window's Photo Gallery](#) software, useful for basic photo management and editing solutions, including cropping and resizing images; fixing images that are too dark or too light; fixing red-eye problems, and titling, tagging, and organizing your images into folders.

Both Mac and PC users can take advantage of the most popular editing software on the planet: Adobe [Photoshop Elements](#) or [Adobe Photoshop CS](#) (versions 3, 4 or 5). These are powerful programs have a significant learning curve. If you are serious about photography and can afford the prices of these programs, they're worth every penny for image editing and enhancement. The programs also are useful for graphic design in which you can layer objects, use various brushes, strokes, font styles, and other design elements. (Screen shot below: Photoshop CS3)



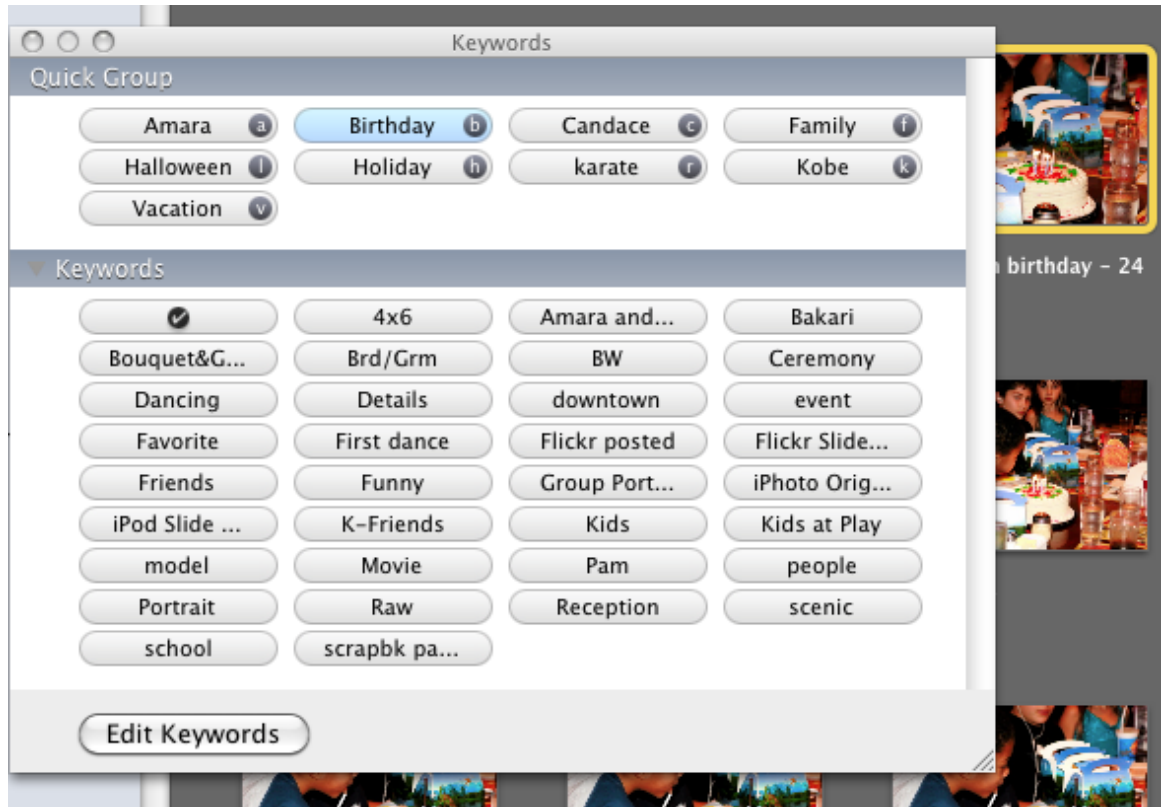
Adobe has also produces [Adobe Lightroom](#), which does most of what Photoshop Elements and Photoshop CS does, but it also includes features for managing and sharing your images.

[GIMP](#) is another image editing program that can be downloaded for free. The program has been around for a while and many online tutorials and printed resources are available for learning the program. For more about Gimp, check out some of [MakeUseOf's articles](#).

