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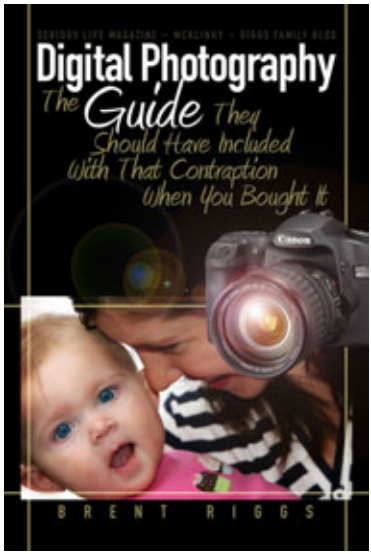
Digital Photography

The Guide They Should Have Included With That Contraption When You Bought It

BRENT RIGGS

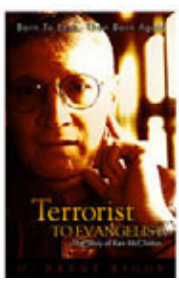
Digital Photography:

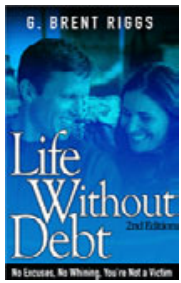
The Guide They Should Have Included
With That Contraption When You Bought It



By Brent Riggs

Some of my other books:





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The Digital Photography Guide They Should Have Included With That Contraption When You Bought It

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Table Of Contents

Dedicated to my whole family and parents… but especially to my daughter Abby who continues to bravely fight Leukemia at the time of this writing.

What's the point of this book?

- Explain the digital photography thing in a way you can actually remember and use.
- Give you what you **really** need to know and leave the rest for the schmucks who love to impress their friends with all that technical mumbo-jumbo.
- Tell you the essentials RIGHT NOW so you can start shooting better photos by lunch time... probably amazingly better.
- Help you save money by giving you the skills to do family portraits, senior pictures, baby photos and event shooting.
- Finally make that digital camera fun, easy to use and productive instead of a toy you wish you wouldn't have spent the money on.

What do guitar lessons have to do with digital photography? I thought you'd never ask...

Many years ago, I decided to take guitar lessons so I signed up with a local guy who advertised professional instruction. I went to three or four lessons and he showed me all sorts of theory, technical information and in-depth instruction about the guitar. I learned absolutely nothing.

Then, one of my friends who plays guitar said, "come on over and I'll show you a few things. You'll be playing in no time." After spending a few sessions with him learning a just what I needed to know to start playing simple songs, I was amazed at the difference between the "professional instruction" and "just show me some of the cool stuff I need to know to get started". He said, "here, do this, now do that and practice this little trick". Just like that, I was playing my first song even though I had no idea what the heck minor, diminished and augmented triads were.

Just knowing some basic cool stuff is never going to make you a professional guitar player, but there is an awful lot you don't have to know just to be able to strum a three chord country song. The basics of good digital photography are kind of like that... you don't have to be an expert and totally educated in all the professional, technical and complex topics that can drown you when you first type in a Google search for "learn digital photography".

My gift as a teacher and writer has always been to take complex and/or broad topics and distill them down to simple and easy-to-understand basics. It is with this in mind, I wanted to write a digital photography book.

If You Are a Pro, This Book Is Not for You

If you are a pro, you don't need this book. Give it to your brother-in-law's wife who just bought her first Canon Rebel. In fact, this book may irritate you professionally because you're going to feel that I have oversimplified many things

and left even more out. This book is Brent Riggs' version of what the beginner or enthusiastic digital camera owner needs to begin taking excellent photos. That's all this book is meant to be, nothing more. Expectations are everything.

The Mission

What you'll find in this book is everything I wish someone would've told me the day I bought a digital camera. When I first began to self educate on digital photography, I was buried in a bunch of technical explanations and hard-core professional photography information. If you want to move into the level of "serious amateur on your way to being a professional", then all of that complex technicality is useful. But not for the rest of us...

I want to be the guy who teaches you the cool stuff today that will allow you to shoot incredibly better photos tomorrow. I want to filter out everything you really don't have to know to start producing great images right now. That is the mission of this book.

I hope you enjoy this book as much as I enjoyed writing it. You have the benefit of several years of my own self education and "trial and error" distilled down into a few pages that I guarantee will dramatically increase your ability and love for digital photography.

You'll discover that **I repeat important things over and over** throughout the book because repetition is the king of learning. My wonderful wife had the excellent idea of sprinkling these definition boxes on every page over and over so that people could really learn these critical terms.

Depth of Field: how far you can move away from the object being focused on before blur begins. See page 40

There's little doubt I will create additional volumes in this series, so feel free to e-mail me with your questions or topics you would like covered in the future. All the non-product photos in this book (unless otherwise noted) are photos I personally took.

To better blogs and great pics,

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Quickstart

If you only want to read one chapter and make your photos a hundred times better then you're on the right page of the right book. If you are like me, sometimes you just want to get the "super distilled, what really matters, cut to the chase, just tell me what I need to know to start shooting great photos by lunchtime" information, and then get busy trying it out. If that describes you, you're in luck... here's the quick start basics. Remember, this is not "step by step" instruction; it is the KNOWLEDGE you need to understand HOW to take great photos. You know, the "give a man a fish, teach a man to fish" concept. So get your camera and your pole, read this section, and then go out and take some great fishing shots!

Tripods

Whenever possible, use a tripod. Camera shake (from holding the camera) causes blurring. The difference between soft (blurry) images vs. sharp (in-focus) photographs are like the difference between hearing me sing in the shower or attending an Andrea Bocelli concert. If you don't have a tripod, get one. If you're shooting and you cannot use a tripod, learn to hold steady by maintaining a good solid stance and properly gripping the camera. Keeping your camera as still as possible is one of the most important aspects of getting crisp, sharp, remarkable images.

Basic Modes

Today's digital cameras already have preset modes that do a decent job. Learn them. Typically you'll have portrait, landscape, macro, night time and sports modes. Each of these will have preconfigured settings that will set your camera up for you and give you a relatively good chance to get it right. Learn those modes and use them. The "fully automatic" mode is often adequate when you have good lighting in a typical casual setting. Many people are lazy or insecure with their cameras and never venture off of full auto. When shooting a specific type of shot, use a basic mode to match such as portrait mode.

Lighting

Avoid using flash if at all possible. Natural diffused light is **always** the best for photography. Imagine sunlight shining through a sheer curtain hanging over a window. That is diffused light. When outdoors, overcast skies or shade is always better than harsh direct sunlight. If you must photograph in direct sunlight, have the sun shining from the back of your subject.

If you're forced to use a flash, do not point the flash straight at the subject; bounce the light from the flash off the ceiling or another wall or diffuse it. More on how to do that later in the book when I start explaining things more in depth.

Good Blur

Most of the time when you hear the word "blur" in the same sentence as "photo", you automatically think BAD! Not so my friend. From now on, "blur" is your holy grail, especially with portraits.

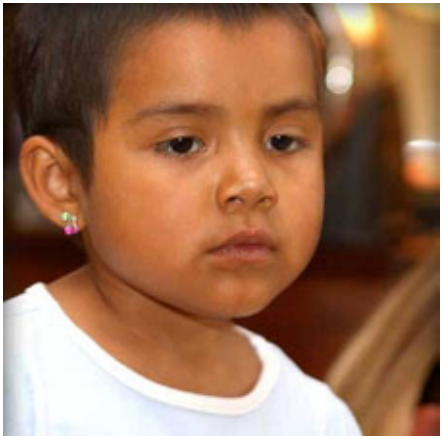
Bad blur is when you do not hold the camera steady and things that *SHOULD be in focus are not*. Bad blur, bad bad blur.

However... you know those photos where the background is blurred and the fore ground just seems to jump out at you?

That's "good blur". The correct term in photography is "bokeh". You'll see it stated over and over in this guide that the aperture value determines the background blur.

Aperture: how much the lens opens to allow light to pass through; also used to control background blur. See page 42

Here's a sample of good blur:



This is my daughter Abby. As of the time of this writing, she is fighting Leukemia, so you'll see photos of her with varying amounts of hair.

Notice the blurred background? Good blur! Here's another example of good blur (that's Abby on right side):

My friend Jerry Palmer took this photo. (jerrypalmerimages.com) Beautiful background blur.

Focus

Using the correct basic mode on your digital camera will give you a good chance to get the kind of sharp focus you want. If your camera and lenses have autofocus, use it. Position the autofocus points in your viewfinder on an area that has crisp lines and good contrast so your camera can determine focus. Learn to FOCUS THEN FRAME (page 10).

For portraits, focus on the subject's eyes and use the largest aperture available to get that nice blur in the background. For macro shooting, use a large depth of field to focus the entire object.

Depth of Field: how far you can move away from the object being focused on before blur begins. See page 40

When shooting landscapes, use a wide angle lens and a large depth of field.

Rule of Thirds

Don't put your subject in the boring center of a boring picture. Put the

subject or point of focus off center. I explain this further on page 22.

Basic Post Processing

Post processing is just a fancy way of saying "cleanup and polish up your photos in an image editor". There are basic things you can do to almost every photo to improve it. In this quick start section, I can't go into detail about each of these four basic tasks. I'll let you know what they are here but you'll need to do some further education to become proficient at them.

Post Processing: opening your photos in image editing software to make improvements. See page 44

The reason why I mention them in this quick start guide is because these four items alone are enough to dramatically improve almost all of your photos:

Cropping your photos means cutting off the parts of your photo that do not add to the quality of the photo. It is a sort of "zooming in" on the most interesting aspects of the photo. By learning to crop your photos, you give the appearance of always having captured the perfect composition and framing of the subject.

