DIGITAL PHOTOGRAPHY

TAKE PICTURES LIKE A PRO!

Table of Contents

INTRODUCTION

I got my first camera when I was ten years old. It was one of those slim little Kodak models that took 110 film and required a separate flash that clicked onto the top. Sometimes the flash wouldn't work and you'd waste a picture, or when you finally got your pictures developed, you'd find a lot of them out of focus or completely not what you wanted.

My grandson will be getting his first camera for Christmas this year. It's a digital camera in bright colors with a nice, big preview screen where he can look at the pictures he's taken and delete them if he wants to. He's three years old.

The business and pleasure of photography has come a long way since the first patent was issued for a camera in 1840. Over the years, we've seen cameras get smaller and smaller, move from separate flashes to built-in flashes, and finally to the absence of film with the digital camera.

Photography is a pastime that is growing in popularity with the rise in digital cameras and the ease with which an everyday person can obtain a beautiful photograph. No longer is it necessary to haphazardly take pictures and hope you got the shots you really wanted.

No longer will you have to make a special trip to get film processed. No longer will you have to wait three or four days just for your prints. Now, there are so many options including simply printing out your pictures on your home printer.

Touching up and manipulating pictures has also been made easier, no longer required to be performed by a photography expert. Software programs are now available that let the everyday camera owner play with their pictures and use them to make all sorts of creative projects.

The advantages of digital photography are great. You have instant gratification with your pictures. You can immediately see the picture you've taken on the LCD screen and retake it if you're not happy.

Since you are able to delete photos that you do not want, you have the freedom to shoot many photos of the same scene, and just keep the one or two that turned out the best. Once you discover this, you have another great way to capture memories.

You no longer have to shoot a whole roll of film just to get a few good pictures. With digital photography, you only print the best shots. You can use your home printer or get professionally done prints at sites like snapfish.com and other.

You also have many, many options with digital images. Whether it's 4-by-6-inch prints to put in your photo album, homemade greeting cards printed on your inkjet printer, or sharing your photos online, digital photography opens up a whole new world of options for your memories.

You'd think photography was made ultimately easy and a no-brainer with these digital miracles and it really is easier than it ever has been. However, the truth is that there are still fine points, tips, and tricks to learn so you can be sure the pictures you are taking will be everything you want and more.

Professional photographers know about this, it's time you should too! What better satisfaction than being able to take your own family photos and not have to worry about going to a studio to have them taken.

We're not saying that photography studios aren't capable – oh to the contrary. There will be moments you'll want captured by the professional, but in general, digital photography has made those kinds of trips and events drastically reduced!

We have done extensive research into the world of digital photography and photography in general so that we can bring you this amazing book. This author has already learned so much – and I'm just beginning to write this book! I'm surprised at how much I didn't know about taking pictures!

We'll start by looking at what kind of digital camera you'll want that will meet your needs and go from there! Read on for digital photography basics – being your own photographer!

FINDING THE RIGHT CAMERA

There are tons and tons of digital cameras available for sale these days. The differences can be quite confusing. Many people just look at price, but that may not be the best way to find the right camera for you.

If you're just the casual picture taker, you won't need all the bells and whistles that come with a professional type camera, but you also want to make sure you are getting a product that will make your pictures look great at your inexperienced hands.

Even if you are a photography enthusiast, you can benefit from this information too. There are things in this book that you may not have thought about before. Things like shutter speed, pixel size, memory storage, etc. All of these things can make a difference in the type of pictures that you take.

So what should you consider when buying your first digital camera? Believe it or not, there are some very important things you should be thinking about.

First is money. Determine how much money you want to spend on your new camera. Setting a price range will allow you to target models that are affordable for you and keep you away from buying something you really don't need anyway.

What will you be photographing? Do you expect your pictures to be mostly of the family or will it be of scenic views during your travels? You need to have a camera that best meets your needs. For example, if you are going to be shooting a lot of sports or action pictures, you'll probably want a camera that can shoot at high speeds.

Will you be shooting a lot of close-ups or frequently taking photos from a distance? You'll need a camera with zoom capabilities – at least 3 times zoom. Let's say you're at your son's high school graduation, and you're in the very last row of bleachers because you were running late getting to the school. You can still get a great picture of Junior getting his diploma – if you have zoom capabilities. I've owned a digital camera without zoom and will never again go that route, believe me!

Do you know what you're doing when it comes to cameras and picture taking? If you're a beginner, you're going to be better off picking a camera that's easy to use. You'll probably also want most of your features automated such as flash, exposure, etc. If you're more experienced, you'll most likely want a little more control over your photos, so by all means go a different route!

Figure out what your photo printing needs are. For casual use, a basic 2-megapixel model will be fine. If, however, you're planning on making prints larger than 4 x 6, you'll want a camera with more megapixels. We'll get into that in the next chapter!

Digital cameras are great because you can store lots of images on your computer and share them through e-mail, etc. But think about where you will be storing your images. If you have a computer with not much memory and no CD burner, you should probably stay away from the high-end cameras. Your images will be too large to store and you'll have no way to save them.

Be sure to select a model with a good LCD screen, even if you don't think you need one at all. At the store, examine the screen in the light and be sure you can see the images well. Almost every camera has an LCD screen, so you shouldn't pay more to get it. But it's a good idea to be sure it's large, easy to see and shows good detail.

One of the best parts of having an LCD screen is if someone says "Oops, my eyes were closed," you can view the image and retake it if necessary. The LCD also gives you access to the camera's menu system, which will allow you to change the settings of the camera fairly easily.

The LCD will allow you to view all the images on your memory card. You can flip through the stored shots and delete the ones you don't want to keep. The LCD will draw a lot of power from the battery, so there may be situations when you don't have access to your battery charger when using the viewfinder is a better option. It is also better to use the LCD rather than the viewfinder when shooting close up; due to the accuracy of the framing. Basically, what you see is what you'll get.

Also, consider what type of battery your camera will use. It's best to get one that operates off of standard AA or AAA batteries

instead of proprietary ones (those made only by the manufacturer). And don't bother buying regular batteries for your digital camera. You'll go broke! Invest money instead into rechargeable batteries and a charger. In the long run, it's the very best route to go.

The type of warranty offered can also be a hard decision. Most will come with a standard manufacturer's warranty, but you can often purchase an extended warranty as well for things like parts and labor.

You'll also want to look into how to get your camera repaired if something goes wrong with it. Will you have to send it somewhere or can it be done locally? If you're sending it away, will it be fixed by an authorized service center and what is the turn around time? You may find that being without your camera is more difficult than you think!

Choose two or three of the above features and determine which of those is most important to you. When you do that, you can quickly narrow down your choices. If your budget only allow you to spend $250 but you want quality prints, look for the camera in your price range with the most megapixels.

Speaking of megapixels, what exactly are we talking about?

THE IMPORTANCE OF MEGAPIXELS

One big part of the digital camera will be the number of megapixels it has and whether or not it will be enough for the type of photos you want to print.

Basically, megapixels are a unit of measurement in an image. If you think of your picture as a series of dots – which it is - the more densely the dots are put together, the better your picture will look.

The number of megapixels will determine the quality of your final photo. If you choose too few, your pictures won't be what you want them to be. If you choose too many, you're probably going to spending more money than you need to.

The higher the number of pixels, the better the resolution. The higher the resolution, the larger and higher quality prints you can make. Higher quality photos take up more space on your media card, but they will give you the best prints.

For many people, this is the most difficult part of buying a digital camera. How much is enough and how much is too much? Here are a few pointers to help you along the way.

2 megapixels or less

- This is typically found on smaller, inexpensive cameras or cameras in combination with other devices (such as cell phones or PDAs).
- It will be hard to make a high-quality print of any size, but these are just fine for e-mailing photos or posting photos for a personal web site.
- Cameras with this range are not recommend for family portraits or if you really need a nice-looking print.
- You can make some nice 4 x 6 prints and as large as 5 x 7 with good quality. Anything larger than that will appear blurry or distorted.
- Expect to pay $100 to $150 for the camera alone, more for a combo unit.

3 megapixels

- This is actually a good compromise between picture quality and low price for most casual photographers.
- You can print lovely 4x6 images, decent 5x7s and, depending on the camera, might even knock out a good 6x9 or 8x10.
- You will pay around $150 to $250.

4 megapixels

- You're getting nicer. These images make practically photo-lab quality 4x6s, and great 5x7s and 6x9s.
- You can print a nice 8x10 and even an 11 x 14.
- You'll typically pay about $250 to $350.

5 megapixels

- This will produce beautiful 8x10s, and even a nice 11x14. You may even be able to get even larger to a 16 x 20.
- With this camera, you are getting closer to professional photographer levels, and the quality shows it.
- And you'll pay the price, around $350 to $450.

6 megapixels and up

- Wonderful image quality, but high price tags. You can print large photos, even 11x14 or perhaps more, with satisfying results.
- There are some high-megapixel cameras coming out with lower price tags than most, but they usually have very few features.
- Unless megapixels are the only thing you care about (it shouldn't be), don't get a camera that sounds outrageously inexpensive for its megapixel range.
- In this category, expect to pay $450 and up, up, up.

Yes, I know it would be really cool to get that hot new 6 megapixel camera. If you have unlimited funds, that's great. If you're like the rest of us working stiffs, you don't want to waste money on extras you don't need. And I can tell you right now, if you're just e-mailing pictures to your buddies, you don't need it.

There are a couple of other things to keep in mind. People get nuts about megapixels, but more isn't always better. Higher megapixels means larger image sizes, which in turn means more expensive memory cards and more space devoured on your computer's hard drive.

So now that I've got you completely confused, let's make a few suggestions. Please keep in mind that these are just suggestions and not written in stone. You have to make your own decision; we're just trying to guide you a little bit!

SUGGESTED CAMERAS

Choosing a digital camera can be confusing to be sure! So we've put together a few suggestions based upon your level of expertise.

<u>Beginners</u>

Your photography style is simple and straightforward. You just want to take a picture and put it on your computer. You will want a point and shoot type camera in the under $400 range.

Find a camera with the following features:

- Three to five megapixels

- 3X optical zoom
- Automatic exposure
- Scene modes
- Optional camera dock to transfer, save & print photos at a touch of a button and also charges the camera batteries.