Photo Management and Editing Workflow

Entire books are written on the above image software selections. But whichever program you decide to get, it's important to develop a workflow for processing your photos when you upload them to your computer. Here's a basic outline of your workflow might include:

1. Import photos into your image software. If the photos are for clients or if they are very important family photos, you should have a process for immediately backing up your original files to an external drive.
2. Label and tag your photos with keywords. Learn all the features of your image program for labelling your images. When your images are label or tagged, you can search and locate them much easier. (Screen shot below: iPhoto '09)



Create keywords for the type of photos you take. If you take a lot of family photos, you will want to base your keywords on the names of family members, holidays and birthdays, and vacation locations. If you do wedding photography, you will want to use keywords for the various parts of the wedding day: e.g. pre-ceremony, ceremony, reception, cake cutting images.

3. Organize your recently imported images into folders or albums. iPhoto, Aperture, and Lightroom come with smart photo technology that will automatically collect your images based on the rules you set. (Screen shot below: iPhoto '09)



For example, you can have smart folders that automatically collect all your five-star rated images that include one or two keywords/tags. Smart folders are huge time savers for managing image files. See my MakeUseOf article, [How to Create Essential Smart Albums for Your iPhoto Library](#).

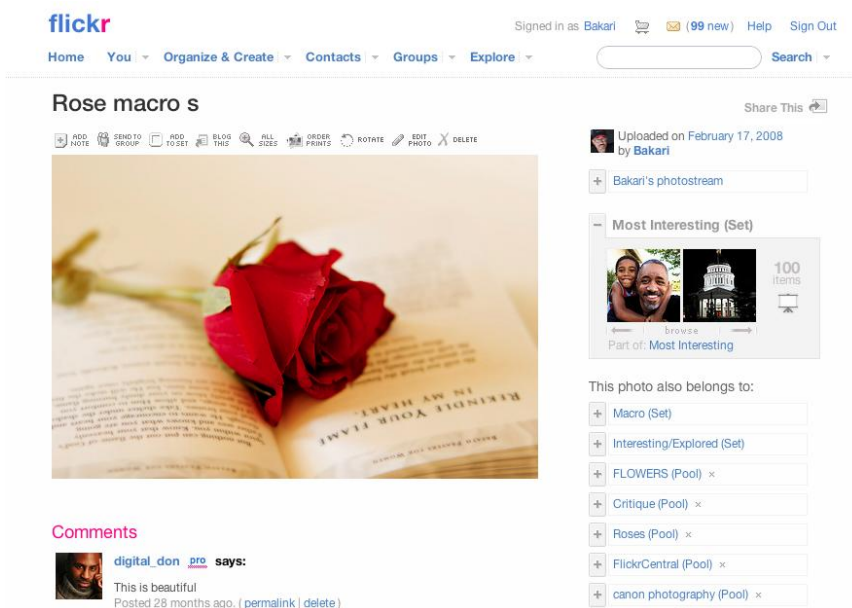
4. Select your favorite images and edit them. Image editing software can often make a dull photo look outstanding. If your exposure was off when taking photo, you can most likely correct it in an image editing program. You shouldn't depend on software to correct all your exposure problems, but learning image editing skills can really help improve your images.

Advance programs like Apple's Aperture and Adobe Photoshop Lightroom include features for copying settings you use for editing one photo and applying those same edits to one or more other similar images in your collection. This feature can also be a huge time saver. (Screen shot below: iPhoto '09)



5. Backup all your edited photos on an external hard drive and if need be on one or more CDs or DVDs. I would say that there's always at least an 80% chance that you may lose your photos because of a computer crash, the corruption of an internal or external drive, or even accidental deletion of files. So though it can often be a hassle, it's very important to back up and archive your photos.

6. Share your images. Most of time images are made for others to see. So show them off. Post your best ones on a website and make individual prints and albums. Sharing photos this way is also another way to backup your favorites.