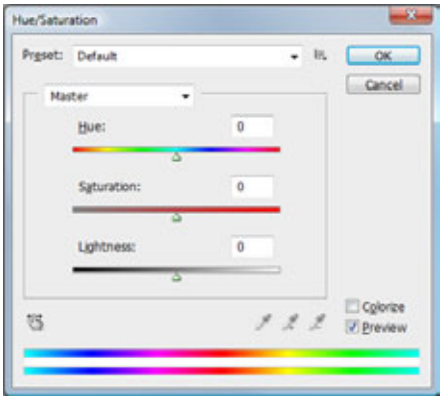
Here's an original uncropped:

Now cropped... see how the feeling of the photo changes:

Levels ("fill light" or "contrast" as it is called in more basic software) is the ability to control the shadows, mid tones and highlights of a photograph. It is the overall lightness, darkness and contrast of your image. Typically, you will slightly increase the highlights, lighten the mid tones and darken the shadows a tiny amount. Not always, but often. By adjusting the levels you increase the contrast and richness of the image. Software like Photoshop or Paint Shop Pro allow you to independently adjust all three, where more basic software like Picasa or Windows Photo Gallery give you one control and the software does the thinking for you.

Saturation is adjusting the brightness and vibrancy of color. If you de-saturate a photo, you are moving it towards being a grayscale image.

If you saturate, it's just the opposite. You are causing the colors to be more rich and intense. Typically you'll want to increase the saturation on your images to help bring them to life. Be careful, as oversaturation looks unnatural and can easily ruin a photo.



Here's an original:

Now with appropriate saturation:

Sharpening is a filter that gives the appearance of causing your photo to become more focused. Over-sharpening can cause an unnatural graininess where proper sharpening can transform a soft image into a spectacularly crisp photo. Except in photos where the blur is on purpose, sharpening is a terrific, and standard, improvement to your photos.

A sharp, in focus image:

A soft, out of focus shot:

Format

Many photography books and professionals will tell you that "raw" is the only format you should shoot in. If you are a professional, get on it. However, for the casual photographer and serious amateur the quality of the JPEG format is absolutely fine. Set your image file format to JPEG, Large, Fine.

The Basics

If you immediately flipped the page and are still reading, then you probably aren't one of those Quickstart junkies. You want to learn more before going out for a test drive.

The next logical step is to teach you some of the basics about digital photography. Usually this is where most books venture off into a bunch of complex concepts and impressive technical explanations. You feel like you just enrolled in a certification program where you could have a pop quiz any minute and the main point of the course is to demonstrate the superior knowledge of the instructor. The good news is, I've kicked the instructor under the bus and taken over the class.

Knowing the basics allows you to get consistently good shots. It's worth your time to learn them.

I'm going to do my best to take the technical issues and put them into plain English and easy-to-understand analogies... and leave out stuff doesn't really matter. I'm going to tell you everything I wish someone would have told me the day I bought my first digital camera.

Remember That You Are Still Under Oath

Before we start with the basics, I need to tell you the truth, the whole truth, and nothing but the whole ugly truth about photography: **sometimes you have to spend money to get better photos**. You can wring out the very best possible from your little pocket digital or your new Rebel and its stock lens but it can only take you so far.

Granted, that "so far" can be some pretty decent pictures but if you're going to the next level, at some point you're just going to have to spend some money particularly on lenses and lighting.

I just want to plant that seed in your mind so that it doesn't come as a huge shock when it finally dawns on you that you can't take world-class photos with $267 worth of photography equipment and Windows Photo Gallery.

With that said, let's move on...

Tripods

When at all possible, shoot on a tripod. No matter how hard you try, you simply cannot hold your camera as steady as a tripod (unless you buy a piece of junk tripod). Skimping on a tripod is almost as much a waste of time as deciding you don't need one at all. There's nothing quite like the feeling of watching the leg of your tripod collapse and witnessing your camera falling to the ground. Or the irritation of having your camera slowly lean to one side because the top of your tripod does not have sturdy controls. If you have a heavy lens, a low-quality tripod will often result in your camera sinking forward and you'll get some nice shots of the ground or people's feet.

Get a decent tripod, preferably one with a ball mount, and whenever possible, USE IT. Here's a link to the tripod I use: http://www.amazon.com/gp/product/B001Q206EQ/ref=oss_T15_product

Flashes

There is one basic rule about using flash. Now try to follow me here because this gets pretty technical. There are a wide variety of interpretations. Ready? **Don't.**

Try as hard as you can to avoid using your flash. It throws harsh, washed out light onto your subject and except in cases where you're having some fun scaring the doo doo out of your friends, keep your flash put away or turned off.

When there are situations that call for the flash, learn to use the light indirectly, diffused or as a fill to light up dark shadows. I'll explain those things here and there throughout this book as it applies to different parts of photography.

It is appropriate to tell you here that your built-in pop-up flash is actually a satanic manifestation. Do yourself a favor and get a decent mounted external flash that works automatically with your camera model (I'm talking about those of you who own DSLR's not pocket digitals; a DSLR is one of those "real" cameras that have changeable lenses and look like the old film cameras. DSLR stands for "Digital Single Lens Reflex" if you

want to sound really smart and impress your friends). To be on the safe side, get a flash from the same manufacturer as your camera body. I have a Canon 40D so I purchased a Canon Speed Light flash. I never have to worry about it working correctly with my camera.

As a rule or when in doubt, avoid using your flash.

Exposure: the amount of light your camera sensor receives given the other settings. See page 43

Learn the other techniques for increasing the amount of light (exposure) to help you avoid the flash of death on your images.

If you MUST use a flash, point it up and bounce it off the ceiling or a wall instead of pointing it at your subject.

Lenses

If you have a pocket digital you don't have to worry about lenses. They make it simple by slapping one in there for you and that's what you're stuck with.

More and more people, however, own DSLR's because the prices are dropping as fast as the quality is rising. A DSLR typically comes with a standard decent lens. The stock lens is usually just good enough quality to start you salivating for one of the remarkable lenses available today. Nikon and Canon are two popular brands and both offer a dazzling selection of high quality lenses. I should warn you, lens-lust is a very real addiction.

Camera lenses are definitely the area where spending some money pays off. It's a fact that buying a couple of higher quality lenses will result in an exponential increase in the quality of your photography especially in lowlight or zoom-action situations.

For this basics section, know this about lenses: a zoom lens allows you to bring a faraway subject closer to you. A macro lens allows you to take close-up shots of typically small objects. A wide-angle lens allows you to shoot things like landscapes. I give you more information and recommendations on lenses later in the book.

Camera Settings

Remember, this is the basics section. I'm not going to explain each of these settings here but I want you to be aware of which settings you should be interested in as you learn more about photography. They are **ISO** (the camera sensors sensitivity to light), **white balance** (the camera's ability

to adjust to the lighting which might be tinted blue or yellow for example), **exposure** (how much light to allow into the camera affecting how light or dark the image turns out), **aperture** (the size of the opening of the lens which allows you to control how sharp or blurry parts of the image are at varying distances, known as "depth of field") and **shutter speed** (how fast the camera opens and closes the shutter freezing movement). These are the most common settings you want to learn and I go into more detail later on starting at page 39.

Lighting

There are two sources of lighting: natural and artificial. Whenever possible, natural light is always preferable to artificial light (from flashes and lighting equipment).

As an amateur photographer look for a source of natural light that is diffused. The best way to explain diffusion is with the curtain in the window analogy I mentioned in the quick start section. Imagine rays of sunlight shining into a window through a sheer white curtain. You end up with a soft gentle light resulting in smooth color and rich tones rather than harsh shadows and washed out color. Other sources of diffused light are overcast sky (clouds are one of nature's best diffusers), sunlight reflected off a wall or other surface or light that is broken up because it is shine through something like fabric, paper or frosted glass.

When natural light is not available, learn to diffuse the light from your flash or lighting equipment using soft boxes, reflectors or material. More on that later in the tips section.

Focus First Then Frame

Point your camera at the object you want in sharp focus. Push your shutter button half way down.

You should see or hear some indication that your camera has attempted to focus on the object.

Without lifting your finger, you can now move your camera lens and frame (or compose) the photo however you want.

Point, press the shutter button half way down and focus the part of the image you want sharp or have attention. In this photo, I wanted the water he was splashing to be in focus:

Without releasing the shutter button, frame the scene, then press to capture the image. The original area you focused will stay in focus:

Learn to focus first, then frame, EVERY time you take a shot.

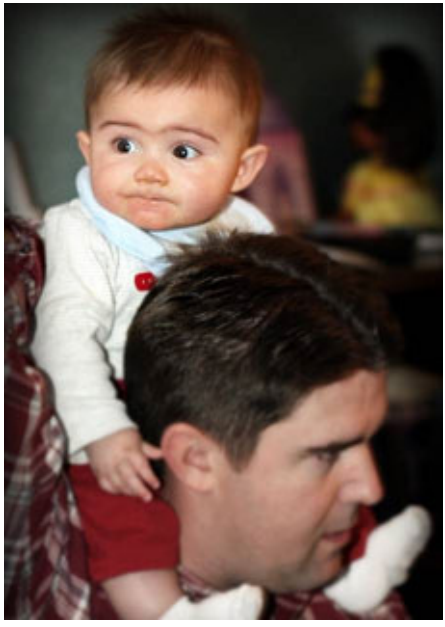
Other

In the quick start section, I talked about basic post processing and cropping.

Post Processing: opening your photos in image editing software to make improvements. See page 44

They are in the quick start section because they are essential and you should really know them. Refer back to the quick start guide if you need to refresh your memory or hang on and I'll talk more about them in detail later in the book. I mentioned them here just to re-emphasize that cropping and simple post processing are basic skills you want to learn.

My beautiful Bride and Abby at about 2 years old.



I love shooting kids. My favorite.

Tools, Examples and Demonstrations

After you're finished with the photography session, it's time to open up the image editor and start having fun. I have mentioned many of the concepts and topics already in this book but I'm going to explain and demonstrate a few of them in more detail at this point. On page 44 I also define many of the terms you'll find in this section. The best way to teach you most of this is simply to show you examples.