This type of camera will be lightweight, compact, and easy to use. It is best used in bright light and may do poorly in low light, so keep that in mind.

You may want to get a 128MB+ memory card for extra picture storage along with a memory card reader. Rechargeable batteries are almost a must. A camera case is also another accessory that will make it more convenient for you to carry your camera wherever you go.

Intermediate Users

You are an intermediate user if you enjoy taking your pictures and then using photo editing software to "tweak" the images. You also know how to make fun crafts from your pictures as well as uploading them to the internet to share with others.

Your camera is a compact style in the $400 to $700 range. It should have the following features

- 5 -7 megapixels
- 4X optical zoom or higher
- Semi-automatic controls
- Scene modes
- Adjustable settings such as ISO (light sensitivity sensor), white balance, and exposure compensation

With its more advanced features, you will have a camera that can do just about anything you want it to. In fact, it will have some of the performance aspects of digital SLR cameras which are the ones the professionals use.

For extra storage, look at a 256MB+ memory card and memory card reader. Of course, you'll need extra batteries along with a battery charger. A good quality photo printer is a must. You'll be

much happier as well with a mid-sized camera bag to hold not only your camera, but your extras as well.

The Professional

You are absolutely passionate about photography and everything that it encompasses. You always have your camera with you and people are often asking you to take pictures of special events for them.

You probably don't really need our suggestions at this level, but we'll give it out anyway.

A digital SLR camera is best for you. Because you are so into your photography, you'll want a camera that can give you the results you imagine in your mind. A camera like this, however, doesn't come cheap. Be prepared to spend upwards of $800 to $1,000.

Include the following as well:

- Six megapixels and up
- JPEG, TIFF, and RAW formatting
- Zoom width and length to meet your shooting style
- Semi-automatic and full manual control
- A variety of metering and focus modes including manual focus
- Flash compensation
- Save custom setting option
- A hot shoe allowing for an external flash to be used.

A dSLR is a high quality camera with a high quality lens and mechanics. There is little or no noise when shooting and it can accept a variety of accessories and interchangeable lenses. It can, however, be quite bulky to carry.

The professional user will also want several high capacity, high speed memory cards and a card reader. As usual, we suggest extra rechargeable batteries and a charger. An external flash is good to have in several situations.

You may want to get some different lenses or converter lens kits. Filters make your pictures better, and a tripod is always nice to have around. A portable backup drive for your photos can save time and money when it comes to electronic equipment. Things can always

happen with computers, but you certainly don't want those things to happen to your pictures.

A large camera bag will make it nice to be able to carry around your supplies and tools.

We've already touched on batteries for your digital camera. We think this issue warrants a section of its own.

POWER FOR YOUR CAMERA

One of the issues with digital cameras is the issue of power. Digital cameras require a lot of battery power, especially when using the LCD screen on the back of the camera.

When you buy a digital camera, rechargeable batteries are a must. Some cameras come standard with rechargeable batteries, while others do not. Either way, you will want to make sure you have at least two sets of rechargeable batteries.

There are several different rechargeable batteries on the market. NiMH _ an abbreviation for nickel metal hydride will perform the best, allowing you to recharge the batteries at any time while still holding their capacity.

Lithium ion batteries also hold their capacity fairly well. NiCad - an abbreviation for nickel cadmium – batteries are more temperamental, creating a "memory effect" if not charged properly. NiCad batteries will lose their capacity over time, so if given the choice, choose NiMH or lithium ion batteries.

If your camera came with a proprietary lithium ion rechargeable battery, read and follow the manufacturer's instructions carefully, order an extra battery and a 12V car charger if you can afford it, and skip the rest of this section. If it came with AAs or AA-equivalents like CR-V3 lithium disposables, read on.

AA batteries turn out to be a lot more complicated than anyone would have wished, but they're easily managed with a little knowledge and the proper tools. When in doubt, buy and carry additional spare battery sets. Along with ample memory, ample spares and a smart,

fast charger with a 12V car adapter are the keys to carefree digital photography.

If your camera takes AAs, don't even *think* of using alkaline batteries—even if you found alkalines in the camera box. That includes those pricey super-duper ultra titanium jobs! Your best bet for battery power is going to be the NiMH.

In second place would be disposable lithium batteries. Lots of chain retailers carry disposable lithium AAs and NiMH AAs at reasonable prices nowadays.

Since NiMH batteries have no appreciable voltage depression or "memory" effect, feel free to charge them at your convenience. Be aware, however, that brand new NiMH AAs will need to complete 3-4 charge-discharge cycles to hit full stride. Only rarely will they need conditioning after that.

Speaking of conditioning, never discharge an NiMH AA below 1 volt. Actually, your camera will probably die and stop drawing your AAs down long before that happens, but in the event you want to recharge before the batteries are fully spent, you should wait until you reach that 1 volt minimum

If your camera came with disposable lithium CR-V3 batteries, and your NiMH AAs aren't yet ready for prime time, resist the urge to shoot up the CR-V3s as they make ideal emergency and cold weather back-ups for your camera bag.

OK, so now you know what kind of camera you want. How do you go about getting the best deal you can? Let’s go shopping!

MAKING THE DEAL

Because you’re going to be investing some money into your new camera, you will, of course, want to get the best deal you can. That means the type of camera you need and/or want for the least amount of money possible. How do you find that?

You may be best off looking for expert help when purchasing a digital camera, particularly if you’re a first time buyer. You may want

to buy from a local camera shop. You can't beat the personalized service and help from someone who knows cameras like the back of his or her own hand.

Digital cameras may cost a bit more at a local camera shop but it is often worth it for the service you get in return. A merchant may even lower the price if you ask! There's no waiting for your purchase to arrive as you would have to if you bought off the Internet. You pay your money and get your camera right away.

Buying online can be a risky venture especially when it comes to the credibility of the person you are buying from. With a local shop, it's easier to check the reputation of the merchant along with the reliability of his or her service.

You can hold the camera in your hand before you buy it and ask questions on the spot from the personnel there are the shop. They are even often willing to continue answering your questions after you buy from them. In addition, many local camera shops handle warranty and repair work, so you have someplace you can turn to if something goes wrong with the camera.

You will probably have better luck returning the camera or exchanging it for another one if the one you pick doesn't work out. Some online companies charge a restocking fee for returns. Local shops will most likely not do this.

There are some disadvantages to buying locally, however. The price for a camera and accessories can be higher than online store or mega-mart type places and there may not be much variety to what is available right there in the shop. Brands and camera selection may be limited. It takes more time and effort to comparison shop as opposed to finding the camera online. Finally, you have to pay local sales tax.

Of course, we do live in the electronic age where everything and anything is available to almost anyone anywhere via the Internet. Comparison shopping is only a mouse click away which makes it possible for consumers to get a great deal on everything from designer clothing to automobiles.

If you turn to the Internet to buy your digital camera, you will get a lower price, there's no doubt about that. But before you plunk down your hard-earned cash, be sure to do your homework about the merchant's reputation and reliability and weigh the good with the bad.

Advantages:

- You can make purchases 24 hours a day – great for those with busy schedules!
- Significantly lower prices exist on the Internet
- You have the ability to compare cameras by category, price, resolution, features, etc.
- They provide direct delivery to an address of your choice
- There is sometimes no sales tax for online purchases
- Some online merchants don't charge for delivery
- You can find a wide selection of cameras and accessories
- Toll-free numbers for ordering and other inquiries are usually provided.

Disadvantages:

- You won't be able to hold the camera prior to purchase to see if it's what you want
- You must wait for delivery of item
- The camera may be gray market (see more on this in the next section)
- The product may not be in stock, requiring back ordering
- There may be some high shipping and insurance charges
- The company's customer service may be poor
- If you want to return the camera, this can be a hassle
- It can be difficult to verify the reliability of a merchant
- There's a greater risk of being cheated if you are not dealing with a well-established merchant

It's up to you how you decide to buy your camera, of course! Just be safe when doing so. You don't want to make a huge investment in a digital camera only to be taken for a ride in the long run.

There are gray market cameras out there that you need to be aware of. What is a gray market camera?

THE GRAY MARKET

Almost all of the "amazing deals" found on the internet are gray market products. These are products that are made by a popular,

reputable manufacturer, and intended for and shipped to a foreign market.

They are purchased by a dealer that accepts gray market products, and then resold in the US, usually at a discount. While it may seem like a bargain to buy the "same" name brand at a lower cost, the risks and headaches that come with it usually far outweigh the few dollars saved, and you could end up with a camera you can't even use.

If the price of the digital camera you're about to buy sounds too good to be true, it probably is! Before buying, find out if it is a gray market model and, if so, be cautious. You need to get complete information about the warranty, included accessories, and if they are valid or usable in your country BEFORE you buy.

Aside from manuals and menus that may not be in a language you even recognize, and cords that won't plug in to American systems without some adapter, these purchases maintain one overriding risk. They do not come with a US warranty from the manufacturer.

This means that if something, anything, goes wrong with that camera, you may be completely out of luck. In fact, some manufacturers will not service gray market cameras in the US at all, even if you are willing to pay for it yourself. So if you want to get that camera fixed, it may require shipping it to a foreign country and hoping for the best.

However, not all gray market digital cameras are disapproved by the manufacturer or ineligible for repair. The camera may simply be direct imported with a valid warranty that is backed by the merchant instead of the manufacturer. Get it in writing, though to be sure you will have some type of warranty.

If you're the kind of person who doesn't worry about a warranty, then a gray market camera is for you. You'll save a lot of money, but be aware that the camera probably won't work as well as its name brand counterpart, and if it breaks, you're usually out of luck.

How can you spot a gray market camera?

The product doesn't come with a manufacturer's US warranty. In fact, this is the first tip-off that a camera is a knock-off. If there is

a warranty, make sure it states BOTH manufacturer's and US. If it doesn't, it's gray market.

If the site is not an authorized dealer for that brand, you don't know what you are getting. Authorized dealers usually stay away from gray market products, as this tends to hurt the manufacturer, jeopardize the camera retailer's dealership, and most importantly, hurts the consumer.

Read the fine print carefully! Many websites will attempt to cover themselves by burying details about the nature of their products in the fine print descriptions. Any site that mentions "May be missing original packaging, cables, manuals etc." should be avoided, unless you want to risk buying an incomplete camera.