If you're serious about photography or plan to take it a professional level, you will want to constantly develop and revise your workflow for processing images. You might go so far as to document your workflow, much like I have in this basic guideline. Your own guideline might include not only the steps you take for processing your photos, but it will also include screen shots of your keywords, the albums you set up for different types of shoots, and the settings you use for converting images to black and white.

Section 3

Help and Resources

Part 7: Learning More

I hope you have learned useful information in this guide. However, what I have provided only scratches the surface. There are tons of other resources that you can access to build your skills as a photographer. And what's great about learning photography in the Internet age is that there are so many free resources available online. I also encourage you to purchase books and attend seminars and classes that provide hands-on instruction. Likewise, share your own helpful ideas, techniques and experiences that other photographers can learn from.

A few recently published photography books that I have found useful include:

[The Better Photo Guide to Exposure, by Sean Arbabi](#)

Amphoto Books, 2008

[How to Photography Absolutely Everything, by Tom Ang](#)

(DK Publishing, 2009)

[Photo Idea Index, by Jim Krause](#)

(How Books, 2005.)

[The Digital Photography Book, by Scott Kelby](#)

(Peachpit Press, 2007)

[Lighting Photo Workshop, by Chris Bucher](#)

(Wiley Publishing, 2007)

[Understanding Shutter Speed, Bryan Peterson](#)

(Amphoto Books, 2008)

Part 8: Other Resources

The following are links to my other MakeUseOf articles on digital photography. MakeUseOf regularly publishes how-to articles on photography techniques. Linking to our RSS feed or newsletter will keep you updated on this subject.

Each of these articles will link you to even more sites and resources.

[6 Digital Photography Websites Free Tutorials](#)

[5 Useful Websites for Photographers](#)

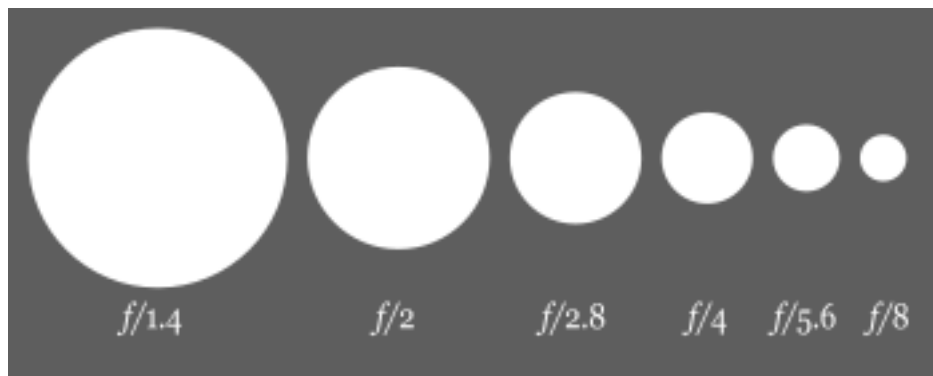
[How to Get Started With Macro Photography](#)

[Tips for Taking Digital Photos Using Live View](#)

[6 Photography & Photoshop Tips for the Perfect Family Portrait](#)

Part 9: Glossary

Aperture: The amount of light coming through a hole in the camera. The hole is based on f-stops, e.g. f/4.5, f/5.6, f/2.8. The higher the f-number, the smaller the hole. So f/4.5 allows in less light than f/2.8 or f/1.4.



Aperture Priority: When camera is set it aperture priority, it means that you will set the aperture, and the camera will set the corresponding shutter speed.

Autofocus: A camera setting in which the camera does the focusing for you.

Automatic exposure: In this mode, the camera makes all the exposure settings based the light coming into the camera.

CompactMedia card: A flash memory card largely used in DSLR cameras. It stores the photos you take with the camera.



DSLR: Digital Single Lens Reflex. A digital camera that accepts interchangeable lenses. See [here](#) for additional information.

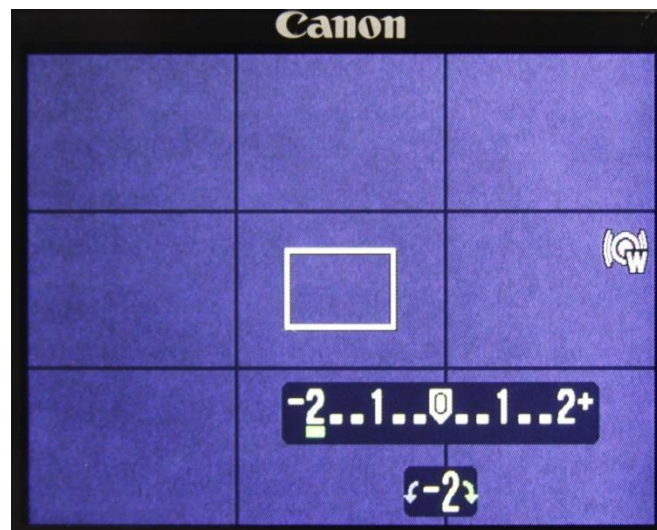


Depth of field: Refers to the amount of focus between the foreground and the background of in a photo. A shallow depth of field means that there's less focus on the background and more focus in the foreground.

Digital zoom: A feature of the camera that allows you to get closer or pull back from the subject zooming in or out with the camera's lens.

Exposure: the setting for how much light is allowed to come into the camera and for how long.

Exposure compensation: A feature used to adjust the amount of light coming into the camera.



Focal length: The length of distance from the lens to the camera's sensor. So a 200mm lens will reach the distance of a 200mm.

Hot shoe: A part on the top of a camera, typically DSLR cameras, on which you can attach a flash or strobe.



ISO: It's an acronym for International Standards Organization. In relation to digital photography, it refers to the sensitivity of light that hits the camera's sensor. The higher the ISO, the more sensitive the light.

Image Stabilization: a feature in a digital camera that helps to stabilize the slight movement of the camera when the shutter is activated. It helps reduce, but doesn't totally prevent, blurry shots.

JPEG: JPEG (Joint Photographic Experts Group) refers to a commonly used shooting mode of what is called lossy compression for photographic images. In this mode, pixels are compressed to allow for more images to be recorded on a camera's media card.

Live View: A feature on newer digital cameras in which use the camera's preview screen to view and compose a shot, as well as get a preview of how the image will be exposed.



Macro photography: Close-up photography.



Media or memory card: A card device that holds the digital images you make with your camera.

Megapixel: Refers to the amount of resolution in an image file. A megapixel means one million pixels. For example, 3 megapixels means 2048 x 1536 megapixels.

Optical zoom: A feature of most digital cameras that essentially magnifies your subject when you zoom in on a subject. This zooming feature is not as good as digital zoom.

Overexposed: Means that too much light was allowed into the camera, leading to a loss of details in areas of the photo.



Point-and-shoot: Typically a palm-size camera with minimal controls. Mostly used in automatic mode.



Preview screen: Screen in the back of the camera where you can review photos after they are shot.

RAW: A shooting mode, unlike JPEG, in which there's minimal data is compressed or processed. RAW files must be processed using a RAW image editor, such as Adobe Camera RAW, installed with later versions of Photoshop CS and Elements.

Red-eye: The effect that a built-in flash when it is reflected on subject's eyes.

Resolution: Refers to the amount of detail that is captured by a camera's sensor. For example 640x480 is low resolution, useful for web and email size images. 2240 x 1680 (4 megapixels) is much higher quality, which means that you can make larger prints at that size.

SD Card: (Secure Digital card) A flash memory largely used in point-and-shoot and compact cameras.



Self-timer: A feature in digital camera that allows you to set a time for when the shutter will be activated. Useful for taking self-portraits.

Shutter Priority: When camera is set it shutter priority, it means that you will set the shutter speed, and the camera sets the corresponding aperture speed.

Shutter lag: An issue with point-and-shoot and compact cameras in with there may be up to a second or two lag between when the camera's shutter can be activated after a shot is taken.

Shutter speed: Refers to amount of time the shutter remains open to let light into the camera. Shutter speeds can be very slow, such 2 seconds, or very fast, such as 1/2500th of second.

Underexposed: Means that a photo is too dark. Not enough light was allowed to enter the camera, resulting in a loss of detail in some areas of an image.





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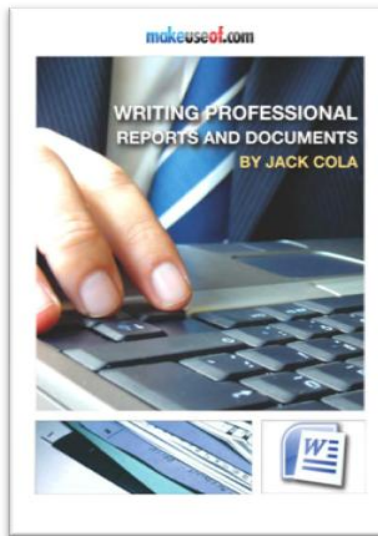
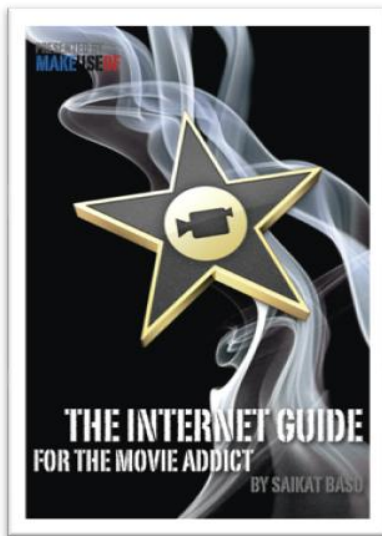
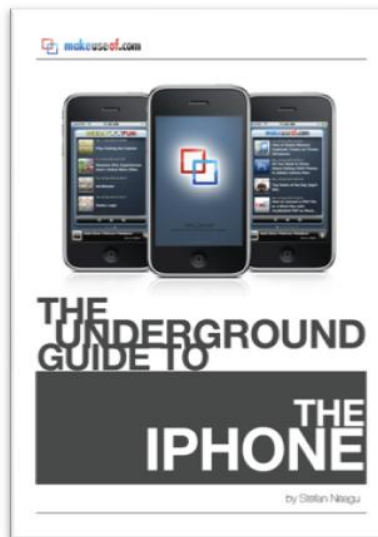
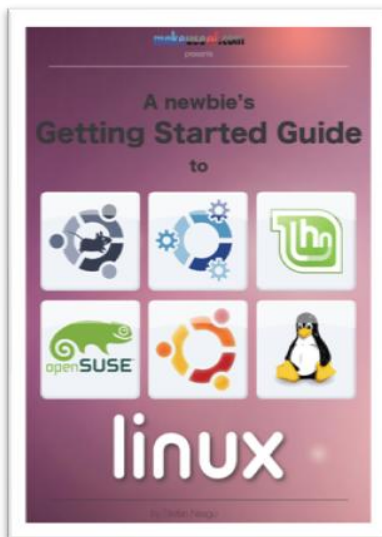
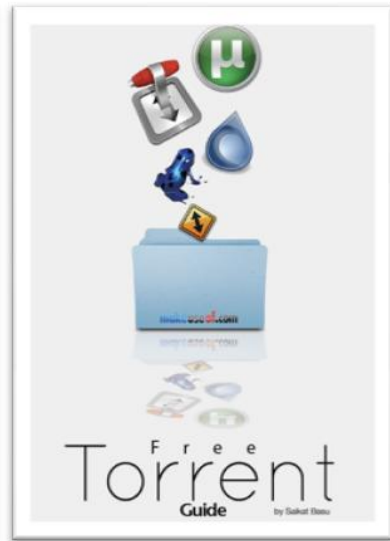
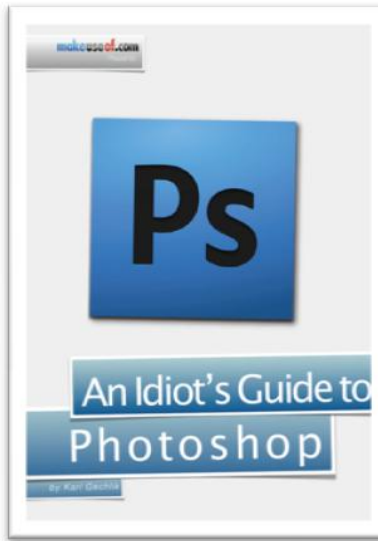
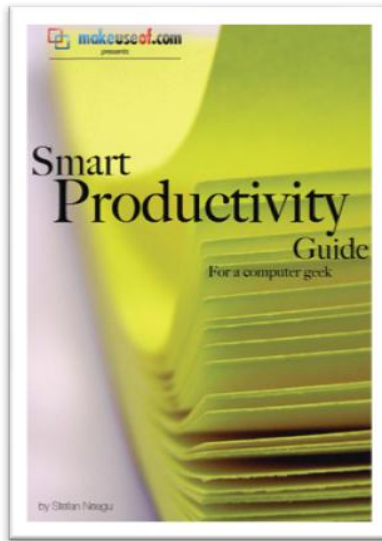
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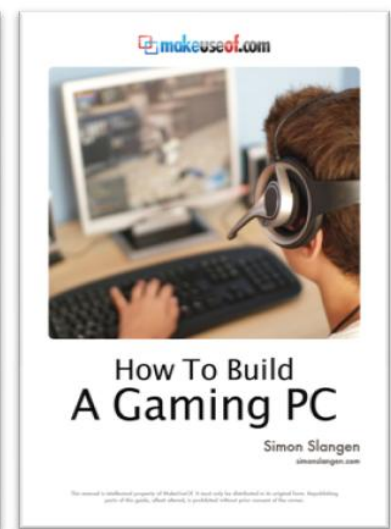
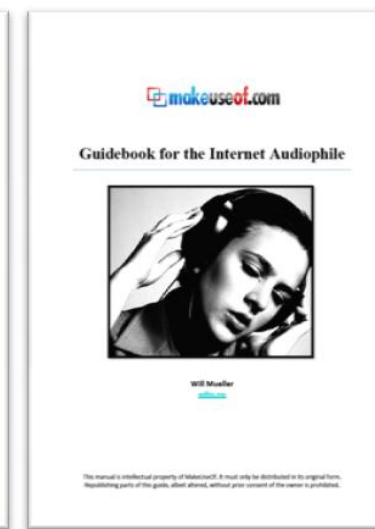
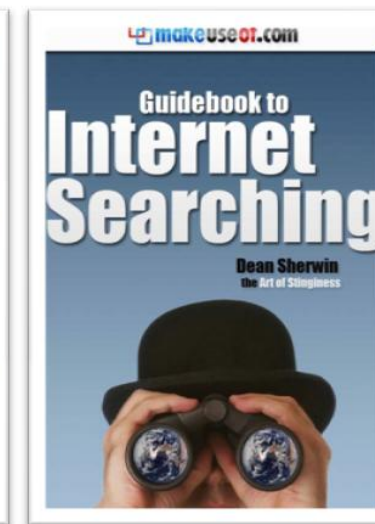
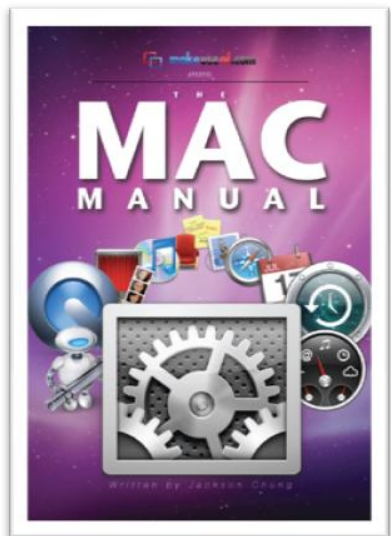


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