You'll need to refer to your software and its help files to learn more about how that particular tool works in the software that you want. I can tell you that if you invest a little bit of time learning the basic tools 1) they aren't hard to learn and 2) you'll be glad you invested the effort. Here's a taste of how much you can improve a photo with some post processing in an image editor:

Sharpening

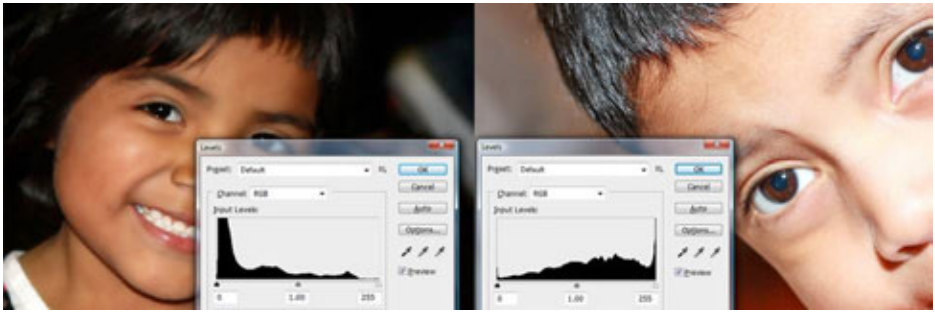
Sharpening is a filter found in most image editing software that allows you to increase the perceived focus of an image. Over sharpening can cause a grainy, noisy effect but in general sharpening can improve the quality of almost all of your images. You should use it routinely but it is not a replacement for good camera focus when you actually take the shot.

Saturation

Saturation is the function that allows you to increase or decrease the intensity and vibrancy of the color in your images. Properly used, saturation can bring an image to life. Improperly or overused, it can make your photos look unnatural and have strange coloring.

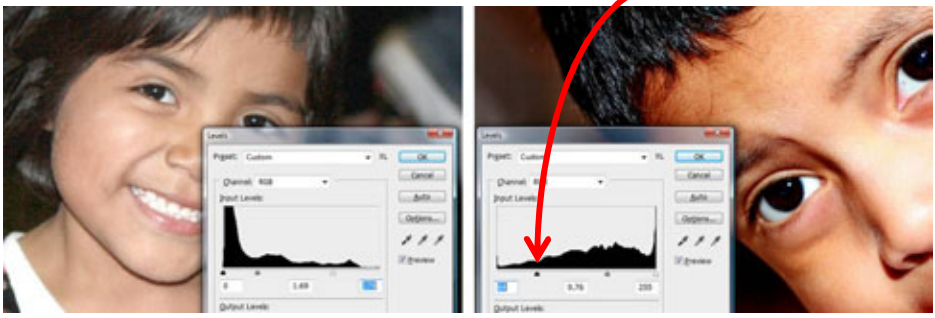
Levels or Fill Light

Levels give you the ability to control the shadows, mid tones and highlights of your photos. In conjunction with histograms (which give you a visual indication of the values of the tones in your image), levels can help you dramatically improve your photos. The closest you will get to this in more basic image editing software is usually called "fill light" or "contrast".

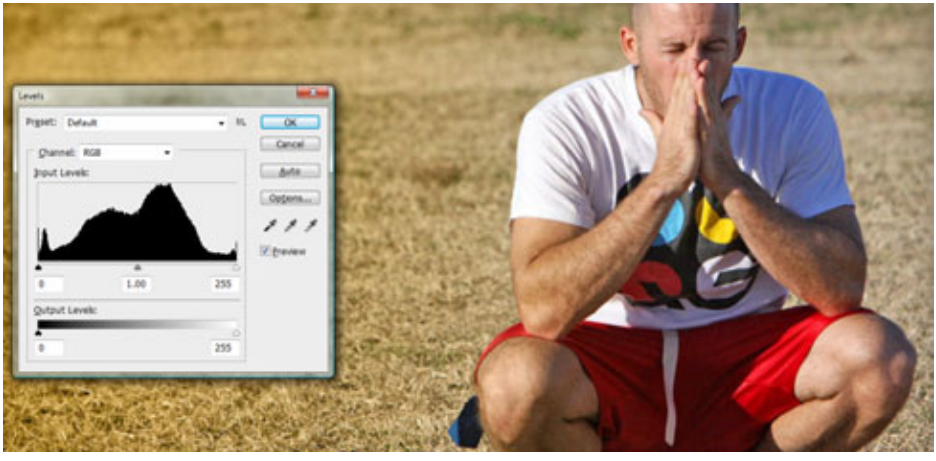


In the left picture, the histogram shows most of the data over on the left side. The left control is shadows, the center is midtones, the right is highlights. You can see the right photo is more balanced but still leans towards being light.

I've exaggerated the adjustments, but notice how I've moved the controls and changed the image (the controls are the little triangle sliders below the graph):

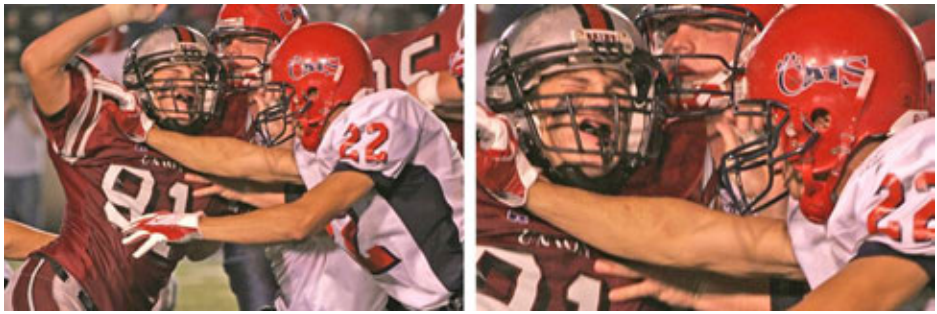


The left image has light midtones and exaggerated highlights. The right image has exaggerated shadows and the midtones are darker. You have individual control over all three tonal areas. For typical pictures, ones that are not mostly light or mostly dark by design, you're looking for a bell curve histogram which indicates a balanced photo:



Cropping

Cropping is one of the most important skills you will use. Cropping allows you to focus on the parts of your photo that are truly interesting. Skillful cropping can take a boring average photo and turn it into a dramatic image. I get asked routinely, "how do you always seem to get just the right shot?' Answer: cropping! The best way to teach you cropping is to show you examples.



The photo on the left draws attention to the collision between players. After cropping on the right, the photo is now about the expression on his face.

The left-hand photo is a typical snapshot and doesn't really draw attention to anything special. After cropping, the photo becomes a personal interaction between Jasmine and Landis (my youngest son). Abby (my daughter on the left side) is really not adding anything interesting to this shot and the dark piece of furniture on the right is just a distraction. Cropping fixes all of that.

Step Out Of That Photo

One of my favorite techniques I've been using for years (and honestly have become an expert at) is making a photo look like it is coming out of its borders. I first started doing this for the **High School Sports Magazine** I helped create. It really set us apart from other magazines. Particularly with sports photography, this technique brings the action to life and gives is a genuine 3D appearance. I now use it often for photographs of children because it adds a very special interest to the overall composition. The best way to explain the technique is to simply show you step-by-step how to do a basic one (though I have many variations that increase the depth and visual interest even more):

First, look at the original photo. Find nice edges and objects that can protrude from the edges of the photo.

Second, draw guides where you want the edges of the photo. You can now see what I plan to make protrude.

Now you can see I've removed the large areas outside the photo frame except for the parts I want to show.

Zoom in, use your selection tools to carefully select and delete the background around the protrusions.

Protrusions really bring photos to life and they are FUN to do!

Visine Takes the Red out

Cameras often cause "red eye". The flash of a camera shoots light into the pupil of the eye before it has a chance to dilate, reflecting the color of red back to the camera. A lot of modern cameras have a red eye feature that will fire off a burst of light before the actual shot giving the eye a chance to dilate. Most image editing software has a red eye feature where you simply click the tool, select the red eye, and like magic, it's gone. Learn it, use it.

Brush Those Teeth Virtually

No matter how white teeth may appear to the human eye, most people have a slightly yellow tint or stains unless they've been to the fancy teeth whitening doctor. Virtual teeth whitening is especially useful as we get older. Our teeth have been around a little longer and are not bright white any more (unless they are put in a glass every night).

In your image editing software, use the selection, saturation, and levels to remove the yellow tint and brighten their teeth for them (they will love you for it, especially if you brush out the moles and wrinkles too).

Tips, Tricks and Suggestions for Taking Great Photographs

We finally made it to the fun section of the book. Now I'm just going to rattle off a bunch of random coolness about improving your photography skills. I've put them in logical groups but other than that, there's really no rhyme or reason to the order. It's just a list of tips and suggestions which have helped me and I wish someone would've told me these when I first got my camera.

General Photography Tips

Framing the Picture

There two ways to look at the composition and framing of your photos. First, framing is what you see in your camera's viewfinder or on the LCD monitor right before you're about to take a shot. You can choose framing where the subject basically fills the entire frame, which might be a close-up of a portrait or a vast landscape. Or, you can choose to have the subject take up a small portion of the frame, allowing the background to provide context and interest to the story, complimenting the subject. As you consider a shot, determine if the background is important to the overall composition and frame appropriately.

The framing in this first shot leaves a lot of distracting, uninteresting background. My daughter Abby is on the beach along with shoes, chairs, trash... all sorts of things that keep you from looking at her. The real focus of the story is what she is doing with her hands. Framing too much of the background makes your eye wander to the junk on the ground:

This framing puts the viewers attention on what is important:

Different Perspectives

Most people shoot their photographs from a boring, straight on eye level perspective. Yawn...

Get creative and change your perspective. Shoot from low to high. Bend down, squat down, lie down and shoot up at your subject.

Find a high spot and shoot down your subject. Shoot at an angle; shoot from a non-standard side of the subject.

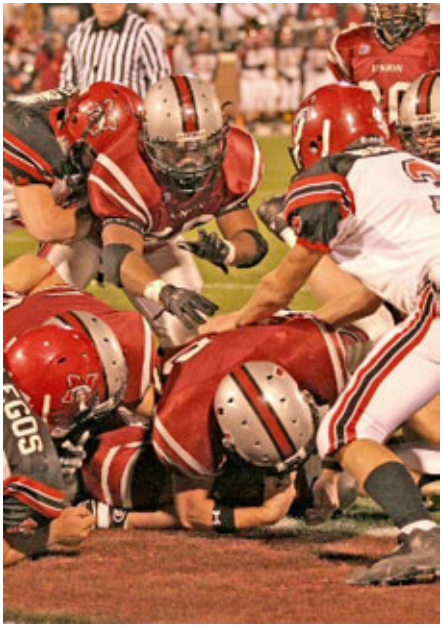
There really no rules, the point is to get you to be creative and take shots which are not the same old boring snapshots you've seen a million times.