Not many people know about gray market products. If you come across a deal that seems too good to be true, pick up the phone and call the retailer and ask if their product is gray market. Most will be up front with you about it if they're asked. And it's better to be safe than sorry!

Now that we've covered the camera, you also need to think about a printer so you can make hard copies of your photos.

THE RIGHT PRINTER

Again, getting the right printer all depends on how you want to use it. If you are printing for your personal pleasure, there's no need to spend tons of money on a super high-end piece of equipment. If you're going to do semi-pro or pro pictures, you will want to buy a printer that will produce high quality pictures.

The good news is that technology has come a very long way and there are many good quality printers available that won't break the bank. You'll want to have an inkjet printer and they can often be found for as little as $40 if you look around really hard! Another good choice is a laser printer.

Most of these printers offer good quality output for printing standard size photos, but pay attention to the detail because not all inkjet printers provide good quality output for larger photos. Although

most inkjet printers produce a similar quality - the majority providing the maximum dpi (dots per inch) of 1,200 X 4,800 – spending more on an inkjet printer will most likely provide you with more features or a faster printing speed.

Keep in mind that many photo printers use color ink cartridges to produce black and white, or grayscale images, which can lead to photos printed with a colored tint, so try to stick to inkjet printers that use black or gray inks if you want to print many black and white photos.

What separates professional photo printers from consumer models is that the professional variety can produce quality images at much larger sizes.

Depending on your needs, printers accepting paper sizes from 24-inches all the way up to 60-inches wide are available, but because they are targeted towards professionals, many convenient features such as printing from your digital camera will not be available on professional printers.

If you want to create large quality prints of your photos, maybe even posters, then a professional photo printer may be the choice for you, if you can afford it. Professional printers can range in price from around $500 to anywhere in the thousands.

Most people will use their printers for more than just printing out their photos. Keep in mind, though, that your chances of getting professional quality pictures from printers like these aren't usually very good. They're fine for personal use, however.

These days, there are some printers that are used only for photo printing. They have a "docking station" where you can attach your camera and download photos directly to the printer without even needing a computer!

These printers are often much more compact and offer faster printing speeds. Print size is often limited to 4x6-inches but the quality remains high, and larger models do exist if you are prepared to pay a higher price.

Although the dpi (dots per inch) tends to be low on these types of printers, the output quality is high due to the use of thermal-dye

technology that utilizes primary printing colors in several hundreds of shades, meaning no need for dithering like inkjet printers do.

Another great thing about these printers is that their reduced size makes them very portable - some can even be battery-powered!

When you are printing photos using your inkjet or laser printer, you'll want to make sure that the resolution is set to high so that the dpi is high as well. That way, you'll have a better quality photo. Remember, however, that setting the printer this way will use a lot of ink.

In fact, one of the factors that people often overlook when choosing a printer is the type of paper and ink they will be using to print their photos and how the price of these supplies adds up in the long-term. It's not just the price to take into consideration either - choosing the right paper and ink cartridges will also make sure that the photos you print are of the best possible quality.

While ink cartridges made by a company other than the printer manufacturer may cost less, they will more than likely produce lower quality prints and can also cause photos to fade faster.

Most printer manufacturers also create paper for their specific printers, and although it may not seem as important as ink, testing a sample of paper that isn't made by the printer manufacturer is advisable before making a large purchase.

If you want your digital photos to last more than just a few years without showing signs of age, you should consider purchasing more expensive, acid-free paper for your prints (in the inkjet world, this long-lasting paper is called archival paper).

Depending on the manufacturer, paper quality, and storage conditions, prints done on high-quality paper *may* last 50-100 years or more, which is something you cannot expect with standard paper.

Selecting the right printer can make all the difference when it comes to your pictures.

There are also many places that will do the printing for you – all online! All you need to do is send them your images and they will print them and send them to you in the mail. This is a very useful

service when you want good quality prints but don't want to waste your ink getting them. They are reasonably priced too!

Some of the major discount stores offer this service, but there are other online services as well. Here are a few helpful addresses:

www.walmart.com (Wal-Mart)
www.target.com (Target)
www.kmart.com (K-Mart)
www.cvs.com (CVS Pharmacy)
www.walgreens.com (Walgreen's Drugstore)
www.snapfish.com
www.shutterfly.com

There are hundred more, but this will get you started if this is the route you want to go!

So, you've got the camera and you've got the printer. Now, it's time to start thinking about how to take great pictures! There are a few things to consider first.

GETTING STARTED AS A DIGITAL PHOTOGRAPHER

Digital and film photography are far more alike than they are different, but digital image recording opens up many new, valuable and perhaps unanticipated opportunities.

- For starters, assume that everything you already know about getting good pictures still applies.
- You won't find it in the box, but every digital camera comes with a license to experiment, test, tweak and screw up to your heart's content. With the cost of another shot at nothing, why hold back? The pros typically take dozens of shots to land a few keepers. Now you can do the same—and there's no better or faster way to learn. Instant feedback is one of digital photography's most powerful advantages.
- Sit down with your camera's manual as soon as you can. Some cameras come with a basic printed manual to get started and a complete manual that will come on CD. You should read both.

Digital cameras are sophisticated devices with capabilities you might not anticipate from your film experience. You might be able to fake some of the features some of the time, but you won't be able to take full advantage of your investment without a read through the full version of the manual. You won't regret it.

- Think outside the box. Digital cameras have more uses than you might have imagined.

You don’t have to memorize everything about your camera right away, but using it should become second nature if you want to be good at it. So practice every chance you get. Take pictures of your feet, hold the camera a few feet away from your face and take an interesting self-portrait. The more you practice, the better you’ll get.

You may never get to some of your new camera's settings, but a few critical settings demand immediate attention, and they won't necessarily be familiar from your film experience.

- If you haven't yet thought through the many trade-offs surrounding resolution (the number of pixels recorded) and JPEG compression level, often referred to as "quality", play it safe: Set your camera for the highest available resolution and the highest JPEG compression setting for now and work out the details later.
- When in doubt, don't hesitate to take advantage of auto-exposure and auto-focus. Avoid auto-ISO for anything other than low-light action shots. Try the lowest ISO setting your camera offers before venturing higher. Higher ISO settings bring more image noise.
- Many digital cameras behave like color slide film—the best images are often slightly underexposed, particularly when bright scene elements are involved. Use exposure compensation to feel out your own camera's exposure sweet spots, but count on some variation with photographic conditions. When in doubt, bracket your exposures.
- Sooner or later, you'll have to deal with other purely digital recording mode issues like white balance and in-camera sharpening, but it's usually safe to accept camera defaults on those fronts for starters.
- If you use your camera's macro focus setting for a close-up, be sure to turn it off right away. Many a non-close-up's been fatally blurred by a camera carelessly left in macro mode.

- If your shots come out badly exposed, even in auto mode, make sure that exposure compensation hasn't been left at an untoward setting.

One of the most difficult parts of digital photography that new users have trouble getting used to is the inevitable time delay that occurs between pushing the button on the camera and capturing the picture.

Digital cameras have more to do in preparing to take a photo than do film cameras. Like film cameras, they have to focus the lens. However, they also have to take a pre-exposure to get proper color balance.

The good news is that they are able to achieve better exposed, better color-balanced, and in many cases better focused images than film cameras. The bad news is that this takes a fraction of a second and could cause you to miss a great picture.

What can you do about it? There are a couple of approaches that are very effective.

The simplest is to just push the shutter button down half way as you are waiting for the action to develop. Keep it there until you are ready for the photo, and then press the rest of the way.

Pressing half way signals the camera to immediately choose focus, color balance, and exposure. The subsequent delay when you take your shot is now quite small, comparable to film cameras. When I am shooting basketball games, I keep the shutter button half depressed, and I get great action shots.

A second approach is to switch to manual exposure and focus. If lighting is stable, as it is indoors, this works rather well. Most digital cameras have tremendous depth-of-field, so focus is not critical. Set your focus for a typical distance, and you will probably be happy with the results. If this is an indoor sporting event, you will want the shutter speed as high as possible, so choose maximum aperture and adjust shutter speed for proper exposure.

Now let’s look at the rules of composition – and we’re not talking about essays for school! We mean composing a great picture!

COMPOSITION

Let's start this section by telling you that many people don't advocate using the LCD screen to set up and take your pictures. We find it's easier to do it this way, but it's all up to you.

The art of composition or putting the picture together in the viewfinder can make the difference between a good picture and a bad one! It is a visual process of organizing the elements and individual details of a scene into a balanced and pleasing arrangement. Because what one person finds pleasing, someone else will not, composition is largely a matter of personal taste.

There is no right or wrong composition in photography. A composition that conveys a photographer's intended meaning is an effective one. A composition that doesn't or that confuses the viewer is not.

There are certain rules of composition that most photographers agree will make the best pictures. However, the word "rules" is used loosely here as they are intended to simply be guidelines to take great pictures.

They are based on recreating similarities in the make-up of many different images that many people have found to be esthetically-pleasing. A rule of composition or a design concept should not be taken as a hard and fast rule that must be observed.

In fact, some renowned photographs violate all the rules of composition and are still excellent pictures. This doesn't mean that the rules are without value. They are tremendously valuable. They are time-proven, and provide great guidelines for photographers at any level.

These "rules" are great guidelines to start out with. But if you feel you want to break one of these rules, by all means go right ahead. Photography isn't about perfection. It's about capturing images that will be pleasing to you and those you want to share the pictures with.

Here are some of those rules:

1. Choose a primary point of interest before taking the picture. Determine which area is of the most importance

to you and compose the picture around that area.

2. Be sure that only the things you want the viewer to see appear in the picture. If there are numerous objects cluttering up the background, your message will be lost. If you can't find an angle or framing to isolate your subject, consider using depth of field control on your camera, if it has one, to keep the background out of focus.

3. Give your picture contrast. A light subject will have more impact if placed against a dark background and vice versa. Contrasting colors may be used for emphasis, but can become distracting if not considered carefully.

4. Consider the balance of what you're shooting. Generally, asymmetric or informal balance is considered more pleasing in a photograph than symmetric (formal) balance. In other words, placing the main subject off-center and balancing the "weight" with other objects (smaller or lower impact) will be more effective than placing the subject in the center.

5. Frame your picture. A "frame" in a photograph is something in the foreground that leads you into the picture or gives you a sense of where the viewer is. For example, a branch and some leaves framing a shot of rolling hills and a valley, or the edge of an imposing rock face leading into a shot of a canyon. Framing can usually improve a picture. The "frame" doesn't need to be sharply focused. In fact if it is too sharply detailed, it could be a distraction.

6. Be sure the viewpoint is pleasing. You can often change a picture dramatically by moving the camera up or down or, stepping to one side. One of the best ways to come up with a prize-winning photograph is to find an "unusual" point of view.

7. When the subject is capable of movement, such as an animal or person, it is best to leave space in front of the subject so it appears to be moving into, rather than out of, the photograph.

8. Linear elements such as roads, waterways, and fences placed diagonally are generally perceived as more dynamic

than horizontals.

9. Use the “rule of thirds”. This is a principle taught in graphic design and photography and is based on the theory that the eye goes naturally to a point about two-thirds up the page.

   Also, by visually dividing the image into thirds (either vertically or horizontally) you achieve the informal or asymmetric balance mentioned above.

   Although there are many ways a photograph can be composed effectively by basing it on the use of "thirds," the most common example is the placement of the horizon line in landscape photography.

   If the area of interest is land or water, the horizon line will usually be two-thirds up from the bottom. On the other hand, if the sky is the area of emphasis, the horizon line may be one-third up from the bottom, leaving the sky to occupy the top two-thirds.

There’s much more to consider, however. Take lighting for example.

FINDING THE RIGHT LIGHT

Light - the primary source of energy for the universe - is the central image of many religions and the photographer's chief resource. The word "photography" derives from the Greek and means, literally, “light writing.”

From the relentless power of full sun over water to the beam from a single candle, it is light photographers play with, light in its many moods and manifestations that we capture on film.

Digital cameras use a light-sensitive chip rather than film to capture an image. The camera is designed to let light through a hole (aperture) on to the chip for a limited amount of time (exposure). Digital cameras use “auto exposure” to take care of exposing the

picture for you. But there are a few things about aperture and exposure that you should be aware of.

A digital camera will gather the same amount of light with a large aperture and a short exposure or with a small aperture and a long exposure, but the image won't look the same. A wider aperture will reduce the “depth of field”, so that only objects at the focal point are in sharp focus. This is great for isolating a person from a busy background, but not so great for landscape photos, which require that everything be in focus.

Cheap cameras have a fixed aperture, so only exposure is affected by light. More expensive cameras offer “programmed exposure” modes, such as Landscape (narrower aperture, greater depth of field, longer exposure), Portrait (wider aperture, reduced depth of field, shorter exposure) and Sport (shortest exposure to freeze motion), while high-end cameras also offer full manual controls.

Even with a fully automatic camera, you can modify the exposure. Point the camera at the object you want correctly exposed and half-press the shutter button. Move the camera to compose your shot, and then squeeze the button fully to take the picture.

Many landscape photos turn out too dark because the exposure is overly influence by a bright sky. The trick is to lower the camera so that the light meter exposes more for the foreground area and then press the shutter button part way in order to lock in the exposure. Then re-compose the shot as before and press the shutter completely.

Photography depends on light. Therefore, an understanding of light, what it is, how it behaves and how you can learn to use it, is essential to creating superlative photos.

Because the character and quality of a photograph can be altered by the character and quality of light, even the most-seasoned photographers puzzle over how a scene should be lit, what lighting angles to use for good results, and what exposure settings will bring out the best detail and tonal shading. When you are armed with the basic facts about light, you will find that such elementary questions become more easily-answered.

If you’re taking an outside, daytime picture, keep the sun at YOUR back. Avoid shooting into the sun. If you do, it will cause a lens

flare and you will have a light streak going across your picture or other un-wanted effects

The good news is that most digital cameras have fast lens apertures, which help them take good pictures in relatively low light. But no camera likes to take pictures in really low light without a flash. More good news: most digi-cams have a built-in flash, and some allow you to use an external flash, which is many times more effective than a camera's built-in flash and helps preserve the camera's battery.

Taking a picture at night can be a daunting proposition. Night-time photography can produce some of the most dramatic images that you can create, and it can also be one of the more difficult types of photography to learn and master.

Don't get too caught up in it, though. Play around with your camera's settings and know how you'll be able to achieve the best pictures at night. If your camera has automatic settings only, you may face some real challenges in your attempts at photography in the dark. Whether photography is a hobby or just a casual interest, you'll be well-served if you invest in a quality camera that allows for adjusting the basic settings.

Don't use the flash. Most on-camera flashes aren't effective past five or six feet in front of the camera. So at night, it may overexpose anything that happens to be in the foreground while underexposing the primary subject of the picture.

If you're in doubt, set the shutter speed higher and then take care of brightening the exposure later during the editing process. While you might not have a lot of time to think about your lighting when taking candid photos, sometimes just using the flash – or not using the flash can help tremendously.

Speaking of that….

FLASH PHOTOGRAPHY

There is probably no type of photography that is more disappointing to the beginner than flash photography. Unlike natural-light photography, where what you see can often be what you get, it is

difficult to visualize what the effects of using flash will be. Flash is shut off until the moment of exposure, and then its illumination is too brief to visually evaluate what it does to your picture.

The real learning process occurs over time, with trial and error. You should not expect to become an instant expert at flash photography, but persistence and observation (constantly comparing your pictures with earlier ones, and identifying not only the problems to overcome, but the successes you have achieved) will give you the experience you need to control flash and produce consistently-good flash pictures.

Generally, poor lighting conditions results in poor pictures. Usually you don’t need flash for normal daytime outdoor shots unless it's very gloomy. Keep in mind that flash has a very limited range so it should only be used when the subject is fairly close. Use fill flash to help lighten up a subject which in deep shadow.

It is best to avoid using flash indoors unless absolutely necessary: it tends to “burn out” subjects and can create harsh shadows. A better choice is to bounce the flash off the ceiling if your camera and flash support this option.

Another option is to let as much daylight in as possible and, turn on all of the lights. You have the option of using fill flash when there's enough light in the scene but your subject isn't well lit.

Under certain circumstances you might want to turn the flash off and let the camera deal with the low light condition by increasing exposure. This won't work in very dim conditions, but can give better results than flash. Be sure to guard against camera shake.

Digital cameras are less sensitive to light than traditional film cameras. If you are shooting indoors or in a low-light situation, even with the flash, you should move close enough to the subject for the flash to be effective (no more than 10 feet away). If this is a concern, some digital cameras allow you to use accessory flashes or studio-type lighting.

If you set your digital camera on Auto, the camera will attempt to determine the need for flash based on the lighting conditions, but you still should use the manual setting when appropriate such as using the flash in bright sunlight to reduce intense shadows.

In typical indoor situations there will probably not be enough light to take a normal hand-held well-exposed photo. There are many indoor flash photo opportunities you may be faced with. You may want to cast light on a group of people for a portrait photo. You may want to throw light into a room for an architectural photo. Or you may just want to cast light on certain objects in a lighted room that appears too dark for an exposure.

If your camera's auto-exposure settings say that the photo would require a shutter speed slower than 1/60 of a second then you probably shouldn't hand-hold the camera or the photo would come out blurry. The reason it would come out blurry is because the shutter would be open long enough for any minor hand shake to distort the composition. The use of a tripod or faster film will probably be needed but many of us do not regularly carry a tripod. Most photographers simply use their flash bulb when they are inside.

In order to take effective indoor flash photos there are some techniques you should keep in mind. When using the flash do not point it directly at a mirror or glass that will create a lens flare or just ruin the photo. Stand close enough to your subjects so the flash is actually effective (four to ten feet). Try to make sure your main subjects are about the same distance away from the flash as each other or some that are closer to the flash will appear brighter than ones that are farther away.

Fill flash fills in the areas of a photo that would normally appear too dark. Fill flash can be used for sunny day portraits for shadows on a subject's face or to fill any shaded area that is out of the sunlight. Fill flash can also be used to cast light into a room where there are no windows. Fill in flash is ideal for back-lit and side-lit situations.

In a backlit situation there will be a lot of light in the background but no or little light cast on the front of the subject. This would normally create somewhat of a silhouette effect, but with a fill flash it would balance the photo nicely. But in order for this technique to work, you must be careful to stay in flash range which is usually around four to ten feet. With common cameras in order to add fill flash to a photo just toggle the flash to go off when it normally would not be needed.

Many photographers also choose to bounce the flash off a wall or ceiling to get a softer diffused kind of light commonly sought after for portraits. This kind of flash technique requires a flash that can be aimed in a direction that the camera is not pointed. It takes practice to

refine this technique and only a small percentage of photographers actually use it.

Practice using flash in your photos even when it is not necessarily needed and pay attention to your results. The best way to become better at flash photography is to analyze your photos and try to figure out what you could have done differently in order to create a better flash-filled exposure.

While flash photography is difficult sometimes, more often, pictures are ruined by shaking.

AVOIDING THE SHIMMY SHAKE

Very few people have a completely steady hand when they hold their camera. Movement is natural, and shaking while taking a picture can be awful for the outcome and what you are left with. Camera movement is the most common cause of blurry pictures. How can you stop the shaking?

If you're like me, I bought a digital camera with image stabilization. It has been a Godsend for me since I have a constant problem with shaky hands. But there are ways to minimize shakiness when taking pictures.

When a point and shoot picture is taken, the shutter stays open just long enough to make a good exposure. If there is not enough light, the shutter stays open so long that the image is blurred by the movement of the camera. Camera shake is caused during slow shutter speeds.

If there is any movement while the shutter is open, it will show up as motion lines and ghost images. This often happens in low light with longer shutter speeds needed to expose the images.

Many people think that ruined photos are blamed on focus when the real culprit is usually camera shake. How can you tell the difference? If you see "ghost doubles" in the image, the problem is camera shake. Actually, it's quite easy to tell. If your picture is blurry and "jaggy", the camera was shaking.

In fact, zooming makes camera shake worse. The more you zoom in, the more the camera shakes. Getting a sharp picture requires a much higher shutter speed than if you are using a wide angle lens.

So, when you are shooting while holding the camera, you need to have a faster shutter speed. Consult your camera's manual to learn how to do this.

There are also things you can do yourself to help minimize camera shake. Start by planting your feet firmly on the ground. Steady your upper body by tucking your elbows in close to your sides. And hold your camera firmly against your face.