Timing

The best time to shoot landscapes is 30 minutes before or after sunset and dawn. The best time to shoot people, wildlife or plant life outdoors is on an overcast day with soft diffused sunlight. The best time to shoot sports if you have average camera equipment is during the daylight hours because you need a lot of light when you're using fast shutter speeds.

Shutter speed: how quickly the lens opens and closes in order freeze action or allow different amounts of light to enter. See page 43

With sports photography, timing is also important with respect to getting the right shot at the right moment... the touchdown, the chest bump, the slide into home plate or the sand flying out of the trap on the golf course.



Backgrounds

Consider the background of each shot. If the background does not create interest in visual appeal, then frame the picture in such a way as to limit the background, or use your aperture setting to blur the background.

Aperture: how much the lens opens to allow light to pass through; also used to control background blur. See page 42

Examine your background and remove distracting objects, colors or textures that will draw attention away from your subject. Consider solid color backgrounds such as white or black to provide greater contrast.

On a practical note, background blur can hide the fact that you have not prepared a perfect photo setting... that's a nice way of saying that your house might need to be cleaned or the bushes need trimmed. Background blur can hide a multitude of transgressions.

Camera Orientation

There are three orientations you can shoot from: landscape for wide; portrait for tall; or having your camera tilted a little to the left or right to make the subject appear at an angle in the photograph. Each of these three can bring an interesting framing to any type of shot so learn to consider all three no matter what the subject. You'll see that the photos in this book demonstrate all landscape, portrait and angles shots.

Landscape

Portrait

Angled

Flash Diffusers

A flash diffuser can be a plastic cover that cups over your mounted flash or it could be a soft box that has white material diffusing the continuous lighting from a light stand.

A diffuser helps keep flashes or continuous light from being harsh and washing out your image. You can buy equipment and accessories to diffuse light or use things from your surroundings like curtains, sheets, a T-shirt, even a piece of poster board. To do this, let light either pass through these objects or bounce off them. The point is to not let direct light hit your subject.

Flash really washes out the color in portraits. Put a diffuser on the end of your flash and learn to point your flash away from the subject and bounce light off the ceiling or wall. There is rarely a time pointing a flash directly at your subject is a good idea except in harsh sunlight where you're using the flash to light up the dark areas caused by the sun.

Jumping Jack Flash

Never point your flash directly at your subject unless you are using it as a fill light on purpose. A fill light is used to counteract harsh shadows typically caused by direct sunlight. Let me explain... Even though your scene may be brightly lit by the sun causing harsh shadows, you use your flash to exposes those dark shadow areas.

When you're using your flash, point it towards the ceiling or a side wall and bounce light off another surface. This helps to diffuse the flash of artificial light and make it softer.

Photo Bursts

Most cameras have the ability to do what is known as "continuous shooting". With continuous shooting, your camera will fire off a multiple burst of pictures. By doing this in sports photography, you increase your chance of getting that great shot at just the right moment. By doing this for portraits or groups, you increase

your chance to get just the right facial expression or an entire group with no goofy looks.

Rule of Thirds

The rule of thirds is a great way to instantly increase the quality of your composition. Imagine your viewfinder with a tic-tac-toe grid on it. You have three across and three down. Each spot that two lines cross in the tic-tac-toe grid is an ideal place to place the center of your subject.

You'll notice what this does in essence is keeps you from shooting your subject dead center which is boring beyond belief. By placing the subject on one of those intersections which is one third of the way from any edge, you open up the background and create visual appeal by avoiding the boredom of centering your shot.

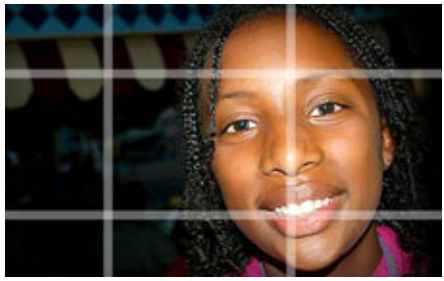
When doing the Rule of Thirds, it becomes critical to "focus then frame" as described on page 10. Otherwise you might be focused on the center of your composition, while the subject you've moved over to a "third" is now soft and out of focus.

Simply put, do this:

1. Point the camera directly at the subject
2. Hold down your shutter button half way and let your camera auto focus
3. Without lifting you finger, move the subject to a "rule of thirds" position
4. Now finish pressing the shutter button to take the photo

Focus in the center first by pressing the shutter button half way down:

Then move the subject over without releasing the shutter button:



Close-ups

Don't be afraid to get close to your subject whether it is inanimate or a person. Close-ups make for some of the most dramatic and intimate photographs.

Tips for Portrait Photography

Backgrounds

When shooting portraits, quite often you want that nice blur in the background. This allows the subject of the portrait to really stand out in the photo.

Aperture: how much the lens opens to allow light to pass through; also used to control background blur. See page 42

If there are objects or interesting context in the background that helps tell the story of the subject then you may want to go ahead and include the background in focus. Remember that the way to control the border in the background is by using the aperture setting which increases or decreases the depth of field.

Depth of Field: how far you can move away from the object being focused on before blur begins. See page 40

Camera Rotation

Use all three angles of your camera for more interesting portraits: landscape (horizontal or wide), portrait (tall or vertical) or slightly angled. By varying the rotation of your camera lens in relation to the horizon, you can add interest to otherwise plain portraits.

Lighting, Lighting and More Lighting

For portraits, the best kind of light is natural light. Search out natural sunlight that is diffused (such as when it passes through window curtain or bounces off the side of a building). The clouds on an overcast day are a perfect source of diffused light. If there are no clouds, find some shade which will result in much better pictures than direct sunlight. If you're

stuck shooting in open sunlight, try having the sunlight shine from the back of your subject.

Spotty or Broken Lighting

Avoid what is known as spotty or dappled lighting. The best way to describe this is the crazy shadows you get when sunlight passes through a tree with leaves on it. You end up with this mass of bright light and spotty shadow that makes your subject hard to highlight. An exception to this rule would be something like the light shining through a window frame. Have the shadows of the window frame fall onto the subject, making it interesting, not confusing.

Closer Is Better

When photographing couples, closer is always better. It is more intimate, more personal and more interesting. Closeness represents relationship and togetherness. When photographing couples (or people who are related to each other), be creative about getting them closer together, especially their faces.

Shoulders

You rarely want to photograph a portrait subject with the shoulders turned squarely towards you. It is unflattering and boring. Have them turn their shoulders at an angle. Try having them drop their front shoulder and leaned towards you slightly. Or have them turn where their back shows to the camera and they are looking over their shoulder at you. Be creative and remember that pretty much any pose except the straight on square shouldered pose can be interesting.

Chinese Portraits

Okay, that was a lame attempt at humor because I'm going to talk about "chins". You know, Chin, ha ha, Chinese name? Moving on. Many of your subjects will be blessed with more than one chin. You can help keep this from being over emphasized in your photos by having them lean slightly towards you and raise their head up which in effect turns those three chins into two or hopefully one. The consistent use of this trick could drastically reduce the population of China. Get it? Reduce the number of Chins... moving on again.

Use a Shallow Depth of Field

You recall that controlling the aperture setting allows you to determine the depth of field which is a fancy way of saying "how blurry is the background going to be?"

Aperture: how much the lens opens to allow light to pass through; also used to control background blur. See page 42

With portraits, that nice blurry background allows the subject of the portrait to really stand out in the image. The background blur does not always have to be what is behind the subject. Sometimes it can be a blur that occurs even before the back of the subject is reached.

Depth of Field: how far you can move away from the object being focused on before blur begins. See page 40

In other words, you might have such a small depth of field doing a close-up shot of a face that the eyes, nose and mouth appear in sharp focus, but by the time you get to the ears and the hair the image has begun to blur.

High Plains Drifter

One of my favorite sets of photography equipment is my "cowboy studio". It is a lightweight, compact couple of bags that have backgrounds, a frame to hang them on, light stands and soft boxes. You can buy the whole thing in an inexpensive kit. Here's a link: http://www.amazon.com/gp/product/B002VIJ334/ref=oss_T15_product

The Eyes Have It

When shooting portraits, there is rarely an occasion where you will not focus on the eyes and make them as sharp as possible.

The eyes are the window to the soul for a reason and living by this rule will always keep you in safe territory during portrait shots.

Just Say No to Bubble Heads

When you shoot in shorter ranges or with wide angle lenses you risk a portrait subject appearing distorted. The best way I can describe this to you is to get you to imagine the "fish eye" effect when you peer through the peep hole of your front door. That is an exaggeration but it helps to understand what I'm talking about.

By shooting at 70 mm or higher, you avoid even the slightest fisheye effect which could make their nose, eyes or foreheads appear unnaturally oversized. This is particularly important when shooting the precious ladies who are especially mortified when you use a camera to blow up the size of their nose.

Wild People

Treat wildlife like people. Focus on the eyes, zoom in, and experiment with close-ups using different depth of field (blurred backgrounds). With most wildlife shots, like people, it will be the head and face of the animal that will be of greatest interest. The zoom lens is almost a

Depth of Field: how far you can move away from the object being focused on before blur begins. See page 40

requirement because most wildlife, of course, is not going to allow you to walk up and ask them to pose.

Shutter speed: how quickly the lens opens and closes in order freeze action or allow different amounts of light to enter. See page 43

If the wildlife is running or moving, you'll also want to use fast shutter speeds to freeze the action (but don't forget to play around with motion blur and slower shutter speeds to give that feeling of action and speed).

Zoom for More Realism

When shooting people, consider using a good zoom lens so that you can shoot them from a distance. This is typically useful in candid settings such as events. If they don't know you are taking their picture, they're more likely to have a natural expression and be doing something that is an interesting human experience.

Stealth Shots

You don't always have to hold up your camera to your eye and announce you are taking a picture. Often, I will walk around with the lens cap removed from my camera kind of holding it in front of my stomach or at my side as if I'm not taking any pictures. Then, I will secretly be snapping pictures, trying to catch situations and expressions that are not hindered by the conscious presence of a camera. Another trick is to have the camera sitting on a

table or your lap as if you are not using it and have it pointed in the general direction of something interesting. You can hide a wireless remote in your pocket and fire off shots without anyone knowing your photographing.