Now you're ready for the big moment. Take a deep breath and gently squeeze down the shutter release in one motion. Gently now…if you press down too hard on the button, you could jerk the camera downward. Even breathing too hard can cause the camera to move. Try stabilizing yourself by leaning against a wall or a tree also.

Of course, if you get a tripod, you can completely eliminate camera shake, but when taking candid photos, that's not a viable solution. However, using a tripod can be the shaky camera person's answer. So can a camera that offers image stabilization.

The best advice we can offer is to hold still. Some cameras have only an LCD monitor for viewing, which means you have to hold the camera away from your face to see what you're shooting. It's hard to keep still in this position, but you have no choice unless your camera has a conventional optical viewfinder. Hold the camera in both hands, and place your elbows in against your chest to steady it. Or lean against a wall, pole, tree, etc.

In general, though, there are some great tips that you can employ for some great pictures.

PHOTO BASICS

Here are some simple tips and rules that can help you to create better pictures. Use them as a guide to lead you in creating that extraordinary picture. But remember there are exceptions to every

rule, so if you think something will look good, don't be afraid to try it! Enjoy!

This seems like a little thing, but often times just taking a pause before pressing the button and really looking through the view finder can go a long way to improving your shots. Check that everything is in the viewfinder that you want or that there isn't too much there. Check that the camera is straight and level.

If you're shooting a person try and watch that objects behind the subject do not appear cluttered around the subject's head. An example might be a lamp directly behind someone's head will tend to detract from the picture.

Try shooting your subject from different angles not just straight on. Often times a unique point of view can really add dimension to a picture. Don't be afraid to climb up that hill, stand on a chair, or even lie on your back. Great artists will go to great lengths to get that perfect shot!

Try turning the camera 90 degrees and taking a vertical shot instead of a horizontal shot. This particular technique works great when shooting a picture of one or two persons.

You will undoubtedly notice a time lag between pressing the shutter release and the exposure. This delay is necessary because your camera needs a little time for pre-shot calibration and to balance the colors. Just hold the camera steady for a little longer than usual until you get used to the time delay.

There is also a delay between shots as the camera processes the previous images. Some new cameras have buffers that let you continue shooting during the processing time, which is great for fast action photography. If your camera doesn't have a buffer you'll have to wait between shots, so look for a camera with fast shot-to-shot time.

If your camera lets you to override the auto focus, you'll want to use this feature if you take a lot of action shots, or if you are shooting through glass. Even if your camera has a buffer, the auto focus may not react fast enough to give you sharp pictures if you shoot too quickly or the light is too low.

Have you ever noticed that your shots sometimes have a cool, clammy feel to them? If so, you're not alone. The default white balance setting for digital cameras is auto, which is fine for most snapshots, but tends to be a bit on the "cool" side.

When shooting outdoor portraits and sunny landscapes, try changing your white balance setting from auto to cloudy. That's right, cloudy. Why? This adjustment is like putting a mild warming filter on your camera. It increases the reds and yellows resulting in richer, warmer pictures.

Why do so many people own cameras? To capture special events and preserve them in time, of course! Many, many people take pictures of sporting events, their travels and portraits. Are there tips for taking those pictures? You bet!

TRAVEL, SPORTS, AND PORTRAITS

If you're a parent, taking pictures of your child while he or she is participating in a sporting event is very important. When you get the chance to travel to a new and exotic location, pictures can be just as important to the overall enjoyment of the trip.

Taking Great Travel Pictures

First, you need to research where you're going. Use whatever resources you have to find out what the best spots are and where you will probably want to snap some pictures. There's nothing worse than going on vacation and finding out later that you missed out on a picture of a famous landmark or scene!

If your travel adventures provide you with opportunities to take photos from a moving vehicle, be it a car, boat, plane, helicopter, or horse and buggy, remember that any sudden movement can turn a great picture into a useless blur. Before going on such an excursion, study your digital camera manual and learn how to increase your shutter speed so that your camera can take photos as quickly as possible.

You may also want to adjust your ISO sensitivity higher to support faster shutter speeds. Note that both techniques may

decrease lightness or introduce grain (noise) in your photograph, so you should always experiment to find a good balance.

If you are taking a landscape photo, instead of taking a direct shot at the landscape, consider pointing your digital camera lens upwards to grab more of the sky. It helps if you have a viewfinder that can swivel upward. This type of photograph can signify openness, freedom, and wide expanses, and may result in a pleasing picture.

When doing this, you may want to first consider getting a spot reading on the landscape. Otherwise, pointing your lens towards the sky may result in the camera auto-exposing on its brightness, causing your landscape image to be washed out.

If you don't know how to do this, you can instead try focus locking on your landscape. This will also lock your camera's exposure on the landscape's colors. Then rotate your lens upward and snap a photograph. Experiment to get the colors you desire.

Being prepared is the best thing you can do for yourself when taking pictures while traveling. What will you need? Here is a checklist of items you may want to look through before going on a trip. Of course, your particular travel and photo needs may warrant extra preparation steps and the need to bring more equipment, so add to this list as needed.

□ Clear and reformat your digital camera media (assuming you have backed up all photos currently on the cards).

□ Charge all batteries.

□ Make sure the digital camera and camera bag straps are secure.

□ Turn on the camera, take a couple of test photos, and ensure everything is working correctly.

□ Clean your digital camera using a cleaning kit, being careful not to scratch or damage the lens.

□ Ensure you bring along the following, secured inside a digital camera bag:

- Digital camera
- Extra filters, such as a UV filter

- Extra batteries
- Media
- Cleaning kit

If you have access to a laptop, you might want to also bring that along in your travels. Even if you do have a mighty, mighty storage card, you may find yourself with two days to go on vacation and all memory cards filled up. If you have your laptop with you, you can simply download your photos every day and start fresh the next.

Don't 'bring the farm' when it comes to your digital camera equipment, especially if you have to walk a lot to cover a cityscape, village, countryside, etc. Limit what you carry. You may not need to bring all of your extra batteries, but just enough to cover a particular shoot. Leave the rest at home or in your hotel room (possibly in a hotel safe).

If you are REALLY into photography and have multiple cameras, you don't need to take all of them with you. A regular-sized and a compact camera for taking quick shots should handle most, if not all, photo taking opportunities. Only bring a tripod with you if it is absolutely necessary as these add a lot of bulk. Be prepared, but not over-prepared in that you wear yourself out lugging around extra unneeded equipment.

Sports Photography

I think probably the biggest tip I can offer you when it comes to sports photography is to take lots and lots of pictures. You're using a digital camera, right? Use the digital technology to your advantage. You are not shooting through rolls of film, so go ahead and take extra digital photos at a sporting event.

First off, it helps in that the more practice you have, theoretically the better you'll get at taking future photos. Second, with the split-second nature of a sporting event, it is hard, if not impossible, to record every single moment perfectly. Taking more photos increases the chance of getting that one great photo you will want to show.

Get plenty of sleep the day before the event so you bring your "A game" to the venue. You don't want to be dozing off when your kid hits a home run. Also, get to know the layout of where you will be.

You can pick out the best area to get the best pictures before you show up and save some valuable time!

Everyone wants to record the occurrence of a great play - the contact between bat and ball as it is hurled towards the outfield, the fine release of a basketball as it gracefully begins its arc towards the basket, or the forward motion of a quarterback tossing a football towards a wide receiver just as he is about to get blindsided by a defensive lineman.

While these photos are great, you should also look at capturing the emotion after a great play has occurred. Take snapshots of the jubilation, smiles, and high-fives, and don't forget the look of bewilderment on the other team's face after something special has occurred. Photos are supposed to tell a story, and capturing human reaction to an event may be more telling than capturing the event itself.

Zoom is absolutely necessary. A long telephoto zoom is practically essential at sporting events. Unless you are a professional and commissioned to take photos at an event, allowing you sideline or bleacher access, you probably will not be seated as close to the action as you'd like.

A long 7+ or higher zoom can make the difference between a photograph looking like a bunch of dots moving around versus one telling a story with detailed players' facial expressions.

You will also need a fast shutter speed. Set your digital camera's shutter speed as fast as possible to handle photographs with the available light. This reduces the chance of 'camera shake' if you are unable to use a tripod.

Also, actions occur in the blink of an eye and you don't want your photograph to be so blurry that you cannot recognize the players or movement. Granted, selective blurring can result in intriguing photos, but you also want the ability to take fast, crisp, clean shots.

Study your digital camera manual for assistance in changing the shutter speed. Then at the event, practice a few shots before the game starts to ensure you have enough lighting to support faster shutter speeds.

You don't want your photographs looking all washed out. The more available light, the faster you should be able to shoot with your digital camera. And, of course, correct use of flash can also allow you to use faster shutter speeds.

Remember that there will still be shutter lag. When you press down on your digital camera's shutter, it may take a few milliseconds before it is pressed down firmly before a photo is recorded. You should practice taking photos with your digital camera before going to a sporting event to learn and be able to anticipate this shutter lag time.

Note that lag time also increases during the camera's auto focus process. You can decrease this added lag time by setting your camera to manual focus mode or by keeping the shutter button halfway down, already auto-focused on a particular area.

If your digital camera has a "burst", or "rapid shot" mode, it may prove beneficial to your sports photography. During a fast-paced event, it is almost impossible to time every shot perfectly. Burst mode lets you set up your exposure, shutter speed, and other options as you anticipate a play, and, just as you expect a play is about to happen (such as a penalty kick), you can take several photographs in rapid succession.

When purchasing a digital camera that you plan on using for sports photography, see if it has burst mode. You should check to see how many photographs the camera can take in succession. How long will the burst mode work? Does it take 10 photos in 2 seconds, etc.

Also find out what resolutions are supported by the burst mode. Some digital cameras may support 8 megapixels at RAW quality for normal photos but only 5 megapixels at JPG quality in burst mode, for example. Find out, too, if the camera requires high-speed memory to take burst mode shots.

Portraits

When you are taking portraits, there are a lot of aspects to take into consideration. While you'll want to have some professionally done portraits done throughout your lifetime, you can still take some great family pictures with your digital camera.

Are you taking photographs of babies or other children? Take advantage of the most important feature of your digital camera - the

ability to shoot lots of photos without wasting film. However, please limit kids' exposures to bright light if you insist on using flash.

Kids, especially babies, are notorious for getting fidgety during a photo shoot. It may not be possible to set up a perfectly posed shoot with your subjects close to each other, all facing the camera, smiling bright with their eyes wide open. Children may look away from the camera, yawn, scratch their hair, etc.

If it's impossible to get the perfect 'posed' shot, consider taking extra action photos of them partaking in various activities. Keep your digital camera with you - sometimes these activity shots, or other unplanned shots, are more memorable than studio portraits! Imagine which has more impact - a photograph of a posed child sitting on a chair, or one of them throwing their hands up while going down a slide, or right as they bite into a big, juicy watermelon.

By taking plenty of photographs, you can help ensure that one of the pictures will turn out a winner.

When taking photographs of babies or small kids, it is natural, as an adult, to point your digital camera's lens downward toward the child. However, this can often result in photos that look like the child is overwhelmed by the largeness of their surroundings.

Consider kneeling or sitting when taking a photograph, shooting with your digital camera lens pointed directly at the child as to shoot from their eye level. This can better show how the world looks to them, possibly resulting in more pleasing photographs.

When taking a photo of a group of people, don't be afraid to tell them to get in closer together. This is often necessary to ensure everyone's full face is in the LCD or viewfinder. You don't want to crop someone's ear, and you don't want to lose half of someone's face in the final photograph. Make sure everyone's face is well inside the frame in case you have to rotate and crop the photo later to make it straight.

If you've ever shot a photograph with more than just a couple of people, you're sure to know what the blinking syndrome is. Most everyone will be smiling, looking straight at the camera, but someone is going to blink. This may result in a less than pleasing photograph.

Blinking is a natural reaction whenever people are exposed to

bring light. And, even if flash photography is not used, people are so used to it that they may tend to tense up in anticipation of the light, causing them to blink almost on reflex. So, how can one stop a group of people from blinking?

If you have to use flash, make sure everyone is ready before you take the photo. Instead of taking just one photo, take two or three photos and plan on using the last one. After a couple of flashes, most peoples' eyes will get used to the light and they may not blink. However, don't overshoot with flash, as too much bright light may damage eyes!

If at all possible, take your group photo in a well-lit area that doesn't require flash. Especially with today's modern digital cameras, you may be able to get away with changing some basic settings such as exposure time (if you can keep everyone still) to get a nice, bright picture. If you plan on doing this, make sure you tell everyone that flash will not be used so they don't tense up.

When setting up a portrait shot, consider simplifying the background to avoid photo clutter. If you take a photo of someone in front of a busy background, when someone else looks at the picture their eyes will wander all over the place.

Your photos should focus the viewer on the person, and only afterwards their surroundings. Instead of getting an entire mountain scene in the photo, just get enough so the viewer knows the person is in front of mountains.

You cannot get entire skyscrapers in a photo and still record the details of a person's face, so unless you are just going for the effect of comparing the person's size with the largeness of their surroundings, focus on one background detail and let the person's image fill most of the viewfinder.

When taking portraits, it’s essential to make sure that your subjects are at ease and relaxed in order for you to get the perfect picture. Talk to them, smile, and be at ease yourself. When you mirror the behavior you want them to have, they’re more likely to follow suit and the pictures will look incredible!

Your pictures have been taken and now it’s time to download them to your computer. This, too, requires a little know-how in order to save them efficiently.

SAVING YOUR PICTURES

So you've taken some great shots. You know they look great because digital cameras let you see them right away! But now it's time to get your pictures out of the camera, and there are several ways transfer files to your computer.

The most common is via a cable that hooks into the serial port of your computer. Cameras come with software that lets a computer "talk" with the camera and retrieve pictures. A much faster way to transfer images into your computer is through a USB or Firewire port. These ports are similar to a serial port, but can send data at a much faster rate.

Another way to get images into your computer is via a card reader. A card reader is a small external or internal device that accepts your memory card. Card readers can transfer photos at speeds up to 1MB/second - many times faster than transferring from your camera. You can also use adaptors, which let you insert memory cards into your computer's floppy drive.

When you transfer images from your digital camera to your PC, take great care in that you do not overwrite images currently on your PC.

In most instances where one transfers images from a camera to a PC, the same filenames are used when you transfer different sets of files. Thus, you see that if you don't change the image filenames on your computer, or if you don't make sure you transfer images to different PC directories, your photos on your PC can be overwritten by accident.

Now that your photos are safely tucked away in your computer, what's the best way to file, manipulate and sort them? If you take a lot of pictures, this can be a thorny problem because as far as eating up drive space is concerned, digital images are real hogs. Plus, you have to organize digital photos for the same reason you have to organize conventional photographic prints: if you don't, you can't find what you want without dumping a pile of pictures on a table and sifting through them.

There are several formats you can save your pictures as. Part of the reason for having different file types is the need for compression. Image files can be quite large, and the larger file type means more disk usage and slower downloads. Compression is a term used to describe ways of cutting the size of the file.

The terms "lossy" and "lossless" compression are often used in digital photography. A lossless compression looks for more efficient ways to represent an image, while making no compromises in accuracy. In contrast, lossy compressions will accept some compromises in the image in order to achieve smaller file size.

A lossless algorithm might, for example, look for a recurring pattern in the file, and replace each occurrence with a short abbreviation, thereby cutting the file size. In contrast, a lossy algorithm might store color information at a lower resolution than the image itself, since the eye is not so sensitive to changes in color of a small distance.

It sounds complicated, but it doesn't have to be. Here are some of the most common file types and what they are good for.

TIFF is, in principle, a very flexible format that can be lossless or lossy. The details of the image storage information are included as part of the file. In practice, TIFF is used almost exclusively as a lossless image storage format that uses no compression at all. Most graphics programs that use TIFF do not compress. Consequently, file sizes are quite big.

The upside to using TIFF file as your storage medium is that you will have the best quality with little compromise. However, the file sizes are so large, you may experience some slowdown when editing and manipulating your photos.

PNG is also a lossless storage format. However, in contrast with common TIFF usage, it looks for patterns in the image that it can use to compress file size. The compression is exactly reversible, so the image is recovered exactly.

If you have an image with large areas of exactly uniform color, but contains more than 256 colors, PNG is your choice. Its strategy is similar to that of GIF, but it supports 16 million colors, not just 256.

If you want to display a photograph *exactly* without loss on the web, PNG is your choice also. Later generation web browsers support PNG, and PNG is the only lossless format that web browsers support. PNG is superior to GIF. It produces smaller files and allows more colors.

GIF creates a table of up to 256 colors from a pool of 16 million. If the image has fewer than 256 colors, GIF can render the image exactly. When the image contains many colors, software that creates the GIF uses any of several algorithms to approximate the colors in the image with the limited palette of 256 colors available. The file will search the image to find an optimum set of 256 colors. Sometimes GIF uses the nearest color to represent each pixel, and sometimes it uses "error diffusion" to adjust the color of nearby pixels to correct for the error in each pixel.

GIF achieves compression in two ways. First, it reduces the number of colors of color-rich images, thereby reducing the number of bits needed per pixel, as just described. Second, it replaces commonly occurring patterns (especially large areas of uniform color) with a short abbreviation: instead of storing "white, white, white, white, white," it stores "5 white."

Thus, GIF is "lossless" only for images with 256 colors or less. For a rich, true color image, GIF may "lose" 99.998% of the colors.

If your image has fewer than 256 colors and contains large areas of uniform color, GIF is your choice. The files will be small yet perfect. Very simple images will benefit the most from being saves as GIF images. Do NOT use GIF for photographic images, since it can contain only 256 colors per image.

JPG is optimized for photographs and similar continuous tone images that contain many, many colors. It can achieve astounding compression ratios even while maintaining very high image quality. GIF compression is unkind to such images. JPG works by analyzing images and discarding kinds of information that the eye is least likely to notice.

It stores information as 24 bit color. What is most important is that the degree of compression of JPG is adjustable. At moderate compression levels of photographic images, it is very difficult for the eye to discern any difference from the original, even at extreme magnification.

Compression factors of more than 20 are often quite acceptable. Better graphics programs allow you to view the image quality and file size as a function of compression level, so that you can conveniently choose the balance between quality and file size.

This is the format of choice for nearly all photographs on the web. You can achieve excellent quality even at rather high compression settings. I also use JPG as the ultimate format for all my digital photographs. If I edit a photo, I will use my software's proprietary format until finished, and then save the result as a JPG.

Digital cameras save in a JPG format by default. Switching to TIFF or RAW improves quality in principle, but the difference is difficult to see. Shooting in TIFF has two disadvantages compared to JPG: fewer photos per memory card, and a longer wait between photographs as the image transfers to the card. I rarely shoot in TIFF mode.

Never use JPG for line art. On images such as these with areas of uniform color with sharp edges, JPG does a poor job. These are tasks for which GIF and PNG are well suited.

RAW is an image output option available on some digital cameras. Though lossless, it is a factor of three of four smaller than TIFF files of the same image. The disadvantage is that there is a different RAW format for each manufacturer, and so you may have to use the manufacturer's software to view the images. Some graphics applications can read some manufacturer's RAW formats.

Use RAW only for in-camera storage and then copy or convert to TIFF, PNG, or JPG as soon as you transfer to your PC. You do not want your image archives to be in a proprietary format. Although several graphics programs can now read the RAW format for many digital cameras, it is unwise to rely on any proprietary format for long term storage.

Will you be able to read a RAW file in five years? How about in twenty? JPG is the format most likely to be readable in fifty years. Thus, it is appropriate to use RAW to store images in the camera and perhaps for temporary lossless storage on your PC, but be sure to create a TIFF, or better still a PNG or JPG, for archival storage.

BMP is an uncompressed proprietary format invented by Microsoft. Many people agree that there is really no reason to ever use this format.

PSD, PSP, etc. , are proprietary formats used by graphics programs. Photoshop's files have the PSD extension, while Paint Shop Pro files use PSP. These are the preferred working formats as you edit images in the software, because only the proprietary formats retain all the editing power of the programs.

These packages use layers, for example, to build complex images, and layer information may be lost in the nonproprietary formats such as TIFF and JPG. However, be sure to save your end result as a standard TIFF or JPG, or you may not be able to view it in a few years when your software has changed.

Currently, GIF and JPG are the formats used for nearly all web images. PNG is supported by most of the latest generation browsers. TIFF is not widely supported by web browsers, and should be avoided for web use. PNG does everything GIF does, and better, so expect to see PNG replace GIF in the future. PNG will *not* replace JPG, since JPG is capable of much greater compression of photographic images, even when set for quite minimal loss of quality.

You might be thinking – does this really make a difference? It can! Consider the following illustration.

Here is an original simple image:

When you save the above picture as a JPG file, the file size is 2,436k and looks like this:

This image is seriously degraded. The color of the circle has changed, and there are mottled areas in the white areas around the circle and the letters. However, the degradation of JPG images is controllable. JPG allows the user to choose the balance between file size and image quality, but doing so results in an even larger file size for the JPG.

When we save it as a GIF image, the file size is 1,448k and looks like this:

You can see that The GIF image is a flawless copy of the original. GIF can make flawless copy at high compression as long as the image contains large areas of uniform color, as long as the image has no more than 256 colors.

In the above case, GIF provides a better, in fact perfect, rendition of the original, while delivering a smaller file size. For images like the above, always use GIF.

As all recent browsers now support the PNG format, it is time to abandon GIF for most purposes. The PNG of the above image is smaller than the GIF, and PNG is not limited to 256 colors as is GIF.

Once you have your pictures taken; now you can start to play with them!

MANIPULATING YOUR IMAGES

Browsing through envelopes of prints fresh from the drug store and then tossing them into a picture drawing isn't going to work anymore, thank heavens.

- As you begin to develop a strategy for culling, editing, storing, organizing and most importantly enjoying the mountain of

images you'll soon face, keep in mind that the goal is to end up with an effective retrieval system, not just a storage system.

- Never, ever edit your original images. Always work on copies. Archive the originals for safe keeping in their original format. Absolutely nothing's gained by converting camera-fresh JPEGs to a lossless format until you begin editing them.
- Most digital photographs deserve at least a trial pass through your photo editor's "auto-balance", "instant fix" or "general enhancement" feature.

  If you're new to post-processing, you can begin to get a feel for what works and what doesn't by noting what adjustments your auto-balance made to the good, the bad and the ugly results. Even a suboptimal auto-balance result can be a good starting point for your manual adjustments.

Most digital cameras come with computer software to edit and to organize your images. These programs will assist you in correcting and manipulating the brightness, sharpness and color of your photos. The possibilities for image editing and manipulation are limitless once you become acquainted with the program.

With your software, you can crop the photos to remove unnecessary background images and focus on the subject of the picture itself. You can also adjust the contrast, brightness, and colors to make the photo more eye-catching and appealing. Removing red eye is also possible with these programs. Plus, you can enlarge or reduce your photos at the touch of a button.

If your camera didn’t come with a program, you’ll have to go buy one. We recommend Photoshop. It’s the most widely used program out there and provides you with lots of options when working with your pictures.

Many experts say that you really shouldn’t stick to only the software that came with your camera. When there are so many different software programs out there, you owe it to yourself to play around with them and find one that will give you the effects you are looking for.

What specifically are we talking about? Well, the photo imaging software can help you make your pictures look wonderful and you’ll be proud to share them with friends and family! Consider the following:

First, cameras don't take square pictures, they take rectangular pictures. If you forgot to rotate the camera before snapping, it's alright. Rotate the picture to the left or right by a 90 degree angle.

In the rush to take a picture, getting the camera perfectly level isn't always possible. That adds up to a photo where the horizon is slightly askew. What you need in this case is to rotate the picture a degree at a time. This feature is probably somewhere in the "Edit" or "Image" menus. Look for an option to rotate the picture and enter a small value like 1 degree to the left or the right depending on which way you need to adjust.

We did say that cropping is a huge benefit with image software. When you took the picture of your daughter on the swing, once you view it on your computer, you realize that you didn't zoom enough and there's more trees in the picture than your daughter.

Use the image editor's cropping tool to cut away the unwanted part of the picture and isolate the subject. In most programs, this tool is in the "Tool" menu and it might look like a picture frame. You will click on the image (after clicking on the "Crop" icon) and hold your cursor down as you draw inside the picture to get rid of the background and leave the subject intact.

If your photo is too dark, you can adjust the brightness to give it some life. Try using your image editor's gamma control. This is a tool that is designed to brighten the darkest parts of the picture without over-exposing the parts that are already bright. You can usually find the gamma control in menus like "Color" or "Image".

Using your camera's flash can sometimes cause dreaded red eye in your pictures. Many programs today have a one click correct of red eye. Look for "red eye removal" somewhere in the "Effects" menu.

If your program doesn't have this feature, try zooming in on the subject's face and using a coloring feature to match the color of their eyes. When you zoom back out, you probably won't be able to tell the difference – unless you painted brown eyed Suzy's eyes blue!

You can also use image editing programs to add a caption to your photos. This is helpful if you want to identify the people in the picture, the location, or the date. Look for a text tool, which is often the letter "A". When choosing a font, choose a fat one because skinny ones are often hard to read in a digital picture.

If you want to e-mail photos to someone, be considerate to the recipient by resizing it. If you attach a bunch of huge 3mp images to an e-mail message, you can bog down their inbox with a huge file. The message will take forever to send and receive.

The image editor will allow you to resize the picture – usually under the "Image" menu. 640 x 480 pixels is good for e-mailing. If your digital camera takes pictures at this size, you won't have to resize. Keep in mind too that some programs will automatically resize pictures that are being e-mailed – like Windows XP.

Most of your picture files are given a default name containing strange numbers and symbols. Rename your files when you go to save them so that they are easily identifiable. Renaming will also help you avoid over-writing any files when you download more pictures.

There are also some fun effects that can be found in software programs to make your photos more interesting. To add some spark to your digital photos, you may want to consider adding a stylistic border or edge around the photo. Instead of the traditional rectangular photo, artistic edges can make your pictures stand out from the rest. While many effects can be done with a lot of work with your digital photo editing software, some software packages can automate this process.

Play around with blurring and layering. The best part about working with imaging software is that there's always an "Undo" button if you don't like what you see. Clicking on "Undo" will take your picture back to where you were before you started editing.

Remember, though, we very strongly suggest that you manipulate only copies of your pictures instead of the originals. You don't want to take the chance of ruining the one copy you have of a cherished moment.

You can also use this software to make a picture look old. How do you do that? Here's a step by step process:

1. Find a photo that works. Don't take a photo of your family next to a modern skyscraper. Great effects can be created with photos of country landscapes or of historical structures, such as cannons or log cabins.

2. Give your colors a brownish tint. If you have a color balance

tool, you can do this by turning your reds and yellows up at the expense of blues. Or, if your image software supports duotone, give your image a brownish tone.

3. Reduce your image's brightness and/or intensity. You want your photograph old and weathered and such images should not look bright and sunny.

4. Choose an "Add Noise" filter, if you have one, to your image. Most software programs should have this option.

5. Use your photo software's "Dust and Scratch" tool, if applicable.

6. For a truly 'weathered' look, see if your photo software has a rain, snow, or fog filter. Apply a few touches to the photograph to make it seem like it has seen better days.

In fact, digital photography opens up a whole new world for your memory preservation. Consider scrapbooking to save your photos.

DIGITAL SCRAPBOOKING

Digital scrappers use digital elements to create a layout completely on the computer. Once the layout is completed, the usual choice is to print out the layouts to be placed in albums, just as traditional paper scrappers do. However, digital scrappers also have the option of using other means of sharing their layouts such as through online galleries, email or by putting them onto Video CDs to be able to view them on TV or computer.

Digital photography lets the scrapbooker make amazingly memorable pages with photo manipulation software. There are tons of websites dedicated to this newest aspect of memory preservation. Even if you're not a scrapbooker, you can learn some great techniques to make your photo albums better than they have ever been before!

Digital scrapbooking, also called digi scrapping and computer scrapbooking, is the art of using graphics software to create layouts that display photographs and other memories (such as newspaper

clippings, hospital bracelets, certificates, etc) for the purpose of preserving the moment.

Layouts can be shared online, archived, or printed and placed in albums. Printed digital scrapbooks look similar to scrapbooks created the traditional way, with papers, stickers, and photos, in that they showcase photos in interesting designs.

A digital scrapbooking layout is the outcome of digi scrapping. It is a page of memories. A layout might include photos, elements, and journaling. A layout may include a single picture, multiple pictures, or no pictures at all.

Digital scrapbookers use many different techniques to embellish their layouts. Some favorites are photo collages or montages , applying tones to such as sepia or black and white to photos, and creating shadows to give your layout a layered look.

You can find inspiration anywhere for your scrapbook pages. Start with the photos and think of how you want to remember what they commemorate. Look to television, magazines, clothing, or simply the great outdoors. Remember the moment that the photos were taken and expound on the time and events surrounding that photo.

Start by creating a layout. A layout is a page with background that keeps with the theme you want to convey. Once you have your layout, cut out your pictures and arrange them in an interesting way.

You may want to consider using extraction for your photos. Extractions are selections of photographs or graphics isolated from their background. The extraction can be displayed alone or with other photos or graphics to produce new images. Extraction is an interesting technique, which can be used many ways in digital scrapbooking layouts.

Your photo editing software should give you the opportunity to cut out your images. Use the tools provided in the software to highlight the image and click on the “cut” button to achieve your extraction.

As we said, there are many, many websites out there dedicated to digital scrapbooking. These sites provide many free backgrounds and layouts as well as tips and tricks to try out when scrapping your memories. Here are a few that we thought were pretty good:

www.digitalscrapbookplace.com
www.scrapbook-bytes.com
www.digitalscrapbooking.com
www.scrapbook-elements.com
www.scrapbookgraphics.com

Most of these sites have some very informational tutorials as well as special downloads that can make your scrapbook pages really pop and speak volumes all on their own.

WHAT MAKES A GOOD PHOTO

Your goal as a photographer is usually to grab the attention of the viewer, and communicate an idea, or share an experience. What photos do this best?

Usually the strongest photos are those that are simple and present the subject in a clear, uncluttered way.

Photographers work with line, shape, texture, color and pattern. Let's take a look at a few pictures and see if we can identify the visual elements that make them work, or not work.

Always have your camera with you. The biggest reason people miss a good picture is because they don't have their camera. You never know what you might miss when inspiration strikes, so make it a habit to have your camera handy.