You are not doing this in the sense of being a private detective or a spy. Stealth shots are to help you capture people and situations that are unaffected by the change in their demeanor once they realize the camera is being pointed at them.

Group Shots Tricks

When you're shooting groups of people, don't use the common "okay folks, on three, smile and I'll snap the picture". This ends up in fake expressions and forced smiles. A better technique is first of all, always smile yourself. As you're setting up the shot, if you are smiling and in a good mood, you get others to naturally begin to smile and be in a good mood.

Second, when you're ready to take the shot, have everyone close their eyes and say to them "I'm going to count down from three and everyone open your eyes... three, two, one, open". This will help you avoid the dreaded "at least one person has their eyes closed or halfway closed" that plagues group photos. It will also assist you in getting more natural looking expressions on their faces.

Using your smile, good mood and this trick, you'll be able to get much better group photos.

Use Shortening, Mix Thoroughly

No, I'm not talking about a recipe for cookies. I'm talking about a technical term called foreshortening. The easiest way to explain this is to demonstrate.

Have someone stand in front of you, and hold out their hand straight towards your face. Visually, their arm appears to be very short and narrow. This is because by pointing their hand at you instead of parallel to the horizon, you have shortened the distance between their shoulder and

the end of their hand and your eyes. Voilà ... foreshortening.

When you do a group photo, the tendency is to spread everyone out left and right along the horizon line, making the photo wider and wider. We try to remedy this by squeezing everyone closer together. A visually creative way to remedy this and make the photo less wide-angle is to move your camera position where you're looking more "down the line" rather than simply side to side.

You'll notice the group photo on the last page is simply a left or right, side to side arrangement of the group. In the next picture (the family sitting on the couch) you still have left to right but there's also front to back by moving your camera angle to the side, effectively narrowing the width of the picture and adding visual interest.

Burst Those Groups

Use your burst mode or continuous shooting when photographing groups to increase your chances of getting a photo where everyone is actually smiling, looking up and devoid of silly expressions. The more people in a group, the more chance you have of one person ruining the shot, so bursts of pictures give you more choices. Another trick I use to correct this problem is opening multiple pictures in Photoshop and taking a good face from one photo and merging it onto another photo where the same face has one of those awkward expressions. You can often do this successfully because in group shots the orientation of the face does not change much.

Real-Life Portraits

Shoot portraits of people living their real-life as opposed to posed studio portraits. This is my favorite type of photography and I find the level of human interest to be much greater in these candid shots that I do when people are posing.

Give Me Some Props

Those posing for portraits are often uncomfortable because they don't know what to do with their hands or feel awkward just sitting or standing there all by themselves. Consider giving them a prop, something to do, something to hold or something to engage them. This will help them relax and make them more natural in their expression.

Depth of Field for Groups

Set your aperture for a large depth of field when shooting groups so that everyone in the group remains sharp and in focus.

Depth of Field: how far you can move away from the object being focused on before blur begins. See page 40

Aperture: how much the lens opens to allow light to pass through; also used to control background blur. See page 42

Distraction

Use your personality, humor and general good nature (be sure to get one if you don't have that yet) to make your portrait subjects feel comfortable and relaxed. By talking to them about things that are not related to having their picture taken, you'll get them to be less self-conscious and more natural in their expression and posture.

Before the Pose

Under the guise of "I'm just getting my camera set up right", take a bunch of photos before the actual posing begins. You'll often find that these shots are much more natural and interesting than the posed ones.

Tips for Sports and Action Photography

Can I Just Say One Word: Zoom

When shooting sports or action, it is often impossible to be close to the subject. A good zoom lens is a requirement for any type of success in sports photography whether it's a professional sport or your kids Saturday afternoon soccer game.

Can I Just Say Another Word: Shutter Speed

Okay that's two words, and put together with zoom they are the three most important words in sports photography. You must have fast

shutter speeds to freeze the action in sports unless you purposely want motion blur to convey movement.

Shutter speed: how quickly the lens opens and closes in order freeze action or allow different amounts of light to enter. See page 43

Typically 1/640 shutter speed setting is adequate to freeze frame most types of sports. If you're still experiencing blur at that shutter speed, try increasing it but remember: the faster the shutter speed the less amount of light that is allowed to enter through the camera lens. Your photos will tend to be underexposed.

If you have to stick with a really high shutter speed because the fast action of the activity requires it, you'll want to begin to adjust your ISO setting and aperture to allow more light into the image.

ISO: controlling how sensitive your camera sensor is to light. The more sensitive, the more grainy "noise" you'll get. See page 40

Aperture: how much the lens opens to allow light to pass through; also used to control background blur. See page 42

That Awful Stadium Lighting

When you are at a sports stadium at night, no matter how bright it may appear to your human eyes, I can assure you that it is a lowlight situation for your camera. Even the bright lights of a professional athletics stadium are poor lighting for a camera. You can imagine how horrible the lighting is at a typical high school stadium. The worst: a gymnasium.

When I used to shoot for a high school sports magazine I created, the biggest

challenge was always getting well lit photos in poorly lit stadiums (which was every stadium, no exceptions). So what's a guy to do?

Aperture: how much the lens opens to allow light to pass through; also used to control background blur. See page 42

First, shoot "wide-open" which is photographer slang for setting your camera to the lowest aperture your lens will allow. Remember that the lower the aperture the larger the lens opening. The larger the lens opening, the more light that is allowed to pass through the lens.

ISO: controlling how sensitive your camera sensor is to light. The more sensitive, the more grainy "noise" you'll get. See page 40

Second, shoot at the highest possible ISO. Keep in mind that higher ISO settings can cause your photos to have that grainy effect known as "noise". That's the bad news. The good news is that digital cameras are getting so good today that you can shoot at high ISO settings with very little noise. The higher the ISO setting, the more sensitive to light your camera sensor will be, helping you have greater exposure in lowlight situations.

Exposure: the amount of light your camera sensor receives given the other settings. See page 43

Third, open up your wallet and buy a decent lens. You're not going to take your out-of-the-box f/3.5-5.6 zoom lens to a nighttime athletic event and get good shots. You need to invest in a decent lens with at least an f/2.8 or better capability. No, they're not cheap but they are worth every penny if you're serious about taking good photos in low light environment. Given that many of you reading this will be taking most of your photos indoors, at home and family events, the need to invest in one good lens will be the difference for you.

Finally, get a lens with image stabilization. Image stabilization

helps correct the shaking that occurs during typical sports photography as you handhold the camera or use a monopod (a monopod is a tripod with one leg).

Shutter speed: how quickly the lens opens and closes in order freeze action or allow different amounts of light to enter. See page 43

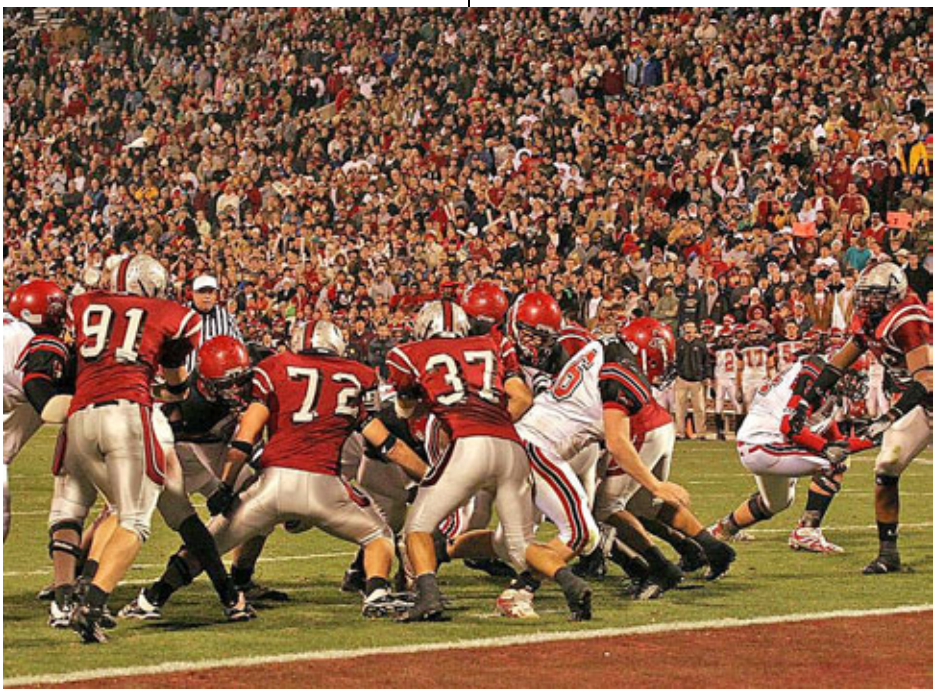
Image stabilization will allow you to decrease the shutter speed slightly (allowing more light to enter) while avoiding the blur that can occur at lower shutter speeds.

Know the Right Spot

In sports, being at the right place at the right time is the difference between getting the same average shots everyone else gets, and getting that one remarkable, perfect photo. If you know your sport, then you'll have a better idea of where to position yourself at the right time to get that exceptional image. It might be in the end zone during a football game, behind first base in a baseball game or at the far end of a balance beam at a gymnastics meet. Remember to shoot and continuous burst mode when the moment occurs to give you the best chance of getting a shot at the exact moment you're looking for.

Machine-Gun Photography

Put your camera in continuous burst mode. Memory cards are cheap. So don't be afraid to rattle off lots of bursts of pictures when shooting a sporting event. With all of the action it is almost impossible to take great pictures when firing off one snap at a time. By taking a stream of six or eight or even a dozen photos for every "moment" you're capturing, you dramatically increase the chance that you're going to get that perfect shot at the perfect instance.



More Aperture

At sporting events, there are typically a lot of busy and distracting backgrounds. You've got people walking around, seating full of folks doing everything from picking their nose to falling asleep, and completely shot-ruining objects like fences and parking lots full of cars. By increasing the aperture on your lens you can blur out the backgrounds that will otherwise either ruin your photo or at best cause a distraction. A blurry background in your picture causes the subject to stand out

Aperture: how much the lens opens to allow light to pass through; also used to control background blur. See page 42

Tips for Shooting Landscapes

Timing Is Everything

The best time to shoot landscapes is 30 minutes to an hour before or after the sun rises or sets. That is one wordy way to say "dusk or dawn".