Shoot more pictures. If you think you shoot enough, you probably don't – especially if you have a digital camera. There is no added cost to taking more pictures, so why take just one picture when you can take several? Even the most day to day scenes can be memorable in a few years, so shoot away!

Trust your eye. Studying the laws of composition we gave you above is fine, but ultimately trust your own vision and feelings when it comes to taking your pictures. When you frame the shot, move the camera and explore the scene. Find an angle and composition that feels right to you and take the picture.

In reality, it's not the camera that makes a good picture, it's the photographer. You can buy the most expensive camera on the

market, but it doesn’t guarantee you won’t take better pictures. What you need is a few suggestions to become more experienced and be able to find the greatest shots.

There are many ways you can take memorable pictures without spending tons of money on expensive accessories. Consider the following tips:

1. Warm up the tones of the picture. This will make the picture more aesthetically pleasing and not as harsh. This applies to outdoor photos. If your camera has a “cloudy” setting, use that to lessen the harshness. If not, you can use a simple pair of sunglasses to filter the shot.

   Place the glasses as close to the camera lens as possible, then check their position in the LCD viewfinder to make sure you don't have the rims in the shot. This will enhance the colors and deepen the sky tones in outdoor photos. For the best effect, position yourself so the sun is over either your right or left shoulder. The polarizing effect is strongest when the light source is at a 90-degree angle from the subject.

   Here is a picture without a filter on it:

And here is one with a filter:

Notice how much softer the second one looks. It can really help make your pictures snap when you use a filter of some sort.

2. One of the great hidden features on digital cameras is the fill flash or flash on mode. By taking control of the flash so it goes on when *you* want it to, not when the camera deems it appropriate, you've just taken an important step toward capturing great outdoor portraits.

3. In flash on mode, the camera exposes for the background first, then adds just enough flash to illuminate your portrait subject. The result is a professional looking picture where everything in the composition looks good. Wedding photographers have been using this technique for years.

   After you get the hang of using the flash outdoors, try a couple variations on this theme by positioning the subject so the sun illuminates the hair from the side or the back, often referred to as rim lighting.

Another good technique is to put the model in the shade under a tree, then use the flash to illuminate the subject. This keeps the model comfortable and cool with no squinty eyes from the harsh sun, and this often results in a more relaxed looking portrait.

Here is an example of the above concept:

By placing the boys in the open shade beneath a tree and turning on the fill flash, both the subjects and the back-ground are properly exposed.

Remember, though, that most built-in camera flashes only have a range of 10 feet (or even less!), so make sure you don't stand too far away when using fill flash outdoors.

4. Remember as a kid discovering the whole new world beneath your feet while playing on the grass? When you got very close to the ground, you could see an entire community of creatures that you never knew existed.

   These days, you might not want to lie on your belly in the backyard, but if you activate the close up mode on your digital camera and begin to explore your world in finer detail, you'll be rewarded with fresh new images unlike anything you've ever shot before.

   Even the simplest object takes on new fascination in macro mode. And the best part is that it's so easy to do with digital cameras.

   Look at this picture of a simple flowering bloom:

Nature can look much different and even much more compelling when you shoot it close up!

Just look for the close up or macro mode icon, which is usually a flower symbol, turn it on, and get as close to an object as your camera will allow. Once you've found something to your liking, hold the shutter button down halfway to allow the camera to focus. When the confirmation light gives you the go ahead, press the shutter down the rest of the way to record the image.

Keep in mind that you have very shallow depth of field when using the close up mode, so focus on the part of the subject that's most important to you, and let the rest of the image go soft.

5. For some mysterious reason, most human beings have a hard time holding the camera level when using the LCD monitors on their digicams. The result can be cockeyed sunsets, lopsided landscapes, and tilted towers.

   Part of the problem is that your camera's optics system introduces distortion when rendering broad panoramas on tiny, two-inch screens. Those trees may be standing straight when you look at them with the naked eye, but they seem to be bowing inward on your camera's monitor. No wonder photographers become disoriented when lining up their shots.

What can you do? Well, there's no silver bullet to solve all of your horizon line problems, but you can make improvements by keeping a few things in mind.

First of all, be aware that it's important to capture your images as level as possible. If you're having difficulty framing the scene to your liking, then take your best shot at a straight picture, reposition the camera slightly, take another picture, and then maybe one more with another adjustment. Chances are very good that one of the images will "feel right" when you review them on the computer. Simply discard the others once you find the perfectly aligned image.

Look for the natural lines in nature as shown in the above picture. Use those lines as guides for lining up your view. Sometimes you can use the line that exists when the sky meets the water or you can use a strip of land.

If you practice level framing of your shots, over time the process will become more natural, and your percentage of level horizon lines will increase dramatically.

6. Invest in a large memory card for your camera. If you have a 3 megapixel camera, get at least a 256MB card, 512MBs for 4 megapixel models, and 1GB for for 6 megapixels and up.

   That way you'll never miss another shot because your memory card is full.

One of the most important reasons for packing a massive memory card is to enable you to shoot at your camera's highest resolution. If you paid a premium price for a 6 megapixel digicam, then get your money's worth and shoot at 6 megapixels. And while you're at it, shoot at your camera's highest quality compression setting too.

Why not squeeze more images on your memory card by shooting a lower resolution and low quality compression settings? Because you could be missing out on a great picture and the quality will suffer. And if you take a beautiful picture at the low 640 x 480 resolution, that means you can only make a print about the size of a credit card.

On the other hand, if you recorded the image at 2272 x 1704 (4 megapixels) or larger, then you can make a lovely 8- x 10-inch photo-quality print suitable for framing. Just in case you were able to get as close to the action as you had liked, having those extra pixels enables you to crop your image and still have enough resolution to make a decent sized print.

You can really see the difference when you look at the following pictures:

The one on the left is shot at higher resolution while the one on the right is a lower resolution. It really can make all the difference!

The point is, if you have enough memory (and you know you should), then there's no reason to shoot at lower resolution and risk missing the opportunity to show off your work in a big way.

7. Use the self-timer function. There's no reason why you can't be in some of the pictures you take. It's often helpful to invest in a small tripod to make this process easier, but you can also set the camera on a table or other place and jump into the photo.

   Line up the shot, activate the self timer, and get in the picture. This is usually a good time to turn on the flash to ensure even exposure of everyone in the composition (but remember that 10 foot flash range limit!). Also, make sure the focusing sensor is aimed at a person in the group and not the distant background, or you'll get very sharp trees and fuzzy family members.

   Self timers are good for other situations, too. Are you interested in making long exposures of cars driving over a bridge at dusk? Once again, secure your camera on a tripod, then trip the shutter using the self timer. By doing so, you prevent accidental jarring of the camera as you initiate the exposure.

You've taken some great pictures, played with them in your photo editing programs and are now ready to print them out. Easy as pie, right? Wrong!

PRINTING YOUR PICTURES

As we said in the previous section, having the right printer can make the difference between great pictures and so-so pictures. You'll want to take care to make sure you are printing out your photos so they are striking. This involves configuring the printer and setting it up for maximum quality.

You'll want to be sure to use the current drivers for your printer. Drivers are software interpreters that let your computer and printer communicate. But printer manufacturers are constantly revising these drivers. Always use the most current drivers to ensure peak performance and picture quality. Check your printer manufacturer's Web site regularly for downloadable updates.

The higher your printer's dots per inch (dpi) specifications, the slicker the prints it will produce. Avoid images that suffer from frayed and jagged edges by using a printer with 600 x 600 dpi or better printing capabilities when producing hard copies of color digital photos.

Check your printer owner's manual for instructions on how to change print quality settings. some printers offer bonus features such as automatic contrast and smoothing adjustments that you can also use.

Different types of paper—such as high gloss or card stock—require varying amounts of ink and touch ups. When setting Printing Preferences, be sure to adjust the settings in your printer to accommodate the type of paper that you're using to guarantee first-rate results and avoid wasting expensive stock.

Standard printer paper isn't suitable for creating pleasing photo prints. Unless you're printing documents, choose a glossy or matte finish photo paper instead. Black-and-white prints generally look best on matte finish papers, color on glossy.

Multiple varieties of paper stock are available, designed for a wide range of specialty uses. These special-purpose materials can enhance any photo printing project. Whether incorporating your photos into decals, business cards, or t-shirts, browse the selection at your local office supply or electronics retailer to see your options before starting a new project.

It's a good idea to run printer alignment, color calibration, and print cartridge cleaning functions every 90 days. These functions (accessible from the Printing Preferences menu) prevent blurring, streaking, and off-center photo prints.

You'll need to consider your choice of ink as well. Of course, The safest way to pick an ink is to choose a brand from the same company that manufactured your printer. Various types of ink provide differing degrees of water-, smudge-, age-, and fade-resistance. Which ink you should pick depends entirely on how much you're willing to spend for various image-enhancing qualities.

Before placing photos in an album or framing them, give the ink around 12 hours to dry.

CONCLUSION

We are in the electronic age. Technology and equipment are both at amazing levels – more than they ever have been before! Digital photography is just one perk of this amazing era we are living in.

Most digital cameras, even the consumer point-and-shoot models, have a tremendous amount of functionality built into them. By applying a little ingenuity and creativity, you can take shots you can be proud of.

Photography – especially digital photography is more than just pointing a camera and pushing a button. It involves setting your camera to its optimum settings, placing yourself in the best position for the best photo, and taking into consideration the elements that are present.

Now that you can take hundreds of pictures without the expense of film and developing, it's time to let that creativity inside you come out through your pictures. Experiment as much as you can. There's nothing for you to lose and everything to gain!

When you share your pictures with family and friends, you can be proud knowing you've done everything you can to insure those pictures are the best they can be. With image editing software, you can make those pictures more interesting than ever and have fun with the tools that are at your fingertips.

Who knows, you might be able to make taking pictures more than just a hobby. However, knowing everything you can about the art of photography is the best place to start. Reading this book is a great start, but the best teacher is experience.

So pick up your camera, take a walk, and see what you can find. Click away every chance you get. Look at what you've come up with and use your imagination to produce the greatest photos you've ever taken before!

The following websites were referenced in researching this book:

www.dpfwiw.com
www.photographytips.com
www.about.com
www.digicamhelp.com