The light during this time is rich, soft and diffused. Add that to some nice clouds and you have the makings of a coffee table book cover. Any other time of the day, barring the absence of an overcast sky, you're going to have to deal with harsh direct sunlight. You can get some nice photos even in bright sunlight but they are not nearly as brilliant or rich as those taken in the light of dusk or dawn.

No Tripod, Don't Bother

The farther away something is, the more camera shake will affect focus (camera shake is anything that causes your camera to be less than perfectly "sitting still"; this can be from your hands or body moving, to your finger pushing down the shutter button).

When you're shooting landscapes, it is very easy to get soft blurred images from the slightest bit of vibration or movement. Use a tripod to shoot

landscapes, and even better, put a remote switch on your camera so that you don't have to touch your camera at all to take the photo. A remote switch connects to your camera either wirelessly or with a cord allowing you to take the photo without having to press the shutter button with your finger which often causes camera shake.

At dusk or dawn you're dealing with a lowlight situation and the need to decrease the shutter speed.

Shutter speed: how quickly the lens opens and closes in order freeze action or allow different amounts of light to enter. See page 43

Depth of Field: how far you can move away from the object being focused on before blur begins. See page 40

Aperture: how much the lens opens to allow light to pass through; also used to control background blur. See page 42

You will also shoot landscapes with a smaller aperture because you want a large depth of field, and you do NOT want blur anywhere in the photo (a general rule; you sometimes want blur, but it's on purpose).

The lowlight, slow shutter speeds and small apertures will all conspire to give you underexposed photos, making a tripod even more of a necessity.

In the photo below, we had a crippling ice storm but WOW!!! was it beautiful to photograph! The colors and the detail of the ice made for a set of amazing pictures.

Wide-Angle

Use wide-angle lenses to capture the dramatic breadth of landscapes. Lenses from 10mm to 70 mm are great for landscapes. Don't be afraid to experiment with a zoom lens on occasion, just to be creative.

Panoramas

You can shoot a series of overlapping shots from left to right and use software to create an amazing panoramic view which one shot from

your camera is incapable of capturing.

Above is the example panorama that I took of the Teton Mountains. It stitches together a dozen photographs into one. Actually, the real photo is about twice as wide as this example but I couldn't show it all on a 6x9" page. I have it mounted and framed as a 56x12" photo right above my monitors where I work. Very inspiring!

Many cameras come with software that will automatically help you create a panorama from individual photos. Photoshop also has this capability. If you do not own software that has a panorama-stitching tool, then Google it. There's plenty.

Tips for Shooting Macros

Macro is a fancy photographer's term for shooting close-ups of small objects like bugs, flowers or products. The primary and most useful tip I can give you for shooting macros is to get a macro lens. There are different ways to light macro scenes and if you are going to specialize in macro shooting, I suggest you get a book dedicated to it. I'm not going to spend a lot of time in this book talking about macros because it is more of a specialty type of photography. Use the macro basic mode on your for those occasional macro shots of bugs, boogers and flowers.

Everyone with a camera usually gets around to the shot of a flower so here are a couple of tips along those lines.

Flowers

The best time to shoot close-ups of flowers is on an overcast day so you will have soft diffused sunlight.

You know all those scenic, beautiful shots of flowers with raindrops on them? Chances are those are raindrops were water bottle drops. Take a water bottle with you and spray a mist onto the flowers you are photographing for that beautiful "dew in the morning" effect.

Avoid taking all your shots looking down onto the flowers. Get down on

the ground, lay down on your stomach, or down on one knee… whatever it takes to get low and shoot at different angles.

Experiment with putting backgrounds behind the flowers. Take some sheets of white or black poster board and put them behind the flowers before you take the shot.

Depth of Field: how far you can move away from the object being focused on before blur begins. See page 40

As a general rule, use a high aperture for an increased depth of field so that the flowers are sharp and in focus from front to back.

Aperture: how much the lens opens to allow light to pass through; also used to control background blur. See page 42

You might want the other flowers that are receding into the background to become blurred, so play around with different aperture settings to the get the look you want.

After the Shot – Post Processing & Image Editing

It is quite beyond the scope of this book to discuss all the different types of image editing software. Here is a quick description of three popular and widely available programs:

Post Processing: opening your photos in image editing software to make improvements. See page 44

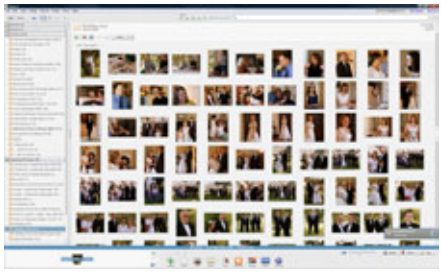
Photoshop

Adobe Photoshop is the king daddy, top dog, professional image editing software. Yes, it is expensive but over the long-term is worth every penny. If you are a student, you should check

into educational pricing. Because it is a professional level piece of software, you do have to spend some time educating yourself but I can tell you honestly it's really not that hard to learn a handful of basic tools, the ones you will most often use.

Add that to a bottomless well of filters and plug-ins that are available and you can be an image editing Photoshop guru in no time... or at least you'll be good at the tools you need to know to greatly improve your photography.

Picasa



Picasa is a free photo organizer tool that is available from Google. It also has some pretty decent but very basic image editing tools. They are adequate enough for the casual user to make significant improvements to average photos.

Windows Live Photo Gallery

Windows Live Photo Gallery is part of the Windows operating system. Like Picasa, it is primarily a photo organizing tool but also contains a decent set of color correction and image improvement features.

If you want more full-featured image editing capability but not ready to spring the bucks for Photoshop, check out programs like Photoshop Elements, Paint Shop Pro, Photo Studio and Paint.net. For a budget price you get a nice set of features that will allow you to accomplish most basic post processing tasks.

Post Processing: opening your photos in image editing software to make improvements. See page 44

Here is a list of free or low budget programs you might want to investigate: Paint Shop Pro, Paint.net, GIMP, Corel Photo Paint and Apple Macintosh software, Photoshop Elements (PC too), ColorIt!, PhotoStudio, Acorn and Pixelmator.

Time to Print

Once you have taken a photo and then edited your image, you are either going to output it electronically or physically print it on photo paper. Here are some general tips from my experience:

Printers - while there are many printers that do a good job outputting photos there really is only one best and that is Epson photo printers. Besides having superior quality and speed, Epson's also come with individual ink cartridges for each color which is much more economical than replacing all the colors every time one of them runs dry. It is hard to go wrong with any Epson photo printer. Do yourself a favor, spend a little more upfront and buy a large format printer up to "11x17" or "13x19". Once you get the printing

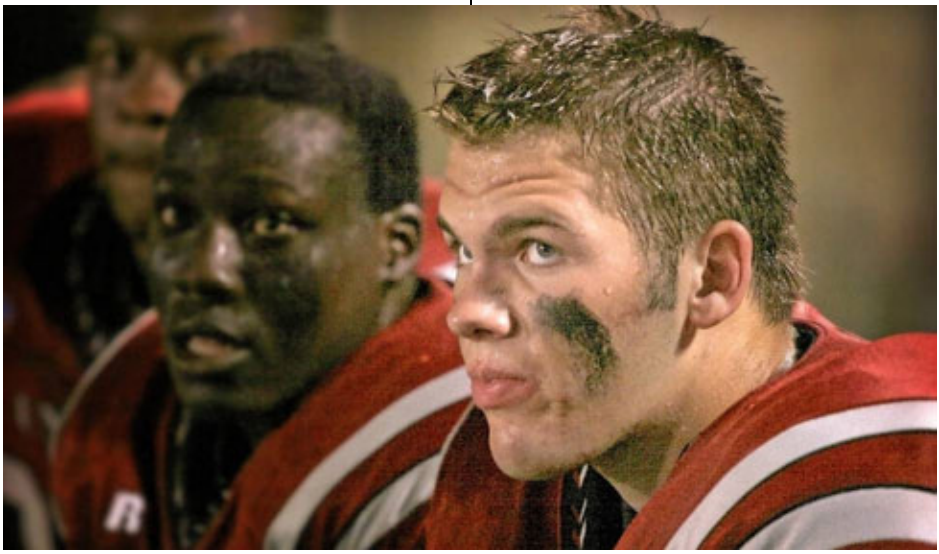
sickness, a letter sized printer will leave you wanting. Make sure you download and install the proper color profile for your printer. Refer to the printer help files for more information about color profiles.

Photo papers - along with Epson printers, your safest bet is to also use Epson premium photo papers. There are other brands that print quite well on Epson equipment but make sure you confirm that the paper is compatible with Epson photo stylus printers before you spend the money. Buy an assortment of paper sizes so that you do not end up wasting paper. Typical sizes are: 4 x 6, 8.5 x 11, 11 x 14, 11 x 17 and 13 x 19. Having a box of each of these sizes on hand gives you a lot of flexibility and helps you avoid printing a small picture on a large sheet of paper and having to trim off the waste.

Other Fun Ideas – Photo Books, Online Albums

Instead of an entire shelf of photo albums, compile your photos into a full-color book and use a service like www.lulu.com to print a few copies. I have printed several "photo books", and I can tell you from personal experience, it is really nice to have all of my family and event photo archives available in a printed book and not just in a photo album or on a computer disk.

For example, we went on a two-week Make a Wish trip for Abby and I published all of the blog posts and photos in a full-color volume. So now we have that memory and event forever immortalized in a nice book and we were able to give copies to other people. If you want to see what I'm talking about, here is a link to a



PDF version you can view: http://www.brentriggs.com/makeawish.pdf

It is also very common to put photos up online in a web-based album. You can use automated photo album tools in software like Picasa or at services like Flickr.

If you want more control and choices for photo album themes, my favorite software is JAlbum.com. It is easy to use and offers a very wide range of features, styles and options for displaying and even selling your photographs. Here's a link to photo gallery made with JAlbum: http://www.seriouslifemagazine.com/galleries/albumbrentbrentriggscom/index.asp?issueid=&index=12&gallery=brent@brentriggs.com

All That Technical Mumbo Jumbo In Plain English

One nice thing about today's digital cameras is that you do not have to be a technical genius to be a photographer.

That statement makes a whole lot of professionals mad because we amateurs are encroaching on sacred ground. However, it is a fact that the technology is allowing the non-technical photographer to do some pretty fantastic work. It was not too many years ago that if you did not have a solid technical understanding of photographic equipment and processes, you might as well not even bother. Then along came Polaroids and pocket film cameras. Even then you weren't really a photographer, you were just a snapshot enthusiast.

With the advent of high-quality, low-priced digital cameras, almost overnight the opportunity arose to become a decent photographer by simply knowing how to flip a switch to "on", set the lens to autofocus and choos fully automatic shooting. A technical understanding used to be a requirement for any decent photographer. Now that same technical understanding will take you to a level of excellence above the average photographer.

In this section I'm going to explain in simple terms and plain English the most common technical terms. You know all those little definition boxes sprinkled through this book? This is where I elaborate on those. They really are not hard to understand if they are explained to you properly.

White Balance

What we perceive with our eyes to be white and think of as "white" in our mind is rarely truly white. Depending on the lighting, what your eyes perceive as white will really be some shade of gray or some tint of color.

The white balance in photography refers to your camera's ability to compensate for the ambient lighting where you're shooting. If there are light bulbs casting a yellowish color on everything, then something white will have that yellowish tint (in reality all the colors of your image are affected by this yellow tint but it shows up most obviously on things that are white). Fluorescent light casts a blue color. A lack of light will cause "white" to look some sort of shade of gray. The white balance of a camera adjusts for all these realities.

ISO

ISO: controlling how sensitive your camera sensor is to light. The more sensitive, the more grainy "noise" you'll get.

Again, this refers to the film speed. Of course, nowadays with digital cameras there is no actual film so this is kind of a throwback to how film worked in the old film cameras. It has to do with how sensitive your camera sensor is to the light that enters the lens. The more sensitive, or higher the setting, the more light that is collected when the photo is snapped; However, you also get a higher degree of what is known as "noise"- a sort of graininess in the image. The lower the setting, the less sensitive your camera sensor is to the amount of light available. This means there is less noise in the image but it also means the image is darker.

The ISO setting helps you to adjust to different lighting situations as you shoot. Generally, the rule of thumb is to choose the lowest ISO setting you can. The reason to raise your ISO is in lower light situations where you need your camera to be more sensitive so that your photos will not appear too dark. Start with ISO 100 and go higher if the situation calls for it. Today's cameras can shoot at higher ISO settings with little noticeable noise (correcting a technical issue that has been a pain in the photography butt for a long time).

Depth of Field

Depth of Field: how far you can move away from the object being focused on before blur begins.

Depth of field refers to how much of the image is in focus given its distance from the lens.

Remember at the beginning of the book where I told you about "good blur"? Depth of field and aperture (explained next) allow you to control good blur or "bokeh".

The background in this photo is a perfect example of good bokeh.

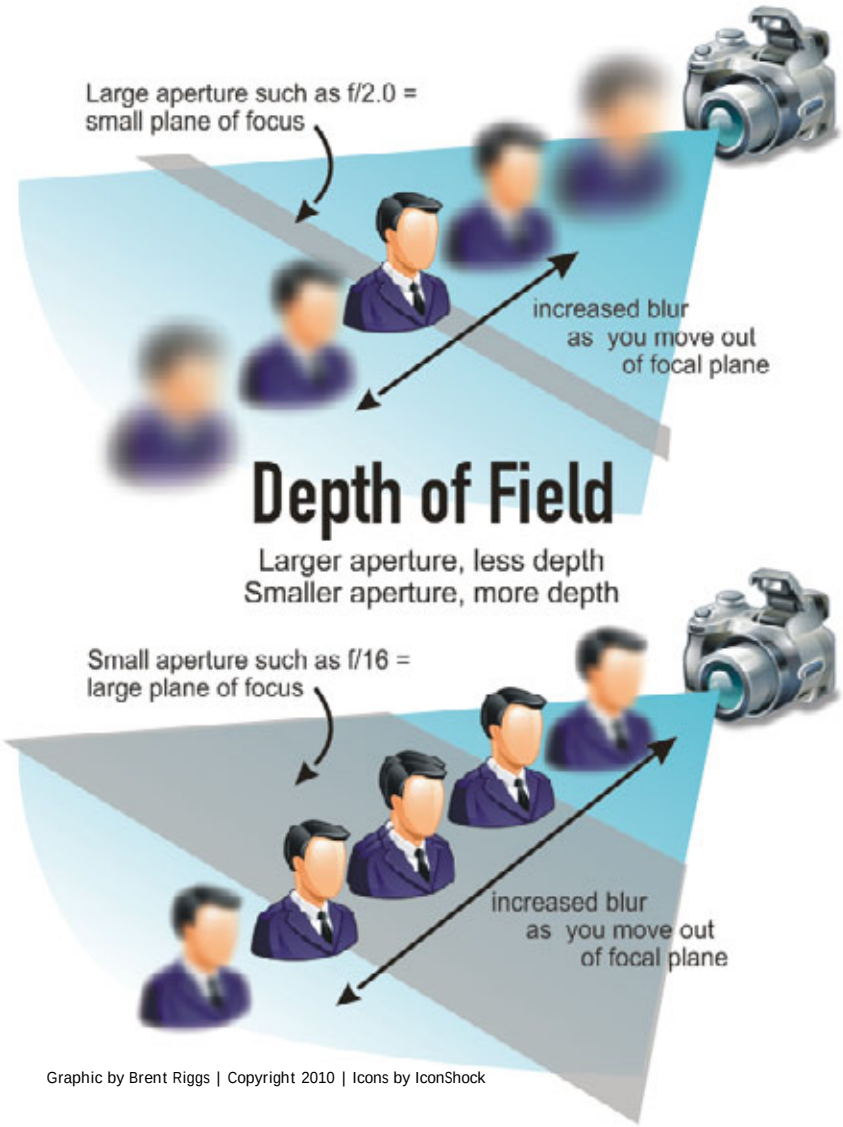
The best way for me to explain Depth of Field to you is to give you an

exaggerated analogy and show you a graphic I created just for this book.

Imagine you are photographing a man standing 5 feet from you. There is a second man that is 20 feet away. If you have a LARGE depth of field due to a smaller aperture value, both men will be in focus. A large depth of field means a larger range of distance away from the object you are focusing on will remain focused (in either direction, nearer or farther).

If you have a SHALLOW depth of field because of a larger aperture value, then the second man will be blurred. A shorter range of distance will be in focus as you move away from the object you have focused the camera on.

Another example: with a very shallow



depth of field you could do a portrait shot where the eyes could be in perfect focus but just the distance to the ears would cause them to be blurred.

Setting the aperture allows you to control how much of your image depth is in focus (a.k.a. depth of field).

Typically with portraits, you want a shallow depth of field so that the person is in focus but the background behind them is blurred out.

Just the opposite with landscapes; you want a large depth of field so that everything in the photo is in sharp focus.

In very simple terms, think of the aperture as a way to control the focus of the background: if you want blurry backgrounds, have a small aperture value (which is a large lens opening); if you want the background and the entire photo to be in focus, have a large aperture (which is a small lens opening).

Note: a large lens opening also lets more light in, something to consider in low light situations.

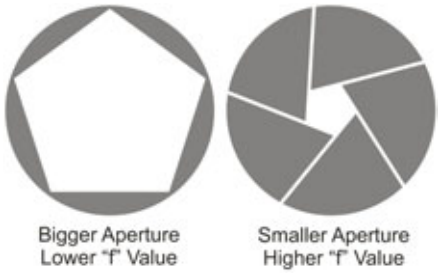
Aperture

Aperture: how much the lens opens to allow light to pass through; also used to control background blur.

Aperture is the size of the opening in your lens. It is commonly referred to as an "f-stop" and you'll see it written like this: f/2.8. It is generally true that camera lenses with lower f-stop capability are more expensive but I highly suggest you invest in at least one good lens with a low f-stop so that you can take decent pictures in lowlight situations and get the wonderful background blur that you know you dream of. I'll give you some recommendations at the end of the book about which lenses I choose.

The rule:

- The smaller the aperture value (f-stop) the larger the opening, the more light that enters the camera, and the more shallow depth of field (more background blur). Smaller f-stops are f/1.4 to f/2.8.
- The higher the f-stop value, the smaller the lens opening and a less amount of light will enter the camera. A higher f-stop value also increases the depth of field (less background blur). Higher f-stops are f/3.5 and above



If you jumped to this aperture section from another page, back up and read the Depth of Field explanation. It is critical to understanding aperture.

The photo on the next page is an example of a higher aperture value and larger depth of field (the background stays in focus):

Shutter Speed

Shutter speed: how quickly the lens opens and closes in order freeze action or allow different amounts of light to enter.

Shutter speed is the setting that allows you to control how fast the camera snaps a picture. The faster the lens opens and closes, the more "frozen" your image is. A fast shutter speed is typically used in photographing sports or other action environments where you need to be able to freeze something that is moving at varying speeds. Typical shutters speeds you'll encounter:

- To effectively freeze sports action is 1/640
- 1/100 or 1/250 are typical shutter speeds for every day candid shots of people just sitting, talking or walking by
- 1/8 or 1/2 shutter speeds necessary in lowlight situations (the shutter stays open a longer to allow more light in and increases the need to use a tripod). You'll start to have a hard time not seeing motion blur at these shutter speeds.

Motion blur has nothing to do with your camera being focused properly. Motion blur is caused by movement in the photo. The longer the shutter is open, the more chance there is for your subject to move.

Have you ever taken a photo of someone and their head looks okay but their arm was moving and is all blurry? That's motion blur.

Exposure

Exposure: the amount of light your camera sensor receives given the other settings.

Exposure is the overall amount of light present (or not present) in an

image causing it to appear lighter or darker. Adjusting the exposure settings on your camera will help you adjust to low light or bright light situations. Under exposure causes dark images and over exposure causes washed out light images.

Automated Camera Modes

In the quick start guide, we discussed the basic modes that come with most cameras: portrait, macro, night time, sports and landscape. By choosing one of these basic modes, your camera is automatically set to the most typical configuration for that type of shot, giving you a pretty decent opportunity for a good photo even if you do not understand technically what those settings are.

Going beyond basic modes, there are creative modes that allow you to manually control certain settings. Those are:

AV Mode

The AV mode allows you to manually control the aperture setting. Remember, the aperture allows you to control the background blur. So AV mode works really well for shooting portraits where a blurred background is preferable. AV mode is also great for shooting group shots when you need to make sure you have a large depth of field so that everyone in the group remains in focus on the image.

TV Mode

"TV" stands for "time value" and allows you to manually control the shutter speed. I'm not sure why they just didn't call it a shutter speed mode but there you go. TV mode is good for shooting action or sports and manually making sure you are freezing the action or creating exactly a motion blur on purpose (so that it will convey a sense of movement).

Program Mode

The simplest way to explain program mode is to think of it as "point and shoot with no flash". So when you are in those settings where flash is not allowed, program mode becomes your best friend.

Post Processing Functions

Post Processing: opening your photos in image editing software to make improvements.

Now let's talk about the basics of your image editing software and the typical features you'll use to improve your photos. Post processing is simply opening your photos in an image editing program so that you can improve them in various ways.

Sharpening - this is the process of making your photo appear to be more in focus. Most image editing programs do a very good job at sharpening your photos automatically. However, keep in mind that sharpening is not a replacement or a quick fix for taking poor blurry pictures. Good focus and sharpness starts at the camera and can be improved by software sharpening.

Saturation - this is the ability to move the colors of your photo more towards gray (desaturation) or make them more intense and vibrant (saturation). Proper use of saturation can bring your photos to life but overuse can make them look unnatural and strangely colored.

Levels - the ability to control the shadows, mid tones and highlights in

your photo. This is not to be confused with simple controls of contrast or lightness/darkness which only give you a flat, linear adjustment of all three (shadows, mid tones and highlights) simultaneously.

"Levels" allow you to SEPARATELY control each. The midtone control will allow you to adjust an image to be lighter or darker overall. The shadows control will allow you to increase the depth and richness of shadows. The highlight control allows you to increase highlights causing the photo to have higher contrast and be more visually interesting.

There are no set formulas or rules for using Levels, you just have to play around with it and learn what it does.

In more basic software like Picasa, the closest you're going to get to levels is a tool called "Fill Light" and other basic software may call it "contrast adjust".

Hue Correction - Your images will often have what is known as a "color cast" which means they appear overall to be too red, too yellow or too blue. A color cast is like holding a piece of colored film over your photo.

Another common issue is that your image has the wrong TEMPERATURE. A sunny backyard photo should feel warm. Pictures of the kids playing in the snow should feel cold. Your photo may appear to be bluish (cold) when you really want it to appear warmer and more yellow. The hue control will help you to correct this.

In the world of color, reds and yellows are warm, while greens, blues and violets are cold. So if you take a photo of a group of people that has a blue cast because of the lighting, those people will not appear warm and inviting because blues are cold.

In this case you would use the hue control to move the overall color of the photo towards red and yellow which would warm the image.

This photo has a blue color cast:

After correcting the hue and color cast, you see it is more naturally lit:

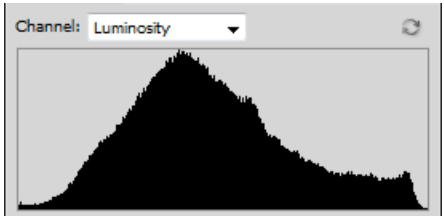
Like saturation and levels, there are no set rules on how to apply hue correction. The human eye can perceive if the overall color of a photograph is incorrect and needs the hue adjusted. (Hint: learning to adjust the white balance of your camera will often correct these color problems on the spot)

Histograms - don't let that strange sounding word scare you off. It's not a technically correct definition but I tell people to think of it as a "history graph" that shows the light and color history of an image. On a histogram, the left side is a measurement of shadow, the middle is a measurement

of mid tones, and the right is a measurement of highlights.

If the graph on a histogram is mostly on the right side, then you're going to have a very light and probably overexposed photo. The reverse is true if the histogram graph is mostly to the left side which means the photo will be dark and underexposed.

What you really want to see is a nice bell curve for the average photograph, where the far right and left sides are low and the mid tones are at the top of the curve.



Shadows Midtones Highlights

Here are some of examples of **using all five of those post processing** techniques. The first photo is "before" and the second is "after":

Notice the increase in detail, richness and warmth by applying these post processing tools:

You can transform pretty mundane photos into colorful, vibrant images that really show the "life" behind them.

General Guidelines for Common Shot Types

A lot of people get tired of learning and just simply want some practical guidelines on how to shoot certain types of photos. That is certainly understandable because there is so much you can learn about photography.

I'm going to give you some of these general guidelines for different types of shots, but before I do you need to understand this: these are just general guidelines. There are no hard and fast, ironclad rules that apply to photography. There is no one-size-fits-all and if you get stuck in a rut using the same techniques and settings for each type of shot, you'll never improve your photography skills.

Just like my guitar playing friend showed me a few things to kick start me strumming some real songs, use these guidelines as nothing more than a starting point to get you going. If you have any aspirations towards being an excellent photographer, then you have to invest some time in learning about photography and trying out new techniques.

These are the basics, and I mean the very *minimal* basics to have you moving in the right direction for these types of shots:

The Basics for Shooting Portraits

Lighting: natural diffuse light often through windows, overcast skies, shade; avoid direct sunlight, when unavoidable have the sunlight shining from behind; when using artificial light bounce the flash off the ceiling or wall and use soft boxes or reflectors to diffuse continuous lighting.

Camera settings: set your white balance for the appropriate source of light (i.e. Florescent, sunlight, tungsten etc.); use the lowest possible ISO (start at 100); try the basic portrait mode to see if it works well which will save you time.

Lens: use the aperture setting to control background blur and to increase and decrease available light (lowest setting available for your lens; at about f/2.8 you'll starting getting nice blur); use a 70 mm or higher lens and shoot from a distance with the zoom I'm trying to get candid shots; focus on the eyes. f/11 seems to be the sweet spot for portraits.

Basics: use a tripod whenever possible; concentrate on good focus and natural lighting as well as the aperture setting or background blur. Work to get natural poses in natural settings for undistracting backgrounds; for group shots use a large depth of field so that everyone is in focus

The Basics for Shooting Sports and Action

Lighting: nighttime stadium shooting will always present lowlight situations; educate yourself on how to configure your camera to take advantage of the available light.

Camera settings: try out your sports basic mode; high shutter speeds (1/640 or higher) are necessary to freeze the action; high ISO settings (800 or higher) to help you compensate for low light nighttime stadium shooting;

Lens: use a zoom lens to capture action at a distance; use the smallest possible aperture to compensate for low light and give you a large depth of field;

Basics: know your sport and be in the right spot at the right time; be prepared to understand and adjust for lowlight situations at nighttime sporting events; invest in a good zoom lens if you want to get serious about sports photography.

The basics for shooting Indoors

Lighting: windows provide a great source of natural light; when forced to use artificial light, try to diffuse it, or bounce off the ceiling or walls; use a diffuser on your flash.

Camera settings: a higher ISO setting will help compensate for low light (800 or higher); adjust your White Balance to match the lighting source ((i.e. Florescent, sunlight, tungsten etc.).

Lens: open up the aperture to compensate for low lighting; invest in a good lens that offers a large aperture (at least f/2.8 or more).

Basics: use a tripod for sharper images and longer exposures; use reflective material and windows to gather light; use your flash sparingly and bounce it off the ceiling as a general rule.

The Basics for Shooting Landscape

Lighting: natural sunlight as dusk or dawn

Camera settings: you might need a higher ISO setting (800+) to compensate for lower available light

Lens: a wide angle lens set to a small aperture for the largest depth of field

Basics: get to location in time to set up; use a tripod; be creative

My Recommended List of Basic Equipment and Software That Will Take You to the Next Level of Serious Photography

Disclaimer: when it comes to photography, I'm a Canon guy. So I'm not going to pretend to give you the equivalent advice concerning another brand like Nikon or Olympus. Find someone who knows these brands and ask them for their recommendations.

Keep in mind when people recommend things, they are making recommendations based on their personal experience. We don't know what we don't know. If you asked me a year or two from now what I would recommend, it may not look anything like the following list.

To the best of my ability and experience, here is a list of what I use and what I would recommend to someone wanting to step up to the next level of serious amateur photography:

Camera: Canon 40D or better

Flash: Canon Speedlite 430EXII or better, WESTCOTT (2200) MICRO APOLLO Mounted Flash Softbox; Flash diffuser

Lenses: Canon EF-S 18-200mm f/3.5-5.6 IS Standard Zoom; Canon EF 70-200mm f/2.8L IS USM Telephoto Zoom; Canon EF-S 17-55mm f/2.8 IS USM Lens; Canon EF 85mm f/1.8 USM Autofocus Telephoto Lens; Canon EF 50mm f1.4 USM Standard & Medium Telephoto Lens

Studio: Cowboy Studio 2000 Watt Digital Video Continuous Lighting Kit with Carrying Case, 10' X 13' Black & White Muslin Backdrops with Backdrop Support System

Accessories: Adorama Wireless Radio Remote Release; Digital Grey Kard Premium White Balance Card / Gray Card;

Tripod: Manfrotto 055XPROB Black Tripod Kit with Manfrotto 488RC2 Head; Canon Monopod 100 for SLR Cameras & Lenses

Camera Bag: M-ROCK McKinley 526 Digital SLR Camera

Software: Adobe Photoshop, JAlbum, Adobe Bridge, OnOne PhotoTools

Books I recommend:

- *The Digital Photography Book* – Volumes 1-3 by Scott Kelby
- *The Moment It Clicks* - Photography secrets from one of the world's top shooters by Joe McNally
- Buy a book for you specific camera model. The manual that comes with your camera? Give it to your dog. Here's the one I got for the 40D: *Canon EOS 40D Guide to Digital Photography* by David D. Busch

A few of my other books: