

Your ACD Guide to Digital Photography



Take better photos and enhance
your digital photography
experience.



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From family fun to office know-how, you'll find lots of useful and time-saving digital photography information right here.

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Whether you are a seasoned digital photography enthusiast or a new digital camera owner, this guide offers you tips and tricks for taking better photos and using your digital camera to its full potential.

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We hope you'll find this guide useful and fun to read. Thank you for using ACD digital photo software.

On behalf of all the staff at ACD Systems,

Kris Butler
ACD Newsletters Editor

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Introduction: The Benefits of Digital Photography

Have you explored all the benefits of digital photography? While film photography still has much to offer, digital photography has become easier and more cost effective than ever. The fact you have a digital camera means you already recognize some of the key advantages. However, the list below includes details and insights you may not have considered yet.

No Film

Once you have made your investment, you can forget about the continuing cost of film, as well as the concern that the roll will run out at the wrong time. Although memory cards do fill up, they can be changed quicker than film. Plus, if you run out of space, you can always delete a few shots that are not that great and make room for more.

Instant Previews

Share the moment that you just captured right away. By looking at the preview screen on your camera, you immediately know if the shot has generally worked out or not. Is uncle Ted's head partially cut off because he's so tall? Simply try again and delete that shot to save memory card space. (*See note.*)

New Sharing Options

When you switch to digital photography, a whole new set of electronic sharing options opens up to you. With the right digital photo software, such as ACDSee™, you can choose to send images by e-mail, share them free online using ACD SendPix™, or if you are computer savvy and have your own website, generate HTML photo albums for quick web posting.

Environmental Benefits

Without traditional developing, the use and disposal of photographic chemicals is reduced substantially.

Print Savings

When you go digital you can pick and choose the photos you'd like to print. So, while digital prints can be more expensive than traditional prints, you don't pay for prints you don't want.



A good rule of thumb is to delete only those photos that have clearly not worked out. Why? First off, even the biggest camera LCD screens are small compared to a computer screen, so it can be hard to distinguish important details in photos that are not obviously flawed.

Also, the light levels on your LCD screen are not an accurate depiction of the actual light levels in the photo – it may look too dark or light, but wait until it's on your computer to be sure. Finally, many "OK" photos can be made to look great with a little help from photo editing software.



For more information on ACD SendPix™ free online photo sharing, go to www.sendpix.com.

License to Experiment

Since you no longer have to worry about paying for shots that don't work out, you can experiment to your heart's content.

At-Home Printing Convenience

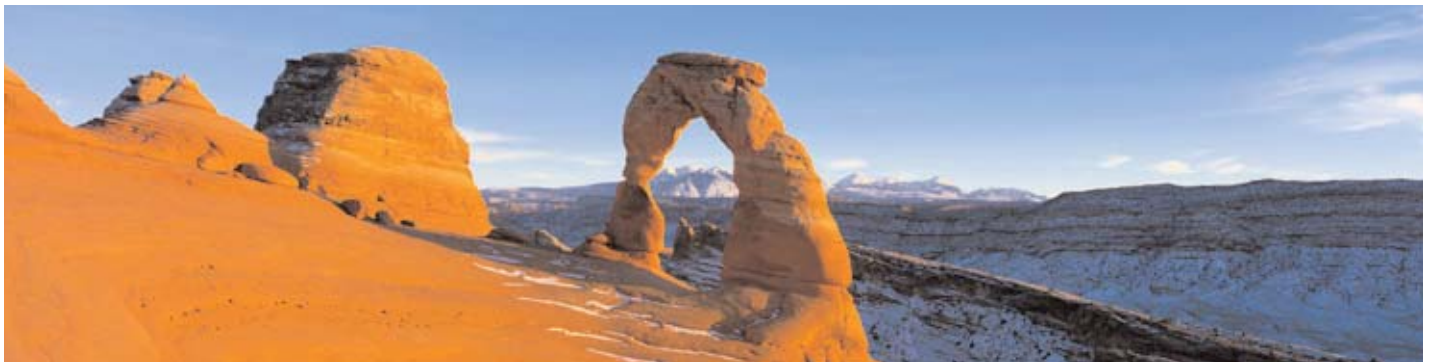
In addition to getting your digital shots printed through traditional labs, there are many home printers that provide brilliant quality. With a fairly modest investment in a high quality inkjet printer, you can literally make prints within minutes of taking a shot. Also, software packages like ACD FotoSlate™ let you print out great album sheets (no cutting) or professional-style portrait sheets, just like the ones you get at the studios.

Video Clips

Many digital cameras now come with the ability to take short video clips, usually of 1 to 2 minutes in length. If you pick up a larger memory card (a good idea anyway), then you should be able to take several clips on a card. Video clips can be a lot of fun and in many cases if they are compressed well enough, they can even be shared with friends by e-mail.

Summary

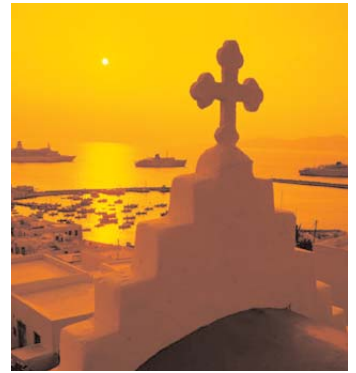
These are just the most prominent benefits of digital photography. As you get into it and become familiar with your camera and software, you'll be constantly surprised by the change in the way you think about photos and in the amount of new and convenient things you can do.



Capturing Photos

A world of imagination and artistry has opened up to anyone who takes up photography and this world has only grown with the dawn of digital photos. The tips in this guide will lead you into that imaginative world with a practical exploration of many photography ideas and concepts, as well as concrete pointers on how to use your equipment to your best advantage.

You will also get sound advice on what to look for if you are thinking of buying a new digital camera. Of course, since digital photography is so new, you will likely already have a large film photo collection and other useful equipment, such as a scanner. Lots of great ideas await you on how to get the most from your entire collection as well as all your equipment.



Tip 1

Getting the Right Digital Camera

Thinking of buying a new digital camera? Here are the key areas to consider when making your move from film to digital or when upgrading to your next digital camera. Specific articles that explore each of the areas listed below are also included in this section.

Resolution

This term refers to the quality and clarity of an image. In the digital world, it is generally measured in pixels. For printing, pixels per inch is the standard measurement (sometimes called “dots per inch,” though the two are not identical in meaning). In the case of cameras, resolution is measured in megapixels. Resolution is the one of the most important aspects of any digital camera purchase.

When it comes to deciding on the right level of resolution, the most important question you need to ask yourself is: “Am I going to want to print enlargements and/or crop and edit my photos before printing them at regular size?”

If you never print anything other than 4” x 6” pictures, a 2 megapixel camera should serve you just fine. However, if you would like to have the option to enlarge your pictures to 5”x7”, 8”x10” or larger, consider a 3, 4 or 5 megapixel camera. This also holds true if you want the option to perform significant edits on your digital photos, such as cropping and resizing.

Basically, bigger is better when it comes to megapixels. Although, when shooting at higher resolutions, you will need more storage capacity as your image file sizes will be significantly larger.



Beware of the term “interpolated resolution.” It refers to the camera’s software adding pixels to the image after it is captured. Interpolated resolution is useful in some cases, but “effective resolution,” which reflects the actual number of pixels in the camera’s image sensor, is the most important for determining maximum print size and editing flexibility. Be sure you’re comparing “effective resolution” when shopping for a camera or you may not get what you are really looking for.

Lenses (Optical Zoom)

Most mid-level and higher digital cameras have great zoom lenses. On digital cameras, optical zooms are measured by their magnification factor: 2x, 3x, etc. For comparison purposes, it is often easier to ask what the 35mm equivalent is. This is because the magnification measurements don’t specify what size lens it is that’s zooming.

For instance, a 2x zoom lens could mean a 28mm-56mm zoom, a 35mm-70mm zoom, or a 50mm-100mm zoom (expressed in 35mm equivalents). These lenses would all have different properties, so it is worth asking for 35mm equivalents to be sure you understand what you’re getting.

Exposure Modes

Will the basic “automatic” mode suit your needs? Do you want shutter priority for sports? Aperture priority for portraits? Spot metering for difficult light? There’s a real range of available features in this area, even on cameras of similar prices. Since exposure is the most important aspect of any photograph, you will want to get as many exposure options as you can afford. Here are some key features to look for:

- Shutter Priority
 - Including fastest and longest speeds and whether bulb and time modes are offered
- Aperture Priority
 - Including widest and narrowest
- Spot Metering
- Exposure Value Compensation
- ISO Settings
- Black and White Mode
- Noise Reduction
 - This can be a critical feature for anyone considering long exposures and high ISO settings as important
- White Balance

Batteries

Digital cameras consume batteries quicker than film cameras. This is because film cameras only need to open and close a shutter, advance film and occasionally charge a flash bulb. Digital cameras, on the other hand, must operate an electronic image sensor, LCD viewfinder, and image processor and it is a lot of fun to regularly review photos onscreen after taking them, which requires a lot of power.

This means you should give serious thought to the type of batteries a camera requires, whether they are AA’s or a battery pack unique to your camera. Some pros and cons to consider include that standard AA batteries are readily available but require you to carry two sets of spares and throw more batteries out.

In contrast, camera-specific rechargeable battery packs usually last much longer, and you won’t be adding more batteries to a landfill. However, you will need to purchase at least one back up battery and perhaps a more sophisticated charger than comes with the camera.

Shutter Lag

Unless you are spending a significant amount of money on a digital SLR camera, you will likely notice a brief pause between when you press the shutter release button and when the picture is taken.

This pause is known as “shutter lag” and it can vary widely between different digital cameras. If you take sports shots or other action shots, try out a few cameras to make sure you’ll be happy with the shutter responsiveness when shooting.



Be sure to look for the “optical zoom” rating on a camera and not for the “digital zoom” rating, which can be much higher. Digital zoom merely crops away photo information and resizes the image, leaving you with a lower quality end product. Also, to get the most flexible zoom options, it is best to look for at least 4x optical zoom and then ask for 35mm equivalents.



Click-to-Click Processing

Another important speed factor is the time it takes your camera to be ready to take another shot. This will vary depending on the photo quality settings you choose, whether you use a flash, and whether that flash is built in or not. Why the difference in processing speeds? There are two main reasons.

First, the higher the photo quality, the larger the image file that must be processed by the camera. In entry-level to mid-range cameras, it is rare to have a processor capable of reading and writing the largest image files the camera can generate in less than a few to several seconds. These processors are often up to the task of reading your lowest quality photos quite fast, but not usually the largest ones, especially if the camera is adding interpolated resolution to the file.

Second, built-in flashes often take a few to several seconds to recharge, because of the energy required. When you combine this energy requirement with the fact that a lot of energy is also required to process photo information and operate the camera's LCD screen, the delay is not surprising. Often this can be avoided completely by using a good, off-camera flash that has its own energy source. To take advantage of this option, you will need to pick a camera with a flash shoe.

Viewfinders

When it comes to digital camera viewfinders, you should look at the following:

- i. Does the camera have TTL (Through the Lens) viewfinding?
 - TTL viewfinders are best because they are most accurate. With TTL, you get what you see, meaning the camera presents to you what is seen as it will be recorded.

- ii. What is the size and accuracy of the LCD viewfinder on the back?
 - Larger LCD viewfinder screens are much easier to use and make it more fun to pass your camera around so photos can be reviewed and shared instantly. That said, they also consume more energy.
 - On most digital cameras, your final photo will include less than what shows on the LCD viewfinder – anywhere from 2 to 15% less around the edges. At the upper limit, you will have to keep this inaccuracy in mind all the time and not crop photos too closely, which may be hard to remember.

- iii. What is the accuracy of the standard viewfinder?
 - Some standard viewfinders on entry-level digital cameras can be significantly misaligned, while those on more expensive cameras may still be noticeably off. As with LCD viewfinders, take a few photos in the store with marker objects at the edges of the viewfinder and then compare by reviewing the photos on the

screen to check for accuracy.

- iv. Is the standard viewfinder optical or a smaller LCD screen?
 - In many cases you may want to turn off your LCD viewfinder to save battery power. You will get the best power savings if the standard viewfinder is optical, rather than another LCD screen.
 - Also, if you simply prefer to use an optical viewfinder rather than look at an LCD screen that gets blurry when you move the camera around, check to make sure you will have that option.

Image Sensors

There are two main types of image sensor, CCD and CMOS. While CMOS is quicker, it is usually associated with lower quality unless included in high-end digital SLR cameras. CMOS is also not widely available yet, so when shopping for entry-level to mid-range cameras, you will likely be comparing CCD's.

The most important questions regarding CCD image sensors involve resolution and physical size. In this segment, we will look at physical size.

When comparing CCD's, physically bigger is better for two reasons. First, because of the size of the pixels. Larger CCD's have larger pixels and larger pixels mean less noise, due to a better signal to noise ratio. Second, the larger your CCD, the more effective your optical zoom magnification becomes. Magnifying an image on a 1-inch square CCD 4 times is better than magnifying an image 4 times on a $\frac{1}{4}$ -inch CCD.

Typically, CCD size is measured in the following ratios for entry-level and mid-range digital cameras:

- 1/1.5-inch CCD or 0.66 inch area
- 1/1.7-inch CCD or 0.58 inch area
- 1/1.8-inch CCD or 0.55 inch area
- 1/2.5-inch CCD or 0.40 inch area
- 1/2.7-inch CCD or 0.37 inch area

Memory Cards

The card that comes with your camera will be too small...period. Most cameras ship with an 8MB or 16MB card, while a 32MB card is the smallest you would want to have to be able to store a reasonable number of medium resolution images. Take this into consideration when purchasing and keep in mind that you'll want a larger card right away, so you won't have to stay near to your computer to download your photos when your card fills up.

File sizes will vary considerably depending on your camera's resolution capabilities and the quality settings you choose. However, in general, using the small memory card shipped with your camera will limit you to taking the about the equivalent of a single roll of 24 to 36 photos at medium quality before you run out of space. The investment in a larger card, preferably a 64MB card or larger is definitely worth it.

Camera Size

Digital cameras with very similar features come in a real range of sizes, from ones as small as cigarette packs to ones as big as 35mm SLR (single lens reflex) cameras, which can be as bulky as a shoe box when packed with lenses attached.

Compact size usually comes with a higher price tag, so give some thought in this area before making a decision. Definitely consider a smaller camera if you think its size will make it more likely that you will bring it with you on outings.

Tip 2

Digital vs. Film (Analog) Resolution

What is the most important aspect of any digital camera? Resolution. Which is why the first thing you'll see in advertising for any camera is how much resolution it has measured in megapixels (millions of pixels; pixels is a loose acronym for "picture elements").

Resolution Measurements

Resolution is the paramount concern in digital photography because it refers to the quality and clarity of an image. In the digital world resolution is measured in dots per inch (dpi), pixels per inch (ppi), or in the case of cameras, megapixels (mp).

So, if resolution measured in megapixels is the most important aspect of any digital camera purchase, how do you know what is good, better and best? Or, at a minimum, what you will need? To gain a fuller understanding of these questions and how to answer them, it makes sense to start at the beginning and examine the differences between digital and film resolution and between digital resolution and what we see with our eyes.

Bits vs. Analog

Digital files of any type, whether audio, video, graphics or photographs have in common that they are a collection of bits. So, sight and sound information from the real, "analog" world is taken and converted to a "bit" format that can be calculated and displayed or played back by computers.

In the world of photography, the limitation of bits, generated from pixel information, is that they lack subtlety. A bit is square in shape and can only be one color. So, a transition from one color or shade to another must be made up of a series of very small, but nevertheless blocky steps.

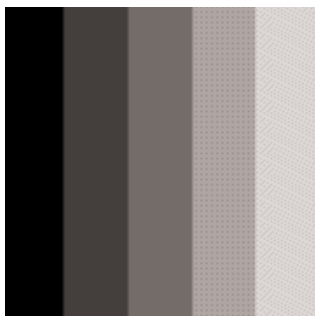
This is not the case with film (or analog) photography, because the entire image is made from light of different wave lengths as captured within one large rectangle of celluloid film. As such, it can and does have smooth, continuous transitions between colors and shapes. The great thing about digital cameras now – as opposed to the early days when only 1mp cameras were available – is that the size of the transitional steps between pixels has gotten much smaller as higher megapixel cameras have become more common and affordable.

Megapixels, Film and the Human Eye

Usually, with 2mp cameras and up, the human eye doesn't notice individual pixels as long as the maximum print size for that level of resolution is not exceeded. The higher the resolution of the digital camera, the smaller and more difficult to notice are the steps between each monotone pixel. However, the cutoff point for pixels not being obviously noticeable to the naked eye seems to be about 300ppi (pixels per inch), while 600ppi seems to be the cutoff for a practiced, expert eye – professional photographers never print anything with less than 600ppi in resolution.

It is important to keep in mind that film is not totally perfect and if magnified it will also have flaws caused by the grain of the film; nevertheless, when it comes to printing enlargements, film photos are significantly more flexible. For example, from a good quality negative using good development equipment, you should be able to make a poster size print, which is well beyond the 8x10 enlargement of a 3mp digital camera.

So, what is the megapixel equivalent of good film? Most experts agree it is about 20mp. Currently, the highest rated professional D-SLR (digital single lens reflex) cameras are only 12mp and 2 to 3mp cameras are still the norm at the entry level.



Digital (Exaggerated)



Analog (Mimicked)



This article looks at the basics of resolution as a point from which to understand further information. Other articles in this guide, including "DPI, Pixels, and Printing" in Part V. Printing Photos examine exactly how much resolution you need for certain tasks, such as printing particular enlargements.

The example here shows digital and analog (film) transitions from black to white. Technically you cannot measure the resolution of digital and film images the same way. This is because analog images aren't made of pixels. However, you can make reasonable comparisons based on expert estimates of the number of pixels it would take to produce the quality and clarity available on film or as seen from human eyes.

According to experts in digital imaging and human physiology, for a digital photo to be equivalent in resolution to what the average person sees with their eyes, it would have to have 120mp of resolution. This number is derived mainly from our ability to see detail far into the distance as compared to the level of detail you can see in a photo when you zoom in repeatedly.

Summary

Digital and film resolution are definitely different, but can be reasonably compared, and digital still has a ways to go before it provides the kind of flexibility for making the big enlargements that film offers. Nevertheless, digital cameras of 3mp and up provide all the resolution you need to enjoy great prints up to 8x10 inches provided the claimed megapixel rating of the camera refers to optical resolution and not interpolated resolution.

Tip 3

Optical vs. Interpolated Resolution

Do you know the difference? If not, you could end up with a digital camera that has less resolution than you'd hoped. In turn, this can translate into fewer printing and editing options. Plus, there are other benefits to knowing the ins and outs of optical and interpolated resolution for your camera or prospective camera, such as saving time when taking, printing and sharing photos.

Pixels and Image Sensors

The optical resolution of any camera is a number that represents the collection of pixels on the surface of the image sensor or CCD (charged coupled device). This is the base number that determines how clear and sharp your photos will be under various circumstances.

These circumstances include when your photos are: viewed on your computer screen at full size; zoomed in to various levels while onscreen; cropped and resized for viewing or printing; printed at the standard size of 4x6; printed at 5x7; and, printed at larger sizes such as 8x10 and over.

In each of the above cases, you must have enough resolution so that the pixels are either not obvious, or, better yet, not noticeable without close examination. For professionals and most enthusiasts, the goal is for them not to be noticeable at all.

Why Interpolate?

To improve overall resolution in some limited ways, such as moderately improving print size, the initial optical resolution can be increased using software. This interpolation process artificially adds pixels to a photo and it can be done within cameras that include interpolation options or using photo editing software. From a camera manufacturer's standpoint, another reason to interpolate may simply be the benefit of being able to claim a higher resolution rating.

How Interpolation Works

To interpolate a photo, the software evaluates those pixels surrounding each new pixel to determine what its color should be. For example, if all of the pixels around a newly inserted pixel are red, the new pixel will be red.

Why Avoid Interpolation?

Basically, the issue is that interpolated resolution does not add any new information to the image. It just adds pixels and makes a larger image file. Yes, a properly interpolated image file can typically be printed at a slightly larger size, but a camera with 3mp of optical resolution will enable you to print medium quality 8x10-inch enlargements anyway, and very few photographers print photos larger than this. Likewise, a 3mp digital camera will enable you to perform significant cropping and resizing and still print a medium quality 5x7-inch photo.

Another reason to avoid interpolation is that the larger image files it creates take more time to process. This can mean more time for your camera to capture your photo and write it into memory; more time to download those photos onto your computer; more time to print them; and finally, more time to share them electronically if you are going to share the originals. So, avoiding interpolation means saving time in a lot of different ways.

Conclusion

Whenever you are shopping for a digital camera, be sure to look for the optical resolution. You should also keep in mind that a camera with 3mp of optical resolution will enable you to print professional quality 5x7-inch enlargements and medium-quality 8x10-inch photos. This means 3mp of optical resolution is generally enough for most photographers. Since many digital cameras do boast of interpolated resolution, you should find out under what quality settings the interpolation kicks in. For many cameras interpolation is only performed on photos taken at maximum quality, so you can easily save time by avoiding this setting.

Tip 4

Reducing Shutter Lag

What Is Shutter Lag?

Shutter lag is the delay on digital cameras from when you press the shutter-release button to when the photo is taken. When you first make the switch to digital, it can throw you off a bit and lead to blurred photos and people looking away. However, both newbies and more seasoned digital shooters can overcome it with a bit of practice and knowledge and soon you'll be shooting as comfortably as you used to with your film camera.

With a film camera the shutter-release process is mechanical, so there is no lag beyond any auto-focusing that may happen. But with digital, your commands have to be processed by a tiny onboard computer. First the camera has to focus, then the onboard computer wipes the CCD clean of the information from the previous photo before your photo is taken. (The CCD is the digital equivalent of film.)

Shutter Lag and Camera Type

Typically, the pricier a digital camera, the quicker the onboard computer and the shorter the shutter lag. High-end digital cameras for professionals and major enthusiasts may not have a noticeable shutter lag at all, but for most digital camera users it helps to know and remember what the shutter lag is so you can compensate effectively.

Also keep in mind that many high-end digital cameras use the same CCD's and onboard computers as mid-range models and only add other features, so more expensive doesn't necessarily mean faster. Test each camera to be sure before buying.

With rapid improvements in digital camera technology, you should be able to find a camera fairly easily that has an average shutter lag of a half second or less and definitely under a second. Time was that many entry-level cameras had lags of up to 2 seconds and some even more.

After using the method outlined below to determine average shutter lag, consider carefully if you are willing to wait any longer than one half to three quarters of a second to capture special moments before you buy the camera.

How to Reduce Shutter Lag

You can judge how much shutter lag your camera or prospective camera has by doing the following. Turn on your camera and wait until it's ready to take pictures. Ensure it is set to highest quality. Take an initial photo to put something on the CCD. Then, press the shutter-release button completely down from the fully open position and count "one-thousand-and-one, etc." until the photo is actually taken. A stopwatch will help here.

Do this a few times to get an average result. Then remember that this is how long it will always take to get a quick snapshot if you do not make adjustments to your shooting method. Here's what to do to make things faster.

Pre-Focus: First off, shutter lag can be significantly reduced using the pre-focus method. Pre-focus by pointing directly at your subject and pressing the shutter release button down halfway. This in itself takes time, but when you press your shutter release button the rest of the way, you'll get your photo faster.

Reduce Quality Settings: Another method is to reduce the photo quality settings before shooting. The larger the image file, the longer it will take to wipe it from the CCD before recording the next picture. Technically, the wait time in this case is actually referred to as "click-to-click processing," but on some cameras if you press the shutter button toward the end of the process for recording the previous photo another photo will be taken when the processing is done, so it seems like shutter lag.

Ask yourself if you really need photos for a particular event in TIFF format (an uncompressed format available in many mid-range cameras) or the highest quality proprietary format that may come with your camera. These are great for landscapes and portraits when you can take your time, but not necessarily the best for capturing candid moments at a family BBQ.

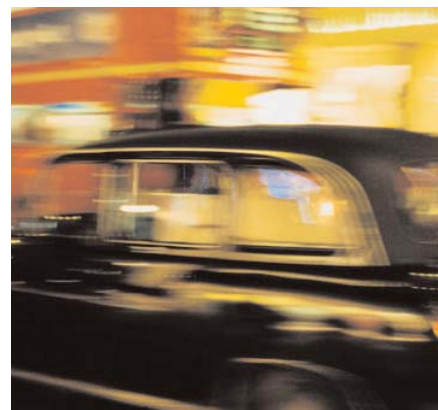
Additional Techniques: Other things to consider, especially for getting candid shots, include pre-focusing while pointing the camera in another direction then turning to shoot the photo. Try to pre-focus on something that is about the same distance away as your subject(s). As well, turning your flash off can make shooting quicker, as the flash takes time to warm up and perform additional functions like reducing red-eye. Happy snapping!

Tip 5 Speed Up Click-to-Click Processing

What Is Click-to-Click Processing?

Click-to-click processing is the time it takes your camera to be ready to capture another photo after you have just taken one. There will usually be a light on your camera that flashes after one shot and until the camera is ready to take another. Your camera may also make a noise when it is ready to go again.

When it comes to using your camera effectively, click-to-click processing can make a big difference, especially if you have recently converted from film where it isn't much of an issue. Therefore, you should make sure to take this into account when shopping for a camera.



As with timing shutter lag, simply count off the seconds from when one photo is taken to when the light stops flashing. Then add the shutter lag you calculated when starting with the shutter-release button fully open and you'll have the click-to-click processing time.

A typical click-to-click processing time for a low-end to mid-grade digital camera is 4-6 seconds. Knowing this will allow you to adjust your technique by doing things such as letting your subjects relax for a few seconds between shots. There are a number of choices you can make to speed up click-to-click processing. Here's what to think about.

How to Speed Things Up

There are four main areas in which you can pursue options to decrease the time you must wait between consecutive photos: flash settings, quality settings, memory card size, and exposure settings.

Flash Settings: Your flash and how fast it "recycles" can contribute to long waits before you can click again. To speed things up in this area, turn your flash off if you do not need it. Also, off-camera flashes recycle much quicker, so if you can add one to your camera, it will speed things significantly.



Quality Settings: Choosing a lower quality setting will shorten click-to-click time because smaller, lower quality photos take less time for your camera's onboard computer to write to your memory card. Shoot at highest quality when you will have plenty of time for each photo. Otherwise, lower your quality to enable faster snapping.

Memory Card Size: The size of your memory card itself also contributes here. Larger cards not only drain more battery power, but also require demand more time from our camera's computer because it must search further for an appropriate place to put the new photo information. The best thing to do here is to purchase a collection of smaller cards, rather than investing in one big one.



Exposure Settings: Exposure settings also contribute to click-to-click time, again because your camera's computer must process all the additional information associated with choosing additional settings such as white balance, exposure value compensation, spot metering, and so on. There is a potentially large trade-off here in some areas. The trick is to use only the manual settings you need for each situation and then to revert back to automatic settings to save time.

Tip 6

LCD Viewfinder Pointers

Whether you just got a digital camera, are about to upgrade or have had one for a while, these helpful LCD viewfinder pointers will improve your digital photography experience.

LCD Viewfinder Coverage

A significant number of LCD viewfinders do not actually show everything that will be in the picture. Most, however, do show 95% to 98% of what will be in your picture. When shopping for a camera, do not settle for less than this as it will make it difficult to frame your photos properly, potentially leaving you to crop photos with your editing software before printing them. Likewise, the optical viewfinders on digital cameras may show as little as 85% of your final photo. If you prefer using an optical viewfinder as you did with your old film camera, look for a camera with TTL (through the lens) viewfinding, which is very accurate.

This graphic shows the typical amount of coverage in digital cameras for non-TTL optical (inner line) and LCD viewfinders (outer line).

LCD Size

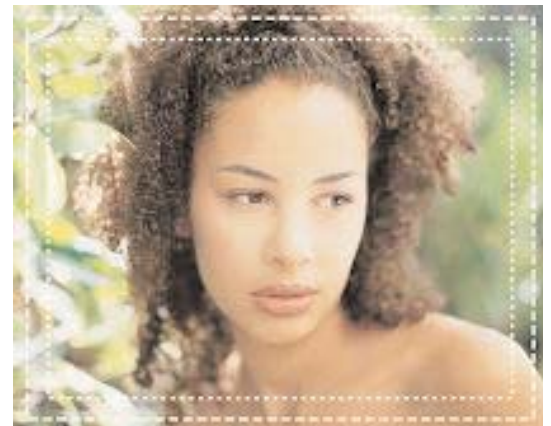
Most digital cameras come with LCD screens 1.5 to 2 inches in size, measured diagonally. A few manufacturers offer higher-end models with larger screens of 2.5 inches across, including but not limited to Sony, Panasonic, Leica and Kyocera. Larger is definitely better. Framing photos using the LCD viewfinder and reviewing photos are key elements and benefits of digital photography, so LCD screen size should be high on your list of important items when considering a camera.

LCD Brightness

The brighter the LCD screen display, the more likely you will be able to read it in bright sunlight. Test screen brightness in stores by trying to view it next to a bright window or close to a bright lamp. Also, ask if you can test the LCD screen in a darkened area. Some LCD screens do not perform well at night, which can really hamper night photography. Look for options to brighten and dim the display, which can be very helpful.

LCD Refresh Rate

How often the camera updates the image on the LCD screen is referred to as the “refresh rate.” If the rate is too slow, you will see lots of distracting blurring and color problems when panning your camera to set up a shot.



Anti-Reflective Coating

Cameras that include anti-reflective coating on their LCD screens will not only make it much easier to shoot in bright light, but will save you the expense and inconvenience of ordering and using an aftermarket LCD screen hood.

Tip 7

Improve Your Photos Using Metadata

You can get consistently better photos by taking advantage of your photo metadata. How? By simply spending a couple of minutes looking at the metadata from your worst and best photos after downloading each set from your camera. Here's how it works:

Metadata is the information about shutter speed, aperture, ISO rating, flash setting, EV compensation, date and time and so on that your digital camera records automatically with every photo. In pre-digital times, careful, dedicated photographers would carry a notebook and dutifully record this information manually. But now, even casual hobbyists can easily tap into this wealth of information and become a better photographer by avoiding past mistakes and replicating successes. In this example of a successful photo, you could start by reviewing time of day and year, then whether flash was used and what kind. Knowing these things will help you determine how to reproduce the soft and pleasant light.

So, when you're reviewing a series of photos and come across not just some keepers, but some genuine successes, you'll be able to look not only at the camera settings you used to figure out how to get those results again, but also at what time of day and year it was. Likewise, if you intentionally run your camera through its paces in various conditions and using various settings, you can quickly find out what works best.

How many different settings and results you can check will depend on how sophisticated your camera is, but a good place to start for any digital camera is with flash settings, EV compensation, ISO and focal length. Also, if you have more than one digital camera or your collection includes lots of photos from other people with digital cameras, you can quickly see which photos were taken with what camera.

Tip 8

Your Next Digital Camera: Night Sky Photos As Litmus Test

Gazing on the infinite beauty of the night sky has inspired poets and artists since the beginning of time and photographers since the invention of the camera. In the film world the techniques and considerations of night photography, while demanding, are pretty well known.

But in the still-emerging field of digital photography, what you need in a digital camera to get pristine night sky photos is not as straightforward. Read on to shed some light on the subject and find out how the requirements of night sky digital photos can also be used as an excellent indicator of how satisfied you'll be with your next digital camera as a whole.

Camera Type

For both film and digital, the best cameras for night sky photos have fully manual control or at least lots of manual options. Point-and-shoot cameras will not give you the kind of flexibility you need for the best night sky photos. Look for a minimum of manual exposure, shutter and aperture priority, spot metering and 4x optical zoom (6x preferable).

Shutter Settings

Many mid-range digital cameras have similar shutter speed options as entry-level SLR film cameras. This means you can consider playing with much longer shutter speeds of up to 8, 12 and 15 seconds to get the kind of night exposure you want. However, unlike a lot of film SLR cameras, most mid-range digital cameras do not yet allow for super-long exposures of 30 seconds to several minutes or even hours. A more common feature that can provide a substitute to pre-set long exposures is bulb mode.

Bulb mode lets you choose a shutter speed by opening and closing the shutter manually, rather than selecting a set time. However, unless you also have a remote shutter-release, pressing the shutter-release button to open and close the shutter will cause camera shake. Find out how much this and other accessories are before committing.

ISO "Film" Speed

ISO speed is the number for rating film sensitivity to light. The higher the ISO rating, the more light-sensitive the film — a critical consideration for night sky photos. On your digital camera, the ISO numbers are



Here is a long-exposure night sky photo that brings in elements of cityscape and the potency of Nature.

intended to be “equivalent” to film.

In reality, most entry-level to mid-range cameras are not advanced enough yet for digital ISO equivalents to be totally accurate. Also, raising the ISO setting to increase light sensitivity on many digital cameras may produce noise and lower quality. You can work around the problem using other camera functions, but be sure to look for a digital camera with a noise reduction system built in so you can use ISO if you want.

Image Sensor Size

In the area of achieving noise-free night sky photos, another factor to consider is image sensor size. Most entry-level to mid-range digital cameras come with 1/2.5” (0.40”) sensors. In contrast, high-end digital SLR’s usually produce better, less noisy or noise-free photos at higher ISO settings due to larger image sensors (up to 4x as large and larger) with larger pixels.

Basically, the larger image sensors and pixels pick up more light more quickly and allow less time for noise to build up. Look for 1/1.8” (0.55”) or 2/3” (0.66”) sensors, which are common enough in the mid-range of digital cameras and will match your other requirements.

Batteries

Whether you are shooting film or digital, all batteries drain faster in cold, nighttime conditions. Digital cameras, however, consume more battery power than film cameras in order to operate the onboard computer, the image sensor and the power-hungry LCD screen. Be sure to bring at least two or three sets of spare batteries for a dedicated night of sky photos and consider turning your LCD screen off and setting up your shots with your regular viewfinder. If the cameras you short list come with built-in batteries, consider getting a spare or two plus a charger for those cold night photo adventures.

Bottom Line

Photos of the night sky, whether late-dusk and pre-dawn landscapes or star studies, are some of the most challenging for digital cameras. If you want to pour fuel on your artistic instincts with your next digital camera, take these points shopping with you.

Tip 9

Memory Card Care and Corruption

Memory cards are often misunderstood by digital camera users and treated the same way as others forms of media storage, such as hard drives and floppy disks. Unfortunately, this leads many digital camera users into problems where new photos can’t be written to a card or old ones can no longer be accessed. You can easily avoid such frustrations if you follow two crucial practices to care for your memory card

and avoid corruption.

First, remember to always turn your camera off before removing or inserting a memory card. When your camera is on and your card is inserted the two are interconnected, passing information in the form of magnetically charged particles. Yanking out your memory card can literally cause things to go haywire.

Second, format your card regularly and always do so while it is in your camera, not connected to your computer. In fact, not only should you not format your card using your computer, but you should not even delete individual files.

The problem with erasing or formatting cards on your computer as opposed to your camera has to do with the different ways in which these tasks are accomplished by the two machines and how the two are incompatible.

A solution to this discrepancy may soon be found, but until then you can save yourself and your memory card from the problem and ensure your ability to take pictures when you want to by simply following the guidelines above.

Tip 10

Your Next Digital Camera: Is It Time for a CMOS Image Sensor?

Part of the excitement of digital photography is how fast the technology is evolving. Just a few years ago, even the best consumer-level cameras were only 1 megapixel. Compare that to the release this fall of the promising and inexpensive Canon Digital Rebel 6.3 megapixel SLR, with CMOS image sensor and a mass market price tag of \$1000 including lens, and you can almost feel the groundswell of another major leap forward. But should you look for a camera with a CMOS image sensor when you're ready to take the leap to your next camera?

Armed to Choose

Since image sensors are really the heart of any digital camera, what should you know about CMOS before choosing your next camera? For starters, there are two main types of image sensor, CCD which is the standard and CMOS which is newer and offers some serious benefits but is not yet widely available. Armed with an understanding of each, you'll be in a better position to weigh the benefits and potential disadvantages of CMOS against other camera features and decide if it is for you.

Basic Definitions

CCD (Charged Coupled Device): A layered silicone grid of millions of tiny photosites (a.k.a. pixels) that converts light coming through a

camera lens into electrons. The number of electrons per pixel make up its accumulated charge which is converted to voltage and amplified in the transfer register (“horizontal CCD” in the diagram) and then converted again to a digital value that can be used to generate a picture.

This final conversion from analog to digital usually occurs outside the CCD in the camera’s analog-to-digital converter. CCD’s require a highly specialized manufacturing process that is more cost intensive, but typically yields very high quality.

CMOS (Complementary Metal-Oxide Semiconductor): This term actually stands for the manufacturing process of the chip, rather than the chip itself. A CMOS image sensor is also a layered silicone grid of millions of tiny photosites (a.k.a. pixels) that convert light coming through a camera lens into electrons.

The CMOS image sensor’s basic functions are the same as a CCD, but instead of passing electrons onto a transfer register for conversion to voltage and amplification, this initial conversion is done at each photosite. Likewise, noise reduction begins at each photosite. Unlike CCD’s, CMOS chips, use standard manufacturing processes and traditional wiring making them much less expensive to produce. Historically, this standard manufacturing process and the relative newness of CMOS technology have resulted in lower quality. However, with the inclusion of a CMOS sensor in the well-known and respected camera model such as the Canon Rebel, CMOS appears to have turned the corner.

CMOS Benefits and Disadvantages

The main benefits touted for CMOS image sensors are greater speed, decreased power consumption, and no blooming. The disadvantages that must be compensated for are lower light sensitivity and additional noise. So how do these benefits and disadvantages work? Basically from the way CMOS image sensors are wired to process information. To illustrate, we’ll start with a rough description of how CCD processing works:

CCD Processing: In a CCD, the information from each pixel is bundled with the information from all the other pixels in that row and moved to the transfer register (“horizontal CCD” in the diagram) where each pixel’s charge is converted into voltage and amplified one by one. Once the charges from a row are converted, they are deleted and the next row is read, converted and coupled with the information from the previous row. This analog information is then transferred to the camera for final processing to digital.

CMOS Processing: In contrast to a CCD, each pixel or photosite on a CMOS image sensor individually converts its charge into a voltage, which is then amplified and processed for noise reduction. In addition, each pixel is directly connected to the transfer point for final conversion

to digital.

So, how do these differences translate into the benefits and potential disadvantages listed above? Here's a description of each:

Greater Speed: Unlike CCD's, CMOS image sensors do not suffer from the classic bottleneck syndrome that will slow down any system. In a CCD, the information from each pixel is first grouped into a row where it waits in line for its turn to be read individually. Then the same process is repeated for the next row of pixels.

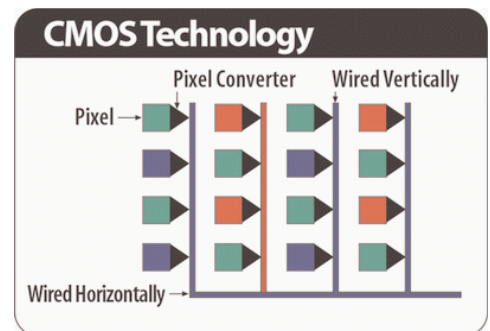
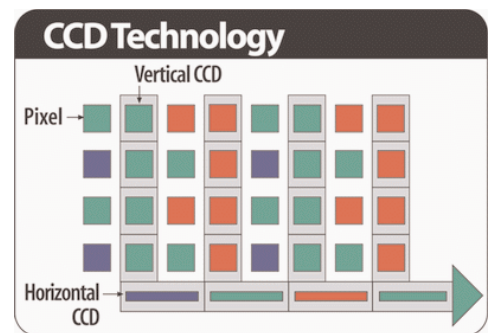
A good analogy for a CCD would be of a thousand people in several groups (call them rows) being forced to pass through individual turnstiles to get on the subway and while each row might have its own turnstile, it still has to wait for the previous row to finish entering the station before it can start. In contrast, if you applied this analogy to a CMOS image sensor, there would be direct, immediate access to the station for every person – a thousand turnstiles for a thousand people sure sounds a lot faster than one.

Sensitivity: The inclusion of voltage conversion and amplification mechanisms on every photosite in a CMOS image sensor takes up space and leaves less area dedicated to capturing light. While a CCD captures 100% of the light hitting each photosite, a CMOS image sensor captures somewhat less making it necessary to compensate.

Decreased Power Consumption: In order to process the pixel information on a CCD row by row and pixel by pixel, a series of complicated timing signals needs to be used. These timing signals require lots of additional circuitry. Anytime you have additional circuits, you are going to use additional power and CCD's can consume many times more power than CMOS image sensors – some claim CMOS image sensors use 4 or 5 times less power.

Noise: Since each photosite in a CMOS image sensor has its own converter, there will inevitably be a certain amount of variation between the efficiency of each. These variations can result in noise and are the reason why each photosite also includes a noise reduction mechanism.

No Blooming: On a CMOS image sensor, pixel charges are converted to voltage right at the pixel. On a CCD they are bundled together by row before being converted to voltage. This bundling makes it more likely that the charge of one pixel will leak to that of another. This leakage appears in your image as blooming or streaks with a bright point.



Conclusions

CMOS technology has come a long way and offers serious benefits.

- Digital cameras are notoriously hard on batteries unless you regularly shoot with the LCD screen off, so any power consumption savings are welcome.
- Likewise, a major barrier to broader adoption of digital in the market place is the inferior speed of many digital cameras, so any advancement in speed will make a big impact.

With the introduction of CMOS chips into the well-known and respected Rebel model line by Canon, it's time for everyone looking to upgrade their camera to sit up, take notice and consider if a CMOS camera is for them. They may not be widely available yet, but with the important advantages they offer, it seems quite likely that they could set the new standard.

Tip 11 Optical vs. Digital Zoom

When it comes to digital cameras, not all zooms are created equal. There are two distinct varieties: optical zoom and digital zoom.

Optical zoom works in much the same way as a zoom lens on a traditional film camera, by magnifying an image before it is recorded as pixels. Digital zoom, on the other hand, magnifies the image after it is recorded as pixels by cropping the shot to include only the area you have zoomed to and magnifying the pixels in that area. This means that fewer pixels are used to represent your image, resulting in lower resolution.

Owners of digital cameras can achieve the same effect with more creative control by taking photographs without the digital zoom and then later cropping them in an image editing program such as ACD FotoCanvas. There are, however, some cases in which you may want to consider using digital zoom. These are covered in the article "Using Digital Zoom."

The safest bet when thinking of getting a digital camera or upgrading your current one is to ignore the quoted digital zoom capabilities and concentrate on the maximum optical zoom available. We recommend a minimum of 4x optical zoom and preferably 6x optical zoom. Also, find out whether or not zoom lenses can be fitted as attachments.

Tip 12

Digital Focal Lengths

Q: I am looking to upgrade my digital camera to one that has more zooming capability. As someone familiar with film focal lengths, I am wondering how I decide what amount of zoom is sufficient. How do you compare the two measurements used in film and digital?

A: Focal lengths are different on your digital camera than they were on your film camera. This is because a piece of 35 mm film is the same size in every film camera, but the digital equivalent of film, the camera's CCD is smaller than a frame of film. This means that you need shorter lenses with your digital camera than you would with your traditional camera to get the same effect. To make things even more complicated, different digital cameras have different size CCD's.

So, a 50 mm lens will not give the same amount of magnification on one digital camera that it will on another. To make the ratings of lenses more easily comparable, camera manufacturers have started to refer to the focal length of their lenses in terms of how large a zoom range they have. For example, a 3x optical zoom. However, one limitation of this is that you can't tell how wide an angle the lens will have or how powerful a magnification. A 38 mm to 115 mm lens and a 28 mm to 85 mm lens will both be called 3x zoom lenses, but they will give you different amounts of magnification.

A more useful statistic is the length of the lens relative to what focal length it would be on a film SLR camera. This provides a standard that you can compare all lenses against. For example, a 38 mm lens on a digital camera might be equivalent to a 50 mm lens on a film camera. However, there are now some cameras with CCD's the size of a full frame of film so that there is no difference between the focal lengths of digital or film cameras. When looking for a camera or deciding what lens to put on your digital SLR, keep in mind the 35 mm equivalent focal length.

Also, it is important to keep in mind that when it comes to zooming power, only the optical zoom capabilities should be considered. This is because digital zoom simply crops image information away, leaving you with lower quality photos that you might not be able to print at the size you want.

Tip 13

Using Digital Zoom

Q: When is it OK to use digital zoom and how should I do it?

A: In previous articles we have recommended not using digital zoom at all because it simply crops away photo areas and information. The problem is that using digital zoom gives a false impression of the actual size of the image and how large it can be printed. It also limits your options to crop and resize later.

In effect, you end up with a lower quality than you likely intended. However, since digital zoom is a feature of almost all digital cameras now, it is worth examining when it might be appropriate to use it and how to use it best.

This series of examples was taken with a Fuji Finepix 4900 with 6x optical zoom and 4x digital zoom. It shows a photo of a woman taken from about 30 feet away with no zoom, maximum optical zoom, minimum digital zoom and maximum digital zoom. In the large version of the final example, pixelation resulting from digital zoom begins to become obvious.

How to Know the Difference

Telling the difference between when you're using digital vs. optical zoom is different for various camera makes and models. Common aspects include that the camera's actual zoom lens stops moving out and there is a noticeable pause in zooming followed by an abrupt jump forward in the zoomed view.

If you choose to display camera options on your LCD screen while shooting, there may also be a digital zoom indicator. Get to know your camera and what to look for in this regard to avoid using digital zoom unintentionally.

How to Use Digital Zoom

Since your camera is simply cropping information away, the best thing you can do when using digital zoom is to select your camera's highest, non-interpolated quality setting. This will leave as much pixel information in your photo as possible.

Choose the highest, non-interpolated setting to save time between shots. Interpolation artificially adds pixels to your photo and takes a lot of processing power which can leave you waiting several to many seconds between pictures depending on the processing chip in your camera.

It is also important to be aware of the amount of digital zoom you are using. Camera capabilities can vary widely on this point, but it is not



uncommon to have a 3x optical zoom with up to 12x digital zoom. Using the maximum zoom in this case will be like taking a regular photo and cropping a small portion of it and then resizing that small portion to the size of the original. Quality will suffer dramatically. If you are going to use digital zoom, use as little as possible.

When to Use Digital Zoom

Use your digital zoom only when you cannot get closer to your subject with ease and only when you have chosen the highest, non-interpolated quality setting on your camera.

Tip 14 ISO Settings

So you've just gotten a digital camera or you're still getting used to the one you've had for a while and you're thinking: "What is that ISO thing I keep seeing every time I look at the menu?" Or maybe you've asked a friend and they said that, "ISO is supposed to be set to match film speed if you have a manual camera." Hmm...that doesn't seem to help much since you've always used a point-and-shoot and you're not using film anyway. Well, here's what you need to know and more about ISO and your digital camera.

“ISO” is actually short for International Standards Organization. On its own that really doesn’t tell us a whole lot, but in photography “ISO” is actually short for “ISO Speed,” which gets us closer to the real picture. “ISO Speed” then is the number used to represent the international standard for rating film sensitivity and thus the amount of light a camera needs to let in to capture a photo.

The International Standards Organization gets the sensitivity number for film by looking at the arithmetic (ASA) and logarithmic (DIN) speed, but suffice to say that the higher the value the greater the film sensitivity and the less light your camera needs to let in for a good photo. It is also worth noting that unlike the Richter scale or geometric values, ISO values don’t reflect a complicated formula – when a film is ISO 400 that simply means it’s twice as sensitive as film that’s ISO 200, so at least that part is simple.

You may still be wondering why you’ve never had to set anything on your film camera before and, if that’s the case, why the option is on your digital camera. To answer the first part, point-and-shoot film cameras adjust their light meters automatically to match the special ISO coding on the film and only people with manual cameras need to set the two to match. So, while you doubtless understood that 1000 film was quicker than 100 and chose your film according to the amount of light you expected for shooting, you may never have actually worried about an ISO setting on your film camera.

And that brings us back to your digital camera and its ISO settings. Basically, you can use them in the same way you would have chosen and may still choose film of a certain speed for your film camera when shooting in certain conditions. However, be careful when changing ISO settings on your digital camera for shooting in low light situations. Unlike film cameras where you can achieve predictable results with higher ISO films, raising your ISO setting to higher levels on your digital camera may result in noise, specks and lower than expected quality. Consider testing the higher ISO settings on your digital camera under a number of circumstances to see if you get acceptable quality before relying on this feature. If low light shooting is crucial for you, consider investing in a camera that offers a lens with a large aperture that will allow in more light. If your low-light shots don’t involve motion, you can also invest in a tripod to allow longer shutter speeds. And now you probably know about digital ISO than you need to, but at least there will be one less baffling feature on your new digital camera. Happy shooting.

Tip 15

Bulb and Time Settings

Create eye-catching blur and tracer effects or simply get unique photos in ultra-low-light conditions by using the bulb or time setting on your

camera for extra-long exposures. On many digital cameras, this mode will be accessible from the LCD menu only. On more advanced digital cameras that mimic film SLR's with adjustable shutter speed, this function will often be represented by a "B" or a "T" on the speed dial.

"Bulb" is a reference to older styles of cable-shutter-releases that had a squeeze bulb on the end. The bulb setting works by opening the shutter when you press the shutter-release button and closing it when you release the button. The shutter will stay open for as long as you have your finger on the button, thus allowing you to directly control the shutter speed and take optimum advantage of available light.

When using bulb mode, a cable-shutter-release and tripod are usually used together. But even if you don't have a cable-shutter-release option available, it is important to use a tripod to minimize camera shake. Without one, most pictures will be badly blurred, though this can lead to some interesting and occasionally desirable special effects.

If you can connect a cable-shutter-release to your camera, this is the best option, as it will let you trigger the camera without touching it and thereby ensure the camera is totally still during a long exposure. A cable-shutter-release will also often let you lock the shutter open when the camera is on the bulb setting, so you don't have to sit around with your finger on the button.

The "time" is similar to using a cable-shutter-release setting in bulb mode, as it doesn't require you to keep your finger on the button. Simply press the button to open the shutter and it will stay open after you remove your finger for the specific period of time you chose.

Using bulb and time modes can be the only way to get a shot in very low-light situations and can also help you create neat blurring, tracer and star-like special effects when used judiciously. One classic example is locking your shutter open all night and pointing it at the north star in the sky, the stars will turn into streaks of light around a single point as the earth rotates.

Tip 16

Demystifying Large Memory Cards

Q: Now that high capacity memory cards like 500MB and 1GB cards are getting so much cheaper, will they become the new standard?

A: Not for a while yet. Digital cameras are as much computer as camera and like computers, now that they have been on the market for a few years, speed and feature sets are increasing and getting cheaper rapidly. While sold separately, memory cards have followed the same path. In fact, there has recently been an explosion in the number of high capacity cards available for reasonable prices. Does this mean that smaller cards will become less common or disappear? Not in the near future. Here's why:

First off, many digital camera users simply have no need for a large capacity card. This is because many of the most common digital cameras on the market and in peoples hands are not capable of capturing and saving pictures in an uncompressed format that requires a lot of memory. So, if your "best" quality setting is still compressing picture info into JPEG files, you just don't need a 500MB or 1GB card. How many people really need to save 1000-2000 photos on one card?

Another reason, more familiar to those with mid- to high-end digital cameras capable of capturing large picture files, is that larger memory cards consume more power than smaller cards. While the difference might not be that dramatic on the face of things, like gas mileage, it really adds up over time and many digital cameras are already hard on batteries.

Something else to keep in mind if you are considering getting a large capacity card in the 500MB to 1GB range, is that they generate more heat than smaller cards. If you have on older camera or a compact model, it may not be up to the task of shedding enough heat away from the card. This can cause a number of problems, including image noise in some cases.

You can check out discussion groups online about digital cameras and look for info about your camera to determine if this potential problem applies to you. If there is nothing on your camera there, simply post a question.

Finally, even for owners of mid- to high-end digital cameras capable of taking larger, uncompressed picture files, the big cards often still allow for two or three hundred photos or more before filling up. While this may seem like a great thing at first blush, cards can occasionally fail, be erased accidentally, become lost and so on. Many camera owners prefer not to take the risk of losing so many photos at once.

In the end, it is great that large capacity cards are coming down from the pricing stratosphere, but right now only pro-level cameras that generate genuinely big files (10-15MB and up) truly benefit from such large cards, so their smaller cousins will be around for a while.

Tip 17

Scanners: Resolution and Bit Depth

Trying to figure out what the different technical specifications of various scanners actually mean? Read on and we'll discuss the two most important elements to consider when you purchase.

Resolution

Resolution on scanners is measured by the amount of dots per inch a scanner can capture. For most uses, a 600 dpi scanner is sufficient. This

amount of resolution will allow you to scan original photos and print them out at a high resolution. If you want to be able to crop or enlarge your images after scanning and still maintain sufficient resolution for high quality printing then a 1200 dpi scanner will be a better choice. If you are going to perform extreme enlargements of scans then a 2400 dpi scanner is definitely worth considering.

If you are scanning negatives, definitely look to get the highest resolution you can afford. Because of the small size of negatives, you need quite high resolution (at least 2400 dpi) to be able to enlarge images to the size you will want to print them out and maintain the quality of the image. When comparing scanner resolutions, focus on the “optical resolution” and not on the “enhanced” or “interpolated” resolutions that are quoted.

Bit Depth

Bit depth refers to the amount of color information that a scanner captures when it performs the scan. A 24-bit scanner is able to capture 8 bits of information for each of the red, green and blue color channels, resulting in over 16 million color variations that the device can capture. Many scanners are now 36-bit and higher. All things being equal, higher bit depth is better, although unless you are a professional user, it’s rare that you’d actually need more than 24-bit color depth.

Other Considerations

Dynamic range is a specification that is not often referred to, but is a measurement of the range of different tones a scanner can capture. In practical terms, this shows up in the amount of detail a scanner can capture in the lightest and darkest areas of a scan. If you are buying a high-end scanner, it’s best to find out about the dynamic range of the scanners you’re considering and get the highest dynamic range you can afford.

Speed is also a consideration when purchasing a scanner. Simply put, some scanners are faster than others, which can be a big consideration if you’re going to be scanning lots of images.

While it may seem challenging to wade through the technical specifications of various scanners to figure out which one is best for you, it’s well worth it as the efforts will pay off handsomely in the results you’ll get in image quality.

Tip 18

Scanner Cleaning

Q: My scanner seems to get dirty fast and it’s hard to get it totally clean; how can I get and keep my scanner clean?

A: The best way to get and keep your scanner clean is to use proper optical-surface cleaning fluid along with an anti-static cleaning cloth. It is important to use a cleaning fluid specifically designed for optical surfaces because other types of fluids, such as those used for regular household cleaning, can leave permanent streaks and difficult-to-remove buildup. Specifically designed cloths are best as they don't leave lint behind and have anti-static properties that prevent dust from being immediately drawn back onto the glass. The electrical power source of your scanner generates static electricity that unfortunately draws dust to all surfaces naturally, including the glass.

If you have had your scanner for a while, you may notice after cleaning it that it is dirty on the inside. This doesn't usually mean you need to take it for an expensive servicing. If you can use a screwdriver and are prepared to be careful and patient, cleaning the inside is actually a fairly straightforward operation.

To clean the inside of your scanner, simply check for easily accessible screws to remove the top and always remember to unplug it if you decide to go ahead and clean the inside. Don't be discouraged by any small plastic caps that may be covering the screws; these can generally be removed with a thumbtack in seconds. The screw heads themselves may also be a non-standard shape, such as a star; just make a note of the size and shape and purchase an appropriate screwdriver at the local hardware store.

Once your scanner is unplugged and open, simply clean the inside of the glass the same way you cleaned the outside. However, before replacing the top, take a blow-dryer or compressed air canister and blow out the excess dust that has build up inside your scanner. This will prevent the inside getting dirty again too quickly as excess dust left inside will quickly find its way to the glass. Scanner cleaning kits should be available at any computer store.

Tip 19

Fast Photo Scanning

If your scanner has been sitting around disused while stacks of your pre-digital photos still haven't made it onto your computer, take heart, because this tip will let you get dozens of photos out of your shoeboxes and onto your computer in less than half an hour.

Once I'd gathered my photos together and created a new folder for them, I was able to scan in a dozen of my favorite, pre-digital pictures in just 5 minutes. Once scanned, they required no further attention and were ready to share by e-mail or SendPix, ACDS's free Internet photo-sharing function. Here's how to do it:

1. Preview Scan Your Photo

Put one photo in any corner of the scanning bed, close the lid and

choose Preview Scan in your scanning software.

2. Save Strategically

When the preview scan is complete, choose Save, but before clicking OK to complete the process, do the following:

- i. Give your soon-to-be digitized photo a generic file name suitable for your stack of pre-digital favorites, “film-favorites” for example.
- ii. Select JPEG or JPG (the same thing) as the preferred file type in the Save As drop-down field – this will enable you to share your digital photos on the web more easily.
- iii. Choose your new folder as the file destination.
- iv. Click OK to complete the process.

3. Repeat Efficiently

Replace the print on the scanning bed with the next one in your pre-digital, favorites pile being careful to put it in the same place with the same orientation.

Click Save again without repeating the preview scan and add the number “2” to the file name instead of typing a new file name. This is a critical step that will save you time and keep you from losing previously scanned photos.

4. Repeat Step Three Again

When doing this, always remember to use the next number in your ascending sequence.

Using this scanning technique will save you time by skipping the “preview scan” process and by avoiding thinking up and typing in original file names for each photo. Don’t worry, skipping the “preview scan” step will not lead to lower quality images.

Tip 20

Batteries in Winter

Q: My camera doesn’t work well in cold weather. It will often make my picture too bright, or stop working all together. How do I stop this from happening?

A: The problem isn’t with your camera, but actually with your batteries. Batteries are greatly affected by the cold and many of them can be sucked-dry in minutes by sub-zero temperatures. The worst-performing cold weather batteries are Alkaline batteries. These are common, inexpensive non-rechargeable batteries. The capacity of these will be greatly reduced by cold weather, and you will have lost your investment, because they are non-rechargeable.

Rechargeable Nickel Metal Hydride(NiMH) batteries are a better

option. These have a higher capacity than Alkaline batteries to begin with and are much less affected by the cold weather. In addition, the shorter battery life in the cold won't cost you any more money because you can re-use them later at full strength.

Many photographers find that an even better alternative is Lithium batteries. If you do a lot of winter photography you may be interested in a rechargeable lithium-ion battery pack. These can be kept in your pocket, where they will be warm, and attached to your camera with a power cord. However, they are not compatible with all cameras, and rechargeable lithium batteries are not yet available in all popular battery sizes. The best insurance against the cold is to always have a spare set of batteries with you.

Tip 21

LCD Display and Saving Batteries

Shoot longer by turning off your digital camera's LCD screen to save battery power. The LCD screen is one of the largest users of power in your digital camera. To turn off the LCD, there is normally a switch or button on the back of the camera. It is usually marked with a small icon meant to look like a screen.



The LCD screen on the back of your camera is not an accurate depiction of the true light levels in the photos you take; keep all your attempted shots until you can view them on your computer screen.

Once you have turned it off, you can use the viewfinder to line up your shots rather than the LCD. This is a better method anyway as the LCD screens on some cameras are less accurate at depicting what will actually be captured in the photo than the viewfinder.

Tip 22

Batteries

Are you worried about the number of batteries your digital camera goes through? Choosing the right batteries will save you money and protect the environment.

Alkaline

These are the common non-rechargeable batteries that we use for most everyday items, but they are not the best choice for your digital camera. They are not designed for such a powerful device and they will drain quickly. Plus, they must be thrown away after use, which sends toxic chemicals to our landfills and costs you much more money in the long run.

Nickel Cadmium

These are rechargeable batteries that are a better option to Alkaline. They will last longer on a single charge than an alkaline battery, and can be used again and again. Plus they are more suited to the high power and quick power recycling that digital cameras demand. The downside is that these batteries contain Cadmium, which is highly toxic and can cause an environmental nightmare.

Nickel Metal Hydride

This new breed of rechargeable is an even better solution. They have a higher capacity than Nickel Cadmium batteries and are specifically designed for high-drain devices such as digital cameras. Also, you'll be doing the environment a favor because the chemicals used in Nickel Metal Hydride batteries are non-toxic. Plus, they can be recharged very quickly with no decrease in performance.

Lithium

These are the newest player on the battery scene. There are two varieties of lithium batteries, so be careful not to confuse the two when battery shopping. Both of them have a high capacity, a long shelf life and are designed for high-drain devices such as digital cameras. However, Lithium batteries are not rechargeable, while Lithium Ion batteries are. Lithium Ion batteries are certainly a better investment, but they aren't yet available in all of the common battery sizes such as AA or AAA. They are typically only available as specially made battery packs that only fit one particular camera. Plus, they are only thought to last for two to three years. Non-rechargeable Lithium batteries are available in more popular sizes, but they will end up being an expensive and wasteful option.

Summary

No matter what type of battery you choose, do Mother Nature a favor by recycling your batteries when you are no longer using them. Even rechargeables can't last forever and it is estimated that thrown-away batteries account for 88% of the mercury in our landfills. In many cases you will be able to take the batteries back to the store you bought them from for recycling.

Tip 23

Converting Negatives and Prints to Digital: Good Reasons and Ideas

Want to preserve and get more from your old film photo collection? Even if you've been into digital photography for a few years, there are a few compelling reasons why you might like to transfer your old film photos to digital format. There are also several easy options for doing this. Here's what you need to know:

Fun Memory Sharing

The first reason, of course, is the convenience of digital and the ability to share your memories with out-of-town friends and family, not to mention the options

to enhance them, print them at home and so on. Getting those old family photos onto your computer and sending around a slide show that reminds everyone of good old times is a fun thing to do, especially during the holidays.

Safer Archiving

Another good reason to transfer your photos is for safe archiving purposes. While the lifespan of developed film negatives may be extraordinary, some claim up to 100 years under ideal conditions, negatives are still more susceptible than CDs to water and other kinds of damage. Negatives also take up more space.

That isn't to say you'd ever get rid of your negatives after transferring them to CD. Rather, if you did transfer even your entire collection onto a set of CDs, they would likely fit comfortably into a regular-sized fire box. So, in the event of a disaster, you'd be able to recover your entire family history. Also, the lifespan of CDs is similar to that of film negatives with claims running up to 100 years. So, while converting an entire negative archive to CD might be costly, you'd only have to do it once.

Conversion Options

What are the options for getting film images into digital format? When talking about converting limited numbers of photos from film to digital, say a few to several dozen of your absolute favorites from the past 10 years, then scanning your prints is a viable option. The process will take some time, but if you already have the equipment it won't cost you anything but your time and the holidays might be a good opportunity to do this.

If there simply isn't enough time in your schedule there are a few other options that are more convenient but have significant associated costs. The first of these is to get your photo developer to convert your images to digital and put them on CD for you. If you're taking film or memory cards in to have prints developed, you may have been asked if you'd like to take advantage of this service, which typically costs an additional third to half the cost of developing the film.

Considering the benefits stated above and the fact that many digital converts still carry a film camera for shooting in certain conditions, this may be the best option despite the costs. For example, if you're a photo enthusiast with a mid-range point-and-shoot digital camera, it is not likely you're going to leave your film SLR camera with multiple lenses at home on a trip to the tropics. But it is just as unlikely that you'll be satisfied to keep all your best wildlife photos in film format.

Even if you are having your new film and digital photo archived on CD, there is still the question of how to convert your entire collection to digital and archive it. Plenty of services are available to help you do

this, but you will pay significantly more to have negatives converted to digital files and put on CD than you will to have new undeveloped film photos or digital photos printed and included on CD at the same. Also, if the photo developer in your area doesn't provide the service and you have to mail your negatives, you can add shipping to the costs as well as the inherent risks of having your negatives lost or damaged in the mail. Example prices we found on the Internet ranged from \$0.50 to \$1.00 US for each negative or print converted, plus \$1.00 to \$10.00 per CD, plus shipping and handling.

Conclusion

Taking the time to scan old prints into your computer and archive them to CD can be a very rewarding experience, especially during the holiday season when old memories can be mixed in with new ones for great slide shows and online albums.

If you have less time, there can still be an extraordinary amount of value in paying a few hundred dollars to have the most precious images from your collection converted to CD by professionals, so you can be sure they're safe for posterity.



Tip 24

Alternative Image Formats

Have you noticed how many formats that many image-editing programs will let you save you images as? There are dozens of other three-lettered file extensions out there, but most of us save our photographs as JPEGs. However, for certain purposes, these alternate file formats are the way to go. Here is a look at some of the other file formats out there:

Portable Network Graphics (PNG)

This image format is a good option to replace GIF images. It is lossless, meaning that it keeps your images very high quality, and it offers greater compression than a GIF. Also, it allows transparent areas within an image and the ability to tell files to load sequentially.

Tagged Image File Format (TIF)

This image format is good when you want to keep your images very high quality. Although it results in higher image file sizes, it is lossless and will keep your image looking amazing while still offering moderate compression. A good idea is to keep your original image saved as a TIFF and then save a copy as a smaller format before e-mailing it or sharing it on the Web. Keep in mind that many web browsers, especially older versions, will not be able to display all image formats, so before posting an image to the Web you are best to save it as a GIF or JPEG.

Tip 25

Bit Depth

Do you want your images to download faster from the web or be smaller when sharing them by e-mail? Reduce the size of your image files by reducing the number of colors in the image. This will normally work best with logos and graphics, but can also be applied to a smaller degree to photographs.

Images are made up of pixels of information, which hold “bits” of color information. A pixel with one bit of information can display only black or white, while a pixel with eight bits can display 256 colors. Most color photographs have 24 bits per pixel, which means they can display 16 million colors. The more bits per pixel an image has, the

greater the bit depth. However, the number of bits an image contains is directly related to its file size: one megabyte=one million bits of uncompressed photographic information.

To reduce your file size, reduce the bit depth. Black and white images can be reduced to eight-bit images without much loss in quality because this still allows 256 shades of gray. It seems tempting to reduce black and white images to 1-bit, but this will limit the range of grays and drastically alter the image.

Color images that don't require a lot of color quality or that don't have a lot of subtle variations in color can also be reduced to eight bits of color depth. An easy way to do this is to save the image in the GIF file format, which doesn't allow more than eight bits of color. Experiment with different bit depths for different types of images to find the best compromise between file size and color quality.

- 1 bit = 2 colors
- 2 bit = 4 colors
- 3 bit = 8 colors
- 4 bit = 16 colors
- 5 bit = 32 colors
- 6 bit = 64 colors
- 7 bit = 128 colors
- 8 bit = 256 colors
- 16 bit = 65 thousand colors
- 24 bit = 16.7 million colors

Tip 26

What Is Metadata?/Why Is It Helpful?

Q: What is metadata and why would I want to use it or preserve it when making edits to my photos?

A: In general terms, metadata is data about data that is displayed in a usable format. The term is derived from the prefix "meta" which means beyond, transcending, or more comprehensive. So in the case of digital photography, it means information about things like shutter speed, aperture, exposure settings, flash settings and so on that goes beyond zeroes and ones and is presented in a way that we can understand.

By capturing this information, your camera is functioning as a virtual



photographer's notebook recording all or most of the information you might want to know about your photo later. Therefore, it can and will make a difference if you are interested in learning from your successes (or failures) by examining your results in detail.

When managing or editing your files, metadata can sometimes be lost depending on the application you are using. This can lead to a frustrating lack of information if you have developed your skills at learning from and using metadata. However, when managing and editing files using ACDSsee and FotoCanvas, your metadata will be preserved for continued use. In addition, ACDSsee supports searching for files and displaying them based on metadata to help facilitate increased success for digital photographers.

Tip 27

GIF vs. JPEG

Q. What's the difference between GIF files and JPEG files?

A. There are a lot of technical differences between the two, but here's the short answer:

Both formats offer some great image compression that results in small file sizes. In general, the GIF format maintains good detail, but reduces the number of colors in the file to get the size down. JPEG maintains a great range of colors, but tends to reduce the sharpness and definition of the images. For this reason, GIF files are usually used for text and logo images, while JPEG files are usually used for photos.

To learn from the pros, don't hesitate to "right click" on the images you see on web sites and select "properties" from the context menu that appears. In the properties, you will see the file name, which will indicate what format has been used for the image. If you want to experiment further, take a variety of images and save them as both GIF and JPEG files. Then, compare the size, overall quality, color range and sharpness of the various images to each other.

Tip 28

Hints on Web Sharing Your Digital Photos Successfully

One of the great benefits of digital photography is the ability to share photos quickly and free on the web. The two main methods for doing this are by e-mail or on a photo-hosting website such as ACD SendPix, and both of these can be done right from ACDSee.

Another method, when you'd like to share a large collection of photos, is an instant messenger chat session. ACDSee can help you prepare photos for this, too. Sophisticated internet users may also build their own websites to display photos. ACDSee includes an HTML album generator to assist in this as well, but for most of us, the first three methods do the trick nicely.

The hints below are general guidelines to follow to have the most success in sharing digital photos on the web.

1. Hints on Sharing Photos by E-Mail

a. Think About Your Recipients

With the amount of junk mail and viruses out there, a lot of people are concerned about receiving messages with attachments, or from unknown sources, and they will often just delete any such e-mail that comes in.

Therefore, when you want to share photos with someone or a group of people via e-mail, think about what type of computer user they are and whether they will recognize and trust e-mail from you that have attachments. For example, if you are sending photos to a group of business associates you don't correspond with regularly, and they are not aware you are trying to send them photos, you may find many of your e-mails simply deleted.

b. Notify Your Recipients

To avoid having your e-mailed photos deleted, try sending a preliminary message out stating that you intend to share photos with them via e-mail and asking if this is OK.

c. Think about Message Size

You will also want to consider the amount and size of photos you are sharing. When sending photos by e-mail, bounce backs (undelivered messages) are common because many people use free e-mail accounts and are only allowed to receive very small messages. More than a few uncompressed photos will often exceed these limits, mean-



ing your message and photos may not get through. ACDSee helps you avoid bounce backs by letting you specify maximum photo and message sizes.

d. Confirm They Got Your Photos

Whether you're simply sharing with family and friends, or with business associates, it helps to confirm your photos were received, so everyone knows what you're talking about when you refer to the photos in a later e-mail.

2. Hints on Sharing by ACD SendPix

a. Provide a Context

When sharing photos with SendPix, your recipients will get an e-mail with a link to your album on the SendPix photo-hosting website rather than photo attachments. To give them a chance to understand what the photos are all about and why you sent them, take advantage of the option to include a personalized message in the notification e-mail they will receive.

Another great way to provide a context for your photos is to give them appropriate names. These names appear when the thumbnail preview of each image is clicked on for a larger view.

b. Explain How to Save Individual Images

Out of the many photos you send, and you can up to 50 per album with no album limit, your recipients will probably want to save a few. Help them out with this by including some instructions for saving. These can be included in your personalized message.

Photos can be saved as follows: Click an image thumbnail in SendPix to see a larger view, then click that larger view to see the image at full size. Right-click the full-size image and choose "Save Picture As..." from the Windows context menu. Choose a destination folder and click "Save."

3. Hints on Sharing A Large Collection Using An Instant Messenger

a. Zip Your Images

If you'd like to share a large collection of photos over the internet and make it as convenient as possible for your friends and family to get the photos onto their computers, then attaching a zip file or other type of archive file to an instant message is the way to go.

To create a zip file in ACDSee, select all the photos you want and click Create in the main toolbar, then click Create Archive in the menu that

appears. Then simply choose your archive options and a destination for your archive file and click the Create button – within moments you'll have a zip file ready to go.

b. Open an Instant Messaging Account

Try MSN Instant Messenger, ICQ, or an account with some other popular and free instant messaging system. E-mail your friends and family and see what kind of accounts they are using and/or get them to sign up for an account with the same service and add each other to your buddy lists.

The reason there are no (or generous) file size transfer restrictions on these accounts is that when transferring files, your computer becomes the server and does all the work without passing additional bandwidth costs onto your instant messenger.

c. Start a Chat Session and Choose the File Transfer Option

From this point, you'll just have to sit back and wait for the transfer to be complete (though you can continue chatting). This shouldn't take too long provided your zip file isn't totally enormous and you aren't using a really slow connection.

Tip 29

Resolution: DPI, Pixels and Printing

Many of us normally think about image resolution in terms of dots per inch (DPI). The higher the number of dots per inch in an image, the higher the resolution. This is a common way to think about image resolution as it relates directly to printing and scanning, which is often done for the purposes of printing. Resolution is measured in these terms for print output because your printer builds an image by placing dots on paper, and the more dots it places per inch, the greater the image quality.

However, thinking about resolution in terms of DPI can make things confusing when you are editing or managing digital images on your computer. This is because when an image is on your computer, it has no fixed size. You can blow it up to fill the whole screen or shrink it down to fit just in the corner. You can even zoom in on it so closely that only a tiny piece of the image can be displayed by your monitor and in all of these cases the number of dots per inch changes every time you zoom in or out.

The thing that does not change, no matter what size the image is on

your screen, is the actual number of dots, or rather, elements, contained in the image. These are called pixels, which stands for PICture ELeMent. (Unlike dots from a printer, pixels are actually square.) When managing images on your computer, it is best to refer to the number of pixels an image has by its pixel dimensions. For example, it might be 500 pixels by 400 pixels. Adjusting the number of pixels, rather than the DPI will let you ensure the correct resolution when you print.

Let's say that you have an image that is 600 pixels wide by 900 pixels tall and you decide that you want to print it at 8 inches by 10 inches. If you weren't thinking about the number of pixels your image is made of, this would seem to be fine. However, when your image printed it would look terrible and you would be left wondering why. The reason your picture would look so bad is that you told the computer to take those 600 pixels of information and stretch them over 8 inches. This would mean you would have only 75 pixels for every inch of image, or a resolution of 75 DPI when 300 DPI is needed for good quality.

If you want higher quality, you need a higher resolution. However, simply typing 300 DPI into the image editor before you print won't give you the quality you are after, because this forces the computer to "make up" pixels that look the same. Reducing the size of the image is the only way to get a true 300 DPI print. You would have to print a 600 pixel by 900 pixel image at 2 inches by 3 inches, which is too small to be useful or attractive. By keeping in mind the number of pixels you have to work with, you will realize the limitations of your files and understand their true size. This will also help you understand the resolution at which your pictures need to be taken in the first place if you want to print them.

Here are the number of pixels you need for a 300 DPI (good quality) print at each image size:

300 DPI
Inches/Pixels

2x3: 600 x 900

4x6: 1200 x 1800

5x7: 1500 X 2100

8x10: 2400 X 3000

Tip 30

Photo Printing Paper: Choosing the Best

Do you want to get the best home printing results possible? Read on for a closer look at home inkjet photo printing, how to choose the right photo printing paper, and a quick comparative review of how five types of paper performed on one printer using the same type of ink.

Using the right photo paper will make a huge difference in the quality and satisfaction you get from printing at home. Success must still be combined with high-quality photos from your digital camera or scanner as well as the right ink, but paper is the final piece of the puzzle.

In the first example above, the colors are not only on the dark side, but in the top left corner, you can see how the colors smudged upon handling long after they should have been set. On the right is a more appealing result with properly set colors.

Before Digital Printing: Before digital cameras, printing photos was taken for granted and you only had a few decisions to make. "Will that be glossy or matte?" "4 x 6 or 5 x 7?" "Borders?" Sure, you may have shopped around for a store that gave better quality or pricing, but the rest was out of your hands.

This may not have been breathtakingly exciting, but it was almost a sure bet you'd get great prints every time. And anyhow, the excitement came when you opened the envelope to see your photos for the first time and share the good ones with family and friends.

Digital Printing

Armed with a digital camera, a printer and some photo editing and printing software, your imagination is now the only limit on your printing options. Greeting cards, artistic renditions with frames and vignettes for scrapbooks and albums, calendars and more are all within reach from the comfort of your home. But the truth is many of us still want standard size prints and we expect them to look and feel as good as our old film-based prints from the department store.

Achieving this quality depends on three things: your camera and the settings you choose to take each picture; your printer and the ink you put in it; and, as we'll see here, the printing paper you choose. Here's what to consider.

Here are two examples of the divergent results you can get using different photo papers. NOTE: These examples have been scanned and compressed for web display; the actual prints showed much higher quality.



The Safe Route

Each printer manufacturer makes their own inks and papers and they like you to stick with their brand for all your printing needs. This may still be the safest route to top-quality, but it can mean not only a lack of choice, but also in many cases higher prices.

When home inkjet photo printing was first becoming popular, your chances of getting a third-party photo paper that gave the same quality as the manufacturer's brand were pretty slim. This was due to specialized paper coatings designed to match the specific chemical formula of the manufacturer's ink and thereby control the absorption and drying results.

Recent developments have inkjet manufacturers moving toward new paper-coating technology that is intended to improve fade resistance, which has been a common complaint of people printing at home. A positive side effect of this improved, fade-resistant technology seems to be reduced compatibility problems between different paper coatings and ink.

Defining Your Needs

To get what you want from your printing paper, you will have to consider what you like in a print, how you intend to use your prints, and what you are willing to pay to achieve this at home. Some things to think about include: paper thickness, color brilliance, sharpness, resistance to fading and realistic skin tones.

When it comes to paper thickness, paper that resembles the look and feel of traditional prints will be the best if you like to print a lot of photos and pass them around. Thick paper just feels right in your hands and will also stand up better to handling. However, if you are going to put the majority of your photos straight into an album, a thinner paper may work just as well for you.

What makes for good color can be as subjective as what makes the best paper thickness; still, we all know what we like best when we see it. With that in mind, your best bet can be to purchase small sheaves of a short list of photo papers you think will suit you and then print a series of colorful test photos on each to see which has the best color. If you can incorporate colorful photos that also have prominent straight lines and people in them, you will also be able to check the quality of sharpness and skin tones in the same test.

If you have purchased three or four small batches of different photo paper to conduct your own thickness and color preference test, chances are you will have at least a few weeks if not a couple of

months before you run out. This is enough time to conduct your own

preliminary anti-fading test. Simply take your batch of test photos and tape them to the window that gets the most sunlight throughout the day. Then, before you go in to pick up a batch of replacement paper, check to see which photos if any are showing signs of fading. Any paper that shows signs of fading in this short time frame should be avoided.

Test Results

In our photo printing paper test, we used an HP Photosmart 1218 printer, third-party ink and printing paper from hp, Kodak, and Epson. Here are the results:

Paper Type	Thick-ness	Feel	Color Over-all	Color Accu-racy	Skin Tones	Sharp-ness
Epson Glossy	6.7 mil	Flimsy	Great	A Bit Dark	Excell-ent	Sharp
Epson Matte	9 mil	Sturdy	Good	A Bit Light	Great	Sharp
hp Glossy	9 mil	Like Trad. Prints	On the Dark Side	On the Dark Side	On the Dark Side	Fine
Kodak Satin	8 mil	Good	Great	Great	Great	Sharp
Kodak High Gloss	10 mil	Like Trad. Prints	Excell-ent	Great	Great	Crystal Sharp

Summary

From a color point of view, four of the five papers performed in good to great fashion. While we rated the colors for the Epson glossy and matte papers "A Bit Light" and "A Bit Dark" respectively, the differences were slight and someone else might prefer them. Likewise, our overwhelming preference is for thicker papers that feel like traditional prints.

Finally, as the incompatibility between the third-party ink and the hp paper made clear, it is important to remember that any time you change ink, you may find yourself getting dramatically different results. In the end, choosing the right paper comes down to matching your paper, ink and printer and sticking with a winning combination.

Tip 31

Resolution for Digital Prints

To figure out what size prints you can make from today's digital cameras, you have to first break down the pixel measurements. For example, a 4.1-megapixel camera works out to a picture with dimensions of 1704 x 2272 pixels at its highest resolution; a 3.34 megapixel camera works out to 1536 x 2048 pixels; and a 2.24 megapixel camera works out to approximately 1280 x 1600 pixels.

For a reasonable quality print you need approximately 150 pixels per inch of resolution (we'll call this medium quality), while for professional quality prints you need at least double that. For simplicity's sake, pick either the long or short dimension of the print/camera resolution and work with that one. For this instance we'll use the long edge of the print. Let's work through a couple of examples:



2.24 Megapixels

Maximum print size (medium quality) for a 2.24 megapixel camera: 1600 divided by 150 = 10.7." Using this example, you could get a medium quality print of up to about 10 inches (so you could get a medium quality 8"x10")

Maximum pro quality print size would be 1600 divided by 300 = 5.3." In this case, you'd be able to get a pro quality print at 3.5" x 5."

3.34 Megapixels

Maximum print size (medium quality) for a 3.34 megapixel camera: 2048 divided by 150 = 13.65," so you'd be able to get a medium quality print of close to 11" x 14."

Maximum pro quality print size would be 2048 divided by 300 = 6.8." In this case, you'd be able to get a pro quality print at 5" x 7."

4.1 Megapixels

Maximum print size (medium quality) for a 4.1 megapixel camera: 2272 divided by 150 = 15.14," so you'd be able to get a medium quality print of close to 11" x 14" with the option of cropping an inch around the edges to emphasize your subject some more.

Maximum pro quality print size would be 2272 divided by 300 = 7.57." In this case, you'd be able to get a pro quality print at 8" x 10" with a border.

Keep in mind that these guidelines are not absolute! Your lens, light-

ing, CCD quality and method of printing all play a part in the final results. Also, the resolutions quoted are based on optical resolution and not interpolated (upsampled) resolution. The formulas can be applied to cameras of any resolution, or you can work the formula backwards to find out how many megapixels are required to get the image quality you require at the size you will be printing. Good luck!

Tip 32

Upsampling Images for Print

Do you wish you could get better prints from your low-resolution images? It is possible to add pixels to an image, or “upsample” it, and thus artificially increase resolution, but the gains to be made here are very small. For example, if you took a digital photo of your friends when they last visited, but took it at the lowest quality setting on your 1.0 megapixel digital camera because you were concerned with filling up your 16 MB memory card, you may be restricted to printing it at a below-normal size to maintain print quality, say 2 x 3 3/4 inches. Such a small print isn’t exactly impressive.

If you just want to e-mail your photos or post them to a Web site, then low resolution isn’t really a problem. But one of the drawbacks of digital photography for those just getting into it is the expectation that it won’t be much different from film photography when it comes to printing images. Unfortunately, there are some major differences that you should be aware of and the first of these is that you need to take higher resolution images if you want to print them, which you probably do as that was always the final goal in your experience with film photography.

An image is considered low in resolution when it has few pixels of information compared to the size that at which you want to display it. Since pixels contain information about the photo, more pixels means greater detail. So images with low resolution simply don’t have enough detail to be enlarged very much.

The best way to get more detail is to retake the picture at a higher resolution setting on your digital camera. Of course, this often isn’t an option. Maybe your camera isn’t capable of getting any more detail or maybe the image is your once-in-a-lifetime photograph of Bigfoot.

Although it won’t produce the same quality as taking the picture at high resolution to begin with, you can use your image editing software to increase the number of pixels in your image. This is called “interpolation” or “upsampling”, which is defined as the addition of pixels between pairs of others.

As stated above, the gains you can make as far as being able to print larger pictures are not going to be that significant with upsampling. If you set your 1.0 megapixel camera to “best” quality you will be able

to print a very nice 4 x 6 inch picture. Using interpolated resolution, you may be able to stretch this to a 5 x 7 inch picture, which is an improvement, but an 8 1/2 x 11 inch blow up is definitely out.

To take advantage of interpolated resolution, simply open the Resize menu and choose Pixels as the unit of measurement. Make sure that you have the Preserve Original Aspect Ratio box checked and then type in the new number of pixels you want the image to be. You may have to guess here, but if you really want to stretch that photo for a bigger print, doubling the pixels is probably a good place to start.

There won't be any more real detail than is already in the image, but as you make modest increases in printing size upsampling will help smooth out transitions and edges in your picture and give the impression of more detail while avoiding a jaggy low quality appearance. In the end, the best thing to do if your camera is rated at 2.0 megapixels or less, is to buy a bigger memory card (128 MB is a good start) and always take your photos at "best" quality. Remember, you're not spending money buying film all the time anymore, so the investment is well worth it.





Part 2

Photography Tips

Few hobbies bring so much joy, frustration, excitement and reward as photography and fewer still that can be pursued equally by so many. These photography tips are intended not only as a practical guide to enhancing your skills as a photographer, but as a springboard of ideas from which you can launch your own imaginative successes through the frozen moments in time we call photographs.

“Simply look with perceptive eyes at the world about you, and trust to your own reactions and convictions. Ask yourself: ‘Does this subject move me to feel, think and dream? Can I visualize a print - my own personal statement of what I feel and want to convey - from the subject before me?’” Ansel Adams, Visionary Photographer & Conservationist. Born in San Francisco, 1902 - 1984.

“The virtue of the camera is not the power it has to transform the photographer into an artist, but the impulse it gives him to keep on looking.” Brooks Atkinson 1894-1984, American Journalist, Drama Critic

“The hardest thing in photography is to create a simple image.” Anne Geddes, Until Now

Tip 1

Flash Photos Done Right

Take better photos by considering whether to use a flash for every photo. Ask yourself these questions:

Is It Too Bright/Dark?

Bright lighting causes dark shadows over faces and other areas of interest, use your flash to remove these; likewise for people shots in dimly lit rooms or at dusk. Two exceptions can include:

- photos taken with a tripod and longer shutter speed where you are seeking a special effect or mood
- when there are reflective surfaces in your shot that will cause glare.

In the first example, the sun is shining brightly from behind the subject causing a shadowed face. In the improved example, both fill flash and a better angle for shooting were chosen.

Should I Use Red-Eye?

In bright surroundings, people's pupils will be constricted already, so there is no need for using your red-eye setting. For darker surroundings, turn it on.

Am I Too Far/Close?

Are you close enough for your flash to make a difference? The range of built-in flashes is only a few to several yards – add on flashes may extend range somewhat. So, if you are further away than 7 yards or so, your flash will not help. Being too close to your subject can be a problem as well. If you are closer than 5 feet, as is often the case when photographing children or taking candid shots, you will likely overexpose them with a built-in flash.

Would Fill Flash Work Best?

Using a softer “fill flash” instead of a full powered flash will lighten shadows and bring detail back to obscured faces without washing out as much detail as a full flash. Fill flash can be particularly helpful in back-lit conditions where a light source, such as the sun, is behind the subject of the photograph. Without a fill flash, the subject can be entirely shaded.

Off Camera Flash?

If your camera has a flash shoe, you may want to consider an off camera flash. This gives you the option to bounce flash light off a reflective surface instead of shooting it directly at your subject. Doing gives a more flattering light with less glare and less shadow behind the subject as well as fewer washed out details. It also enables you to select particular ranges and suitable flash power for each picture. Plus, it lets you take consecutive photos quicker.

Do I Need White Balance?

For interior pictures in well-lit rooms with little natural light, you may want to use your flash as an alternative to selecting particular white balance settings.



Tip 2

Translucent Impressions

Amplify the artistry of your collection with dreamy photos capturing the ephemeral beauty of translucent subjects. Whether flowers, leaves, or stained glass, light from translucent sources makes an excellent subject because it has a soft, glowing effect that lends itself to reflection and calm.



Here are some helpful hints for adding arresting translucent impressions to your repertoire:

Soft Light

One important key to capturing translucent impressions is to look for soft-light situations. For outdoor shots this will usually be the beginning and end of the day when the angle and strength of light is lower and overpowering glare is less likely to be a concern. However, soft light can be found even in the middle of the day. Examples include light filtered through a forest canopy or through a skylit atrium in an indoor garden.

Ambient Light

The best scenarios for finding translucent subjects happen when the ambient light of a situation is relatively low. Because a translucent subject produces a soft glow, the ambient light around it must be quite low for that glowing effect to be noticeable. Shadowy settings often work best.

Direction of Light

In conjunction with low ambient light, translucent impressions will be hard to find if the light is coming from many directions. The most likely settings are those in which soft shafts of light are flowing into a scene from a specific direction, such as through a hole in the clouds or between a gap in the curtains covering a window.

Also, to capture the translucent effect you'll need to position yourself with care so that the original light source is not shining directly into your camera, but is still coming from in front of you so it can pass through your subject.

Exposure

Getting the proper amount of light to your film or CCD, is another key concern. Too much and the effect of your translucent surfaces may be lost. Too little and your results may be underwhelming. Be sure to bracket your shot. For digital camera users without a wide range of manual settings, this can be done using your EV compensation options.

Aperture

If you have the ability to set aperture on your camera, consider using a wide aperture that brings your subject into focus while blurring the background and potentially the foreground as well. This will enhance the dream-like feeling you are attempting to achieve.

Tip 3 Black and White Photography: Good Times to Use It

Add a touch of the exotic and unexpected to your photo collection by shooting the occasional photo or series of photos in black and white. Black and white exotic, you say? Yes, and an artistically rewarding medium as well that is now more accessible. Find out why and what the best scenarios for black and white are.

For 30 years or more, black and white photography became less and less common. Along with its decline in popular use, it also became more expensive with specialized film and development processes not widely available – standard black and white film can't be processed in regular color processors.

Although new types of chromogenic black and white film that can be developed in color processors are now on the market, there are still many photography enthusiasts who grew up in the last 30 plus years who have never experimented with black and white and still others who may not have tried it for a long time. But black and white continues to offer a host of artistic benefits and many digital cameras now include the option to shoot in black and white.

The decline of black and white use means black and white photos can actually have added artistic impact beyond their intrinsic benefits exactly because they are rare. As digital photographers, we can now reap the rewards of black and white without paying more for film and development or having to set up our own at-home darkroom. Again, unlike with film, there is also no need to take a specific number of black and white shots to finish a roll: you simply switch into and out of black and white mode to suit each individual photo.

So, when is a good time to shoot in black and white? Here are some classic scenarios along with examples from your fellow ACD Newsletter subscribers.

Character Study

A good way to capture the essence or character of a subject is to photograph them doing something naturally when they are not paying direct

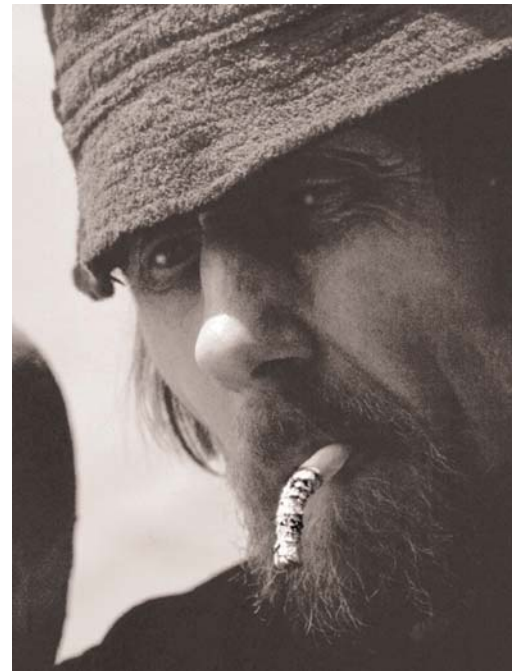


Photo by Etienne Desmet of Steneplein Belgium.

attention to the camera. What you are really doing with this technique is removing distracting elements from the frame of reference. The subject is not concerned with smiling or posing correctly and those looking at the photo later are not checking the smile or pose, but getting a rare and intimate view of the person that might equate uncomfortably to staring in real life.

How does black and white enhance this? By removing colors, those viewing the photo are drawn deeper into it to examine the nuances of features and expression that reveal as much about the character of a person as a photograph can.

High Contrast Lighting

One of the great strengths of black and white is its ability to enhance differences in contrast and bring shapes and lines into stark repose. Any high contrast lighting scenario can therefore make a potentially great black and white photo.



Photo by Dan L. Strimel of Canonsburg, PA, USA.

Low Color Scenes

There are many potential situations in which the level of color in the scene may be low: overcast days, for example, or foggy days, or stormy mountainscapes. In these cases, the color may not actually add to the artistic impact and in fact taking it out can remove a distracting element.



NOTE: The LCD screen on the back of your camera is not an accurate depiction of the true light levels in the photos you take; keep all your attempted shots until you can view them on your computer screen.



Photo by Stanislav Domansky of Kromeriz, Czech Republic (converted to black and white).

Before

After

Architecture and Sculpture

As with the other scenarios above, the direct, uncomplicated quality of black and white and its ability to increase the impact of lines and shapes by enhancing contrast all play well into the hand of architectural and sculptural photos.

Barren Landscapes

Whether a bare winter scene, a rocky, wind-blasted canyon, or a featureless beach, this type of setting can really be brought to life and made stunning with black and white photography.

Parting Thoughts

With the strengths of black and white in mind, a view to these classic scenarios, a dash of imagination, and quick switch into black and white mode you are sure to get plenty of “ooohs” and “aaahs” next time you showcase your collection. (See note.)

Tip 4 Using EV Compensation for Effect

Using your camera’s EV (exposure value) compensation feature can be a quick and easy way to enhance artistic effect by changing the mood your photos convey.

While owners of cameras that have manual exposure functions have great control over their exposures, most “point and shoot” owners do not have this function, but can rely on their EV settings. EV compensation is meant to let you make up for the unrealistic scene depictions that often result from using your camera’s automatic exposure settings in bright or dark situations.



Photo by Michelle Meng of Marysville, WA, USA.

For example, when a scene is quite bright, your camera will automatically average the exposure leaving the whole scene looking darker than it did and possibly leaving your subjects faces with a muddy look. Adjusting EV compensation can help you capture the scene the way it really looks. But, what if you want to change the mood of the scene by making it darker or brighter than it really is?



Photo by R. Price of Launceston, Tasmania.

The answer is that EV compensation can be an effective tool for this kind of mood-altering scenario. Give these techniques a try to convey different kinds of feelings:

Cheerful from Dull

To add some cheeriness to pictures taken on a dull day or in darker situations, increase your exposure value. This will brighten your photos, which is always a way to make things seem cheerier. To get enough brightness, you may need to use the maximum EV value. Otherwise you may simply end up with a properly exposed photo, rather than an artistic one.

Contemplative from Bright

To add a feeling of thoughtfulness to a well or brightly lit scene, decrease the exposure value. This will darken the scene and give a calming effect. Remember, if your scene includes people, you'll need to complete the effect by thinking about their physical attitude. If they are looking straight into the camera and smiling, the effect won't really be thoughtful-looking.

Peaceful from Dark

Evening and morning scenes with many dark areas and unreflective surfaces are typically overexposed using your automatic settings. To capture and enhance such peaceful, low-light scenes, decrease your exposure setting.

Tip 5 Portraits in Three Layers

Become a master of portraiture by using depth of field to concentrate attention on your subject and evoke a warm, dream-like setting. You can bring these positive aspects to your portrait photos with the technique of close-ups in three-layered space. This means having the foreground and background out of focus while the midground and your subject are in focus.

So, whether your portrait subject is an animal, person, or object such as a teddy bear, the following you can achieve results with the power to inspire. With an SLR camera, you'll have more options than outlined below, but these methods can be used by anyone with a point-and-shoot camera.



It will be easiest to get the best results if your camera has a portrait mode for producing the smallest depth of field. Also, with the more limited focusing options of a point-and-shoot, desired results will most likely be achieved in a large, spacious setting or outdoors.

Portrait Mode

As mentioned above, this will give you the smallest depth of field, thereby making it easier to put the background out of focus. Remember to pre-focus on your subject before changing your point of view if your subject isn't going to be exactly in the center of the photo.



If your camera does not have a black and white mode, you can still add black and white to your collection by using your photo editing software. For best results, convert your photos to either "256 Grays" or "16-Bit Gray" as opposed to "Black and White" which will reduce your photo to a 2-bit graphic that looks like snow on a TV screen. These options can usually be found under your Color menu, or in the Color Mode area of your Image menu.

Here is a great example by
Dennis Connor of Camas,
WA, USA.

Proximity

Although when shooting wildlife you'll want to use a telephoto lens to avoid disturbing your subject, with objects and people you can simply move closer and zoom in. In addition, you'll want to frame tightly around your subject to avoid distracting elements.

Ground Level

To get the foreground out of focus most point-and-shoot camera, you'll have to get something too close for your camera to focus on. The easiest, least distracting way to do this is to get on the ground and include some of those lovely blades of grass.

Off into the Distance

In order to get your background out of focus with a point-and-shoot, you'll need to have a deep background. If you have something backstopping your photo, you may not have enough depth to get it out of focus for the three-layered effect. Likewise, if your background is only or mostly sky, the out-of-focus effect won't really show up.

Match Elements

Enhance your emphasis by matching color and objects in the foreground and background. If you're shooting on a grassy field and there are buttercups or baby daisies in the background, try to include a couple in the foreground as well. This will provide a consistent, and soothing setting for your subject.



Tip 6 Fantastic Urban Foregrounds

Want to add some high-impact interest to your urban scenics? Taking advantage of the artificial lines available in architecture and urban settings can enhance the visual and emotional impact of your photos. This is because, when used well, lines draw attention to areas of interest and create a sense of continuity that's pleasing to the eye.

Likewise, using strong vertical and diagonal lines in combination with exaggerated foregrounds will let you go beyond visual focus and artistic continuity to achieve dramatic results that draw viewers into the scene and inspire thoughts of strength and stability.

These effects are the product of human physiology, optical illusion and our conscious and unconscious associations with the surroundings and landmarks that make some of the best subjects for this kind of photography: urban parks and monuments.

Human physiology dictates that our attention is drawn to places where lines converge. Therefore, if your photo includes strong vertical/diagonal lines that converge on the strong line of the horizon where your subject is, then you've naturally increased the visual interest and impact of that subject.

Likewise, exaggerated foreground areas also provide perspective and the illusion of being in the scene and looking or even moving toward the subject. In this case "ground" is the operative word in "foreground," because by emphasizing the foreground you have enabled your viewers to picture themselves standing on that spot and seeing it in the same way.

Finally, the trick to using lines well and achieving the greatest effect is to find settings that are not too busy with lines running in many different directions, but rather have strong, uninterrupted lines capable of drawing a viewer in. Some of the best surroundings and subjects for these kinds of photos are urban parks and monuments. In general, they will already be designed for visual and emotional impact and will have clean, strong lines available without the distracting clutter of most urban landscapes and architecture.

Tip 7

Impressive Winter Landscape Photos

Whether you live in a chilly climate covered with snow and ice before winter arrives, or only see snow on the ski hill even in February, these photo tips for stunning winter landscape photos will come in handy. Using the simple guidelines below, you can capture dramatic, memo-



rable pictures in the snow and avoid the drab, gray results so common in snowy and icy conditions.

This winter landscape photo on the previous page, provided by Christine Turner of Waterlooville, Hampshire, UK, was taken in Iceland. It exemplifies many of the techniques outlined below.

Get Up with the Birds

Getting out early on a clear day has a couple of benefits. It lets you capture pristine scenes with a positive emotional impact before they fill with people and before the sun's light becomes more difficult to compensate for. If it has snowed overnight the snow will also be fresher and more conducive to good photos.

Find the Sun

The angle of the sun's light in relation to your scene is a critical element of shooting at any time, but especially in snow- or ice-covered conditions. Shooting with the sun in front of you, even if it's not in the shot, may overwhelm your attempts at compensation for glare. Keep the sun at right angles to your shot during morning and evening hours and at an acute angle from behind you when it's high in the sky for improved scene exposure.

Say "No" to Glare

Shooting snowy landscapes can be challenging from an exposure perspective and not compensating for the bright, reflective conditions can result in dull, underexposed photos. This is especially the case when searching for good exposure of colorful subjects within your shot.

A good guideline is to compensate from 1 to 1.5 stops. Use a 1-stop adjustment to concentrate more on the glow of the snow and 1.5 to bring out more detail in your subject. Also, bracketing your shot by a half-stop on either side will let you choose the best final result. For digital EV (exposure value) compensation use both a +1 and +2 setting as insurance.

Finally, the ever-helpful polarizing filter is always a good bet here. Although many digital cameras do not allow for filters to be attached, there are many lens and filter manufacturers who have filled this gap by making various universal adaptors available for digital camera owners.

Quest for Color

While photos of completely snow-covered landscapes can convey thoughtful and even brooding feelings, especially when combined with overcast skies, including color can add emotional complexity, visual interest and a cheerful note. Any visually appealing object placed in the foreground or middle ground that's not white, gray or black will help.

Tip 8 Special Low-Light Effects: Bulb and Time Mode

Add some intrigue to your photo collection with eerie, bizarre or psychedelic low-light photos using your camera's bulb and time settings for extra-long exposures. On many digital cameras, this mode will be accessible from the LCD menu only – look for options under “shutter priority.” On more advanced digital cameras that mimic film SLR's with adjustable shutter speed, this function will often be represented by a “B” or a “T” on the speed dial.

Here are a couple of neat examples of the techniques outlined below. The first is by subscriber Andreas Beulmann of Nuremberg, Germany.

Psychedelic Tracers

For quick, controlled attempts at tracer effects or action blur, your bulb mode is a good place to start. “Bulb” is a reference to older styles of cable-shutter-releases that had a squeeze-bulb on the end. The bulb setting works by opening the shutter when you press the shutter-release button and closing it when you release the button. This allows you to directly control exposure length. Remember, a little movement will give you a lot of tracer effect, so think small movements and shutter times of a couple of seconds or less.

Eerie Glow

Your “time” setting will be the best place to start when recording still objects and looking for an eerie, haunting effect. Unlike bulb mode, your time setting doesn't require you to keep your finger on the button. Simply press the button to open the shutter and it will stay open after you remove your finger for the amount of time you chose. Many cameras will provide only 3 or 4 choices, such as 2 seconds (s), 4s, 8s, and 12 s; others, will let you choose the exact amount of time you want. Use a tripod to avoid camera shake and, if you do not have a cable-release, be sure to use your timer so you aren't touching the camera when the exposure begins.



Summary

Using bulb and time modes is not only a great way to achieve special effects; it can also be the only way to get a proper exposure in very low-light situations. The first example above was provided by subscriber Andreas Buelmann. It is a great example of using bulb mode to get a neat effect from a fireworks display. The second example shows another neat and spooky trick using time settings. In this example, a 4 second setting was used to bring out the glow from the pumpkins. When using these settings with people, be sure they remain very still and take at least three pictures for each pose for insurance.

Tip 9 Night Photography Ideas

Want to capture portrait style facial detail as well as the darkening surroundings or portray the drama of a darkening cityscape? If your camera lets you to take long exposures, try experimenting with these night photography techniques to add some variety to your collection.

Here's an excellent example that brings together some of the hints outlined below.



Shooting Methods

For low-light situations in which you want to capture a lot of detail by using a long exposure, it is best to use a tripod. If you don't have tripod handy, rest your camera on the ground or on a wall and use a piece of clothing underneath it to prop the lens up to the right angle for your

shot. This will enable you to avoid camera shake and unattractive blurry pictures.

To be totally sure of a sharp exposure you can use a remote cable shutter release. An alternate method that may work best for those without a remote cable is to prepare your shot and then use your timer. This way, your hands won't be touching and potentially shaking the camera when you start your long exposure.

Backlight and EV Compensation

If you are shooting the stars or a cityscape, try the Backlight setting on your camera to expose the shot for longer than your automatic settings. You can also try using your EV (Exposure Value) Compensation settings to capture more detail in low-light situations. EV Compensation is usually set on a plus or minus two scale. Go straight to -2 for genuine low-light situations. How much detail you want to capture will vary from one low-light situation to the next, but if these techniques don't provide the results you want, try moving to your manual shutter speed settings.

Twilight and Night Portraits

For a twilight or nighttime portrait, experiment with using flash to capture your subject in the foreground and letting a long exposure fill in the details in the background. Remember, you're not trying to light up the whole scene using your flash, just your nearby subject, so don't assume you have to use a night flash setting; try various settings, but remember to use red-eye reduction as your subject's pupils will be wide open due to the low light.

Another thing to remember with this kind of portrait is that your subject will need to sit still. Using a long exposure with live subjects can lead to blur if the subject moves during the exposure. Just remind them that it won't be as bad as sitting for graduation photos, and certainly not as bad as the old days of photography where entire groups of people had to hold still for twenty seconds at a time.

Late Dusk or Early Dawn

Keep in mind that the best time for night photography is often not in the middle of the night, but rather at dusk. During the hour before and after sunrise you will still get the mood and effect of nighttime photography while being able to capture more detail in your subject and use a faster shutter speed.

Equipment Tips

There are no hard and fast rules for getting proper exposures at night. Light meters on cameras often meter improperly for long nighttime photographs, so many photographers consult an exposure chart to guess at what the appropriate exposure may be. Generally, you will be using a slow shutter speed and a wide aperture to gather as much light as possible.

Experimenting with different exposures and reviewing your camera metadata in ACDSee will help you judge what will be appropriate for a given situation. Bracketing is also a good way to find the right exposure. A digital camera, if it has the features needed, is great for this type of experimentation as it will save you a lot of film while you learn and practice these techniques.

One obstacle to nighttime photography with digital cameras is “thermal noise.” This appears as specks on the image when the light sensors get hot during long exposures. It can be particularly noticeable in very dark nighttime photographs. One way to prevent this is to take your photos soon after you turn on the camera. It can also be fixed after the fact with noise reduction filter in your photo editing software.

Tip 10

Phantasmic Fog Photos



Fog holds a romantic, mysterious, and sometimes eerie place in our imaginations and lives. With our surroundings cloaked in mist and fog horns real or imagined moaning deeply in the background, every foot-step taken or corner turned becomes a path to discovery and wonder. For this reason, and because of the strange and illusory way fog diffuses light, it also makes for great photos. These few tricks will help you capture foggy landscapes in all of their beauty. (Click example photo for larger version.)

Light Metering

Your camera’s light meter will often be fooled by fog, especially on those rare but interesting cases in which fog is combined with a bright day. This is because the fog is light in color and reflects a lot of light back at the camera. So, your light meter will see all of this light and decide that it needs to limit the amount of light coming into the camera, which can lead to underexposure. You can compensate for this by using a slower shutter speed, wider aperture, EV exposure compensation or a slower ISO setting. Some of these methods and other considerations are examined below.

Shutter Speed or EV Compensation

To get the right exposure or to enhance the effects of eerie light penetrating the fog in a really dark setting, you may want to experiment with longer shutter speeds. To avoid camera shake, you will want to use your tripod in these cases. If you find yourself out on a foggy day without your tripod, the quickest method for getting the right exposure is to use EV compensation. Depending on how bright it is, a setting of +1 to +2 will usually fix things. On the other hand, if it is quite dark, you may need to compensate the other way. Either way, EV compensation lets you get away without using a tripod.

Exposure Locking

Another option for getting the right exposure is to walk right up to your subject or zoom in so that it fills the entire shot. Then, your light meter will choose the proper exposure for it. If your camera has an exposure locking feature, lock this exposure in and then walk back to recompose the whole shot.

Flash Suppression

Because of the reflective nature of water and the fact that fog is made of a mass of tiny water droplets hanging in the air, it is best to suppress your flash. Many foggy days are also quite dim, so if you have your auto-flash option set, your camera may decide there is not enough light and activate your flash. This can result in washed out or glare-filled photos. For best results, simply scroll through your flash settings until “no Flash” is set.

Polarizing Filters

On bright foggy days, it is a good idea to put on your polarizing filter to reduce the natural glare and warm up colors.

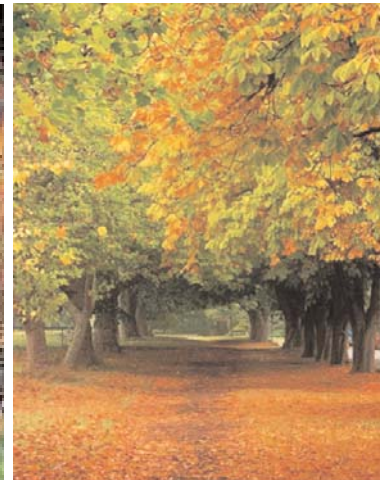
Summary

As with all types of photos, repetition and experimentation will help you get the results you are looking for. Every foggy day is different and light levels can change quickly, so trying a variety of different techniques is always a good idea. Likewise looking to capture different moods can also be fun. Some days will lend themselves to dark cityscapes and eerie lamplight, while others may provide the opportunity for rainbow colors.

Tip 11

Phenomenal Fall Photos

As the warm colors of flowers and green pastures at ground level give way to browns and grays, our eyes are drawn up into the foliage where a new riot of colors is emerging in the chilly air and waning light – fall is



here. And with it, comes a new set of opportunities to capture stunning and expressive photos as Nature bids farewell to another year and we set our thoughts on coming celebrations.

Whether you carry your camera with you almost everywhere or bring it out on special occasions, the splendor and self-reflective potential of fall-theme photos add interest and potency to any collection. Here are some ideas to help you build a fall portfolio your friends and family will think is “phenomenal.”



Reflecting on Colors and Moods

The most obvious and essential fall theme is a study of color. To give your photos the most impact, look for opportunities to combine this theme with the feelings and realities of fall such as decreasing light, emptier streets and parks, reflections on the passing year and so on. Good examples include catching the patchwork colors of trees reflected in water and showing deserted park pathways lined with radiant trees and strewn with leaves. As in the above examples, early morning and sundown or heavily overcast days often provide the best light for completing the effect of these reflective photos.

Playful and Festive

Just as Nature is pouring on the pizzazz in a crescendo of color, we too are pursuing a final burst of energy before settling in for the winter. With exuberant kids playing outdoors in the shortening days, active critters getting ready to hunker down, and events and holidays celebrating the successful year, there are plenty of chances to catch the playful and festive feelings as in the examples above.



Studies in Close-Up

As the most recognizable of falls symbols, leaves are worth a special look in your fall collection. Think of ways to be creative and different in

your approach to photographing them and wow your audience with your artistic prowess. Above left, a single leaf has been used to add focus and interest to a lonely cobblestone street. Above right, the feeling of kids rejoicing in the fun of fall is captured indirectly by simply photographing a bunch of leaves thrown in the air.

Summary

Catching the feelings of fall is often achieved best by getting into a relaxed and reflective mood and thinking of all the pleasant things you associate with the season and then taking the time to try to record them. Is it the smell of leaves being burned in the neighbor's backyard? Maybe you can capture the column of smoke as it rises over colorful trees. Is it the rustle of leaves or the smell of pumpkin pie? The real fun of fall photos is the challenge of revealing these personal yet universal associations in your photos.

Equipment Tips

As many of your fall photos will concentrate on landscape and still life themes, remember to bring your tripod along. A tripod will help you frame shots more easily and, since you won't usually be using flash for this kind of photo, it will also enable you to use longer shutter speeds and get the right exposure. A polarizing filter will also come in handy to enrich color and reduce glare from water and other reflective surfaces, including foliage. This will especially be the case if there is a mist or it has been raining. Finally, a powerful, off-camera flash will help you by lighting as much area as possible and avoiding underexposures without getting too close to the action at fall fairs and festivals.

Tip 12 Landscapes and Scale

Have you ever taken a landscape shot that didn't quite live up to its billing? It's not always easy to capture the grandiosity of stunning landscapes the way we'd like to. Some unusual landscapes even seem to defy an understanding of their true size because they lack recognizable reference points such as trees or shrubs.

Ensure your photos reveal the true enormity of the landscape by actively including references with a generally known size or by enabling a size comparison between like items in the photo.

In this example, Simon Feasey of Auckland, New Zealand has jumped into the landscape to provide a sense of scale in an environment otherwise devoid of scale indicators.



Here are three ways to achieve this:

Framing in Foreground

Framing your shot in such a way that you include a significant portion of the foreground and the plants and objects it has in it is the most straightforward way to achieve a sense of scale.

Shooting from Ground Level

Getting down to ground level and including some of the immediate foreground is another way to achieve scale. It's easier to discern the actual size of things close to the lens than those further away because the lens itself and how much you can fit in the viewfinder at close range provides a size reference for your audience.

Jumping in the Shot

While true landscape shots don't really include people, in rare circumstances jumping into the shot may be the best way or even the only way to provide a size reference. Barren rocky slopes with almost no vegetation would be an example. Or, another example as above would be volcanic landscapes. In these cases, a good idea is to take a series of well-thought-out landscapes shots without anyone in them and then take one with someone included to provide a size reference for the others.



Tip 13

Mastering Indoor Flash Exposure

Whether to use flash for indoor photos is not the only question you should ask when it comes to getting better results. In many if not most cases, using a flash will give you better results. The reasons for this are various and include that flash will counteract unattractive color tinges from artificial lights, fill in shadows and improve exposure. Choosing the right kind of flash setting and complementing your choices with other camera settings can be just as essential. Here's why and how to do it:

Flash Overexposure

Sometimes simply setting your flash to fire will lead to overexposed indoor photos such as in the first example above. This is especially the case when the scene is dimly lit. While an overexposed photo will often be better than one that is underexposed, results can easily be improved using the techniques outlined below. Another problem that can result from using your most powerful flash setting is that of closed eyes as in the first example above. The difference between the dim settings and a powerful flash often overpower your subject's best efforts to pose properly for your photo.

Flash Underexposure

Typically, switching to fill flash as in the second example above (some-

times referred to as “soft” flash) will make for improved results. Both of these examples were taken in a dimly lit room in which flash was necessary, but it is apparent that neither result is really as good as it could be. In the second photo above, for example, the camera has actually counteracted the brightness of the flash by underexposing the photo. This can be fixed by using your exposure value compensation settings.

Exposure Value Compensation (EV)

This is a very easy and helpful camera function that can be used to brighten results further and achieve warmer color tones without overexposure. In the third example above-left, you can clearly see how skin and hair tones have been both brightened and softened by using an EV value of plus 1. (You will use positive numbers to compensate for brightness and negative numbers to compensate for dimness; however, this has recently been reversed in some makes and models.)

In the fourth example, above-right, an EV value of plus 2 has been employed. Notice how areas of glare have been reduced and the tones are still accurate and pleasing, while at the same time appear more muted and realistic.

Conclusion

The bottom line is that every flash and camera have different characteristics. Plus, many of us also have different ideas on what “pleasing” color and exposure looks like. With this in mind, the best thing you can do is find a willing test subject and spend a bit of time experimenting so you can dial in just the right settings for the shots that really matter.



Tip 14 Group Photos Made Easy

With fall festivals and holidays coming up quickly, now is a good time to start thinking about techniques for taking memorable, high-quality group photos. Whether for Halloween, Thanksgiving, a bank holiday or a local festival, whenever friends and family are gathered these tips will help you get the kind of group photos you'll be proud to share and frame for posterity.

Prepare

Make your group photos quicker and less frustrating for yourself and everyone by taking 5 to 10 minutes to prepare in advance. You'll be amazed at how much knowing what you want, being ready to get it and having a group photo strategy will ease the task and improve your chances at total success. So, get your camera out, check your batteries and find your tripod. Then, go around and collect cameras from everyone who would like a group photo of their own.



Pick Your Spots

Find the most appealing spots for a group shot. Ensure that everyone will be able to squeeze in, consider what furniture will have to be rearranged and what clutter or problematic items may have to be temporarily removed. For example, the best spot in the house for a group photo may include a picture in the background with a highly-reflective glass cover over it. You'll want to move it to avoid flash reflection. Set up the shot beforehand so you'll know whether the tripod fits where you need it to go before you call everyone into the room.

Choose the Best Times

Picking the right moment to take a photo can make all the difference. The best time for a special occasion photo is often just before the meal is served. Everyone is hanging around waiting already and will likely still look their best – think kids without stained shirts.

Think about Lighting

If it is still daylight, let in as much light as you can for improved exposure, but remember to keep it beside or behind you. If it is night, shut the curtains on any windows to reduce reflective surfaces and use an appropriate flash mode setting to compensate for the negative effects of artificial light.

Talk Up Your Photos

Think about why you want a high-quality group photo and be prepared to share these reasons with everyone, preferably beforehand to get them excited about the idea. "Everyone is looking so happy and festive, let's get some really nice shots so we can remember this special occasion..." Get everyone involved by offering to take a photo with their camera and to share your photos with them by e-mail.

Take Your Time

Ensure your efforts end in success by taking the time to get the photos right. About 5 minutes will usually be all it takes to snap 3 to 4 photos with everyone's camera for insurance. Make sure to use your red-eye mode if the light is dim and explain how it works to people so they don't blink too soon. Also, don't forget to use your timer and jump in the photos yourself.

Check Your Photos

With all your preparation and winning tactics, you'll likely have some really great group photos. It is still a good idea to double check though, so take 5 minutes after dinner or when the time is right to check your photos on your computer. If you have everyone's e-mail address, it can be fun to share the photos with them right away as well, so they have them as soon as they get home.

Tip 15

Rare Rainy Day Photos

Do you quickly put away your camera and run for cover as soon as the first few raindrops fall? Many if not most of us do, but if you want to capture some truly gripping photos and build your collection in an area untested by many, then think about resisting the urge to head for the warmth of the coffeehouse and continue taking photos instead.



Be Bold, Be Prepared

First, as mentioned above, most people don't really consider taking photos in the rain, are not prepared, or are too worried about their equipment. However, if you come prepared and take precautions like using an umbrella and keeping a dry cloth handy to wipe things off if they do get wet, then you can have a very rewarding experience and capture rare photos not included in the collections of most others.

For monsoon-like conditions, you may need a jacket for your camera or may need to retreat to a porch or sheltered area. You can fashion a camera jacket out of a re-sealable bag by cutting a hole for the lens, fastening it to the lens with a rubber band and putting a skylight filter over the lens for protection. There are also specially-made camera jackets on the market.

Capture Subtle Colors

Rainy days enhance reds, yellows and greens. These colors tend to be especially vibrant when it's raining or immediately after, especially when compared to what will likely be a steely or even dark and threatening sky. This is because the diffused light from cloud cover is particularly good for showcasing these more subtle colors.

Streak or Freeze for Effect

By experimenting with different shutter speeds, you can either freeze raindrops as they fall for a more standard portrayal of the scene, or streak them to add a dreamy feeling that could play into the mood you may be looking for. To freeze raindrops, start by using a shutter speed of 1/125. To streak them, start with a shutter speed of 1/60 and decrease from there for longer streaks. Streaks are most effective when placed against a dark background.

Get in the Mood

Rain and threatening clouds add mystery and atmosphere to familiar landscapes and create slick, impressionistic reflections on city streets or still waters. Photographing a city at night just after a heavy rainstorm will enable you to get bright neon reflections on the streets and capture a feeling of freshness and kinetic energy. In contrast, capturing landscapes, especially with bodies of water, during or immediately after rainfall will bring out a moody reflective essence in the scene.

Tip 16

Controlling Color in Indoor Photos

Q: I have found many of my indoor photos have a yellow tinge. How can I get better indoor color?

A: Cameras are designed to capture color best under natural light conditions or when using a flash. This means indoor photos taken without a flash can often be disappointing due to a yellowish or brownish cast. This discoloration is a result of artificial lights, whether halogen, fluores-

cent or tungsten (standard bulbs). These artificial lights emit color tones the eye can't see, but which cameras record. Here are some suggestions for getting better color in your indoor photos.

These two examples represent the extremes of negative and positive potential results when shooting indoors. In the first, no compensation for indoor light has been made and the result is a pronounced yellow tinge. In the second, as much natural light as possible has been used in combination with flash for a very attractive result.

Set Manual Flash

In many cases, relying on our automatic flash for indoor photos will not resolve the problem of discoloration. This is because there is already enough light for many indoor photos, so your automatic flash will not assess a need to compensate. To ensure your flash will fire, press your flash button until you see the force flash symbol appear—usually indicated by a lightning bolt on its own.

Increase Natural Light

Opening blinds, curtains and even doors during the day will help improve the quality of your indoor light and decrease the likelihood of artificial color casts. One thing to watch out for when using this method is underexposed photos due to too much backlighting. For best results, you can avoid including windows and open doors in the background or account for them using a combination of EV compensation and a forced flash as in the good example above.

Use White Balance

If you are in a hurry to get the shot and don't want to use flash, choose auto white balance. An example of this would be when you're scrambling to get the camera and record your child blowing out the birthday cake candles. Otherwise, choose the white balance setting that matches the artificial light sources in the room.



Tip 17

Sharp Action Photos

Getting sharp action photos can be one of the most challenging aspects of photography. This is true whether you are shooting film or digital, though digital presents some unique challenges. So, how can you avoid blurry photos? Here are some of the most important things to know and do.



The above action photo is just a bit blurry. The techniques described below will help you avoid this.

Shutter Lag

Whether you are taking regular photos or in this case action photos with digital, you will need to determine what your shutter lag is and compensate for it. Shutter lag is the time delay from when you fully depress the shutter-release button to when the photo is actually taken. It can be one of the few drawbacks of digital photography, but typically only affects entry-level and some mid-range cameras now that digital technology has improved.

Unlike mechanical, film cameras, your digital camera may have a delay of 0.5 or more. How does it affect your action photos? The answer is “in the same way as your regular photos.” That is, if you over-anticipating the capture of your photo, you may move the camera before the shutter is closed and cause blur – even if you account for the other variables that can cause blur in action photos which are outlined below.

Pace and Direction of Action

The faster the action, the faster the shutter speed you’ll need to avoid blur. This is a straightforward and familiar concept. What you may not know, is that it is not the speed of the subject in the real world that determines potential blur, but the speed at which their image crosses your image sensor (CCD). So, if your subject is moving quickly across your field of view, rather than toward or away from you, they will be crossing your image sensor faster, making blur more likely.

Distance and Zoom

If a subject is close to the camera, even relatively slow movements can be enough to cause blur. In contrast, a subject further away from the camera can make the same or greater movements before becoming blurry. It is important to note that in this case, zooming in has the same potential blurring effect as being closer. The more you are zoomed in, the less a subject has to move before becoming blurred.

Getting Sharper Action Photos

So, with the causes of blur outlined above in mind, here are some pointers for getting sharper action photos.

Pre-focus: You can reduce shutter lag through pre-focusing on your subject. Do this by pressing the shutter-release button halfway down and holding there until your camera indicates it has focused (often by showing a steady green light). Then, frame your photo, press the button the rest of the way down and hold your camera steady until you are sure the photo has been taken.

Position Yourself: Get into the best possible position so you can photograph moving subjects heading toward or away from you. For example, if you are at your child's soccer game and would like to catch the action near the goal, stand close to the end line rather than the sideline.

Increase Shutter Speed and Light Sensitivity: Switch your camera into manual mode and choose a higher shutter speed, then use your EV compensation settings to ensure you get a good exposure.

Check Your Distance: While being close into the action can produce the most dramatic results, take some shots from further back or after zooming out as insurance against blur.

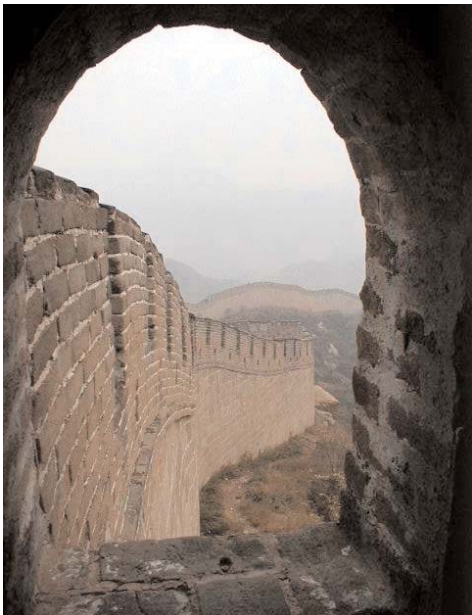
Flash Freeze: If your subject is within the effective range of your flash, you can use it to freeze the action and avoid blur.

Tip 18 Landmarking Landscape Photos

Landscape photos are usually thought of as a way to capture the beauty of nature and a way to document and share the great sights you saw on a trip or outing. But, how often have you forgotten just exactly where those great shots were taken, or not been able to explain easily to your friends and family the pleasant circumstances associated with them?

A simple way to preserve the memory of where each set of landscape photos was taken and help bring out the context for family and friends is to include a landscape landmark shot in each series.

For example, if you went on a bus tour that included a stop at two different glaciers, you could take a picture of the tourist information sign with the glacier in the background at each one. This would help you not only distinguish each series of glacier shots later, but also help you explain your great pictures to your friends.



These two examples above, by ACD Newsletter readers Richard Mihalik of Jamestown, NC, USA and subscriber Alina Monroy de Carranza, bring out the idea of putting things in context for later. There is no mistaking that the first picture is taken on the Wall of China, but would you remember that if the picture showed only the open country as seen from the wall? The second is a nice beach and storm photo taken from a balcony. Again, the sense of being in the context of the surroundings is immediate and you'll instantly remember exactly where you were.

Tip 19

Better Digital Photo Color

As anyone who's ever been disappointed with the colors in their digital photos knows, film and digital cameras don't behave the same way. But, as with film, you can easily adjust your digital camera technique to get the best colors possible.

Here are some quick and easy steps you can take to ensure you get the best colors possible in your digital photos.

EV Compensation

This feature on your digital camera is meant to let you make up for the unrealistic and color-drained scenes that often result from relying on automatic exposure settings in bright or dark situations.

For example, when a scene is quite bright, your camera will automatically average the exposure leaving the whole scene looking darker and less colorful than it really was and possibly leaving your subjects faces with a muddy look. Adjusting EV compensation can help you capture the colorful scene the way it really looks. On most cameras, you will want to increase the EV compensation if the scene is bright and decrease it if the scene is dark, though on some cameras this has now been reversed.

Set Auto White Balance

Many consumer-level digital cameras have a tougher time with indoor light than your average point-and-shoot film cameras. This can result in a dull yellowish and/or brownish color caste, especially in strong fluorescent light and well-lit indoor settings in which your flash doesn't fire automatically.

One quick way around this color-caste problem is to put your camera into manual mode and set it to Auto W.B. (white balance) anytime you're in such an indoor scenario. Even more accurate results can be achieved if you use specific W.B. settings, but Auto will always help and is more convenient for quick shooting.

Force Your Flash

Another solution to the problem mentioned above is to set your flash to fire no matter what your camera's light meter says. This will overpower the negative effects of indoor light. If your subject is out of range of your flash, say more than 5 yards, switch to the option above.

Spot Meter

Get into the habit of assessing the light for each shot and pre-focusing by pressing the shutter-release button down halfway and waiting for the focus indicator to show ready. As you assess the light, watch out for high contrast areas and bright backgrounds. If the scene includes these,



This photo has rich colors despite the challenging condition of shooting directly into the sun, which drains color if not compensated for. The good results were achieved using a combination of the below techniques.

point your camera at and zoom in on the darkest spot and pre-focus on it, then recompose your shot.

As you pre-focus, your camera also takes automatic light meter readings and decides how much to expose the photo, so without this technique, if there is lots of light in the background and high contrast, you'll get an underexposed photo.



Tip 20

Portrait Photos that Impress

As with many types of photography, the difference between what makes a prize portrait versus one that's just OK is sometimes hard to define. But there are some simple guidelines you can follow to get great results like in this portrait contributed by ACD Newsletters subscriber Erik Hawkinson of Cheyenne, Wyoming, USA.

Here's what to keep in mind when shooting portraits:

Framing

When framing your photo, zoom in or get close enough that you're filling your frame with your subject and not the background. This can be especially important when there is a distracting background, such as a crowd. Also, as with the stunning example above, consider overfilling the frame and cropping out hair and shoulder areas. This can produce a truly captivating effect.

Aperture

Shooting in aperture priority mode (if your camera has it) is another way to reduce the distraction of the background. By using a large aperture, you reduce your depth of field (range that is in focus). By doing this, you can make sure that your subject is in focus, while your background is out of focus and appears softer. Zooming in when using aperture priority will help to flatten perspective and avoid lens distortion.

Lighting

Don't underestimate the importance of a pleasant light source. For outdoor shots, try using your flash to fill in the shadows that may be falling on your subject's face. Indoors, experiment to develop some flash and lighting configurations that work well with your available equipment. Be careful not to cause harsh white reflection off your subject's skin in low lighting by choosing fill flash or compensating with your exposure value adjustments.

Anticipate

Learn to anticipate key moments in your subject's movements and expressions so you can capture them. Pre-focusing before shooting can help in this situation so that there is no "lag" between depressing the shutter release and your picture being taken.

Experiment and Review

When you take portraits, have a close look at them and review what you like about them and what you could improve. Also, look closely at the professional portraits you see in magazines and try to incorporate some professional techniques into your shooting.

Tip 21 Flash and Action (Flash Freeze)

In a hurry to catch the action and don't have time to fiddle with multiple precision settings? Whether light or dark, you can use your flash to freeze action and ensure crisp, high-quality results. Here's how it works...

Instead of gathering light from the entire scene all at once, your flash will light up your moving subject for an instant, and during this instant there will be enough light reflecting off of them to make a better, crisper photograph. The effect is almost the same as using a faster, manually set shutter speed to account for the action: you only expose the film or CCD to the light reflecting off the subject for a brief amount of time.

Since this is a short-cut method to get quick, candid photos in which you aren't manually changing camera settings, one by-product can be a bit of a "ghost image" caused by the long shutter speed capturing part of your subject outside of the burst of the flash. However, for most candid photos of regular activities such as kids playing or people moving because they aren't prepared for a photo, this is usually enough.



Here's a great example from ACD Newsletters subscriber Danny Nee of Letterkenny, Co. Donegal, Ireland.

Tip 22 Using Depth of Field

Depth of field is the measure of how deep the focused area in your photos is. The casual family and scenic digital pictures that comprise the majority of most people's collections are usually in "deep focus" meaning everything is in focus. There is nothing wrong with this and in many cases it is a good thing. For those special photos, however, whether they are sentimental portraits or awe-inspiring landscapes, it can be very rewarding to experiment with depth of field. Here are a few pointers and things to consider.



Compressing depth of field or making it “shallower” can have a few positive effects on your photos. First, it will help to draw more attention to your subject by putting background areas and/or foreground areas out of focus. Second, it will bring the background closer to your subject. This can help to give the appearance of being immersed in the surroundings even if they are out of focus (article continues below examples).

On the left is a great example of using a shallow depth of field. On the right is a photo that could have been improved using this photography technique. Notice how the focused background of this photo does not add anything to its effect, rather, it distracts attention from the lovely girl and her puppy.



A third benefit related to the first two, is that compressing depth of field can potentially lend your photos a surreal and impressionistic feeling. In real life, when people look at a scene they naturally see it all in focus. Some of us may have to squint or use glasses, but our eyes naturally make things clear whether near or far. Compressing depth of field makes things more interesting because it isn't the way we normally see the world. Also, when the background is colorful it can lead to rich daubs of color similar to the blurry but beautiful brush strokes of impressionist painters.

So, how do you compress depth of field with your digital camera? The trick is to use your maximum focal length (this is the same as your maximum optical zoom) combined with the widest aperture appropriate for the light conditions and to shoot the picture as far back from your subject as possible.

If you have an aperture priority or manual mode on your camera, now is the time to use it. With your aperture settings active, choose a low f-stop to get the widest lens opening (be sure to bracket your shot for the best chance at a proper exposure).

Now, zoom in as far as you can without activating your digital zoom and back up as much as possible while keeping proper framing in mind. Another thing to keep in mind when backing up and framing is the effective range of your flash if one is needed to fill in shadows, for example.

If you do not have manual control over aperture, experiment with zooming alone or lock focus on something about the right distance away but in darker surroundings and then recompose your shot. This will help increase your aperture by tricking your camera. If this doesn't work for you, similar results may be had by using the blur tool on the background area of your photo in your photo editing software.

Tip 23

Low Light Campfire Photos

These helpful hints will let you get campfire photos you'll want to keep and share:

First, don't use a flash to photograph around a campfire as it is the warm colorful light of the campfire that is going to make your photograph work. The pale white light of a flash will take away from this effect. Turn your flash off before considering this type of photograph. You can do this on compact cameras by choosing the "flash off" mode.

Campfire scenes can be difficult to photograph because of the difference in brightness between the fire and the subjects. The trick here is to manually choose a longer exposure that will compensate for the dim scene. Do this with your EV compensation options or night mode and use a tripod. The fire will appear somewhat overexposed, but this can be a nice effect. Also, your subjects will have to hold still unless you are happy to have blurred motion effects as in the example above.

3. Another option is to get close up to your subject and lock exposure, then step back and recompose the whole scene. This way, your camera will lock in the correct exposure for the shot. Cameras with spot metering or center-weighted metering can make this easier.



Example by Ami Oshero of Givatayim, Israel.

Tip 24

Light and Color Richness

Many variables come into play when it comes to getting the right light and exposure for photos and ensuring the richness of your colors. Time of day, type of light, reflective surfaces, use of flash, exposure compensation, lens hoods and more, like direction of light.



Direction of light and especially the need to avoid too much light shining directly into your lens is among the important variables of how to use light. The result of such light shining directly into your lens will be pictures with washed out colors and a dull look (compare the examples below). So, what is the trick to avoiding this?

It seems simple enough at first when old rules like “keep the sun beside or behind you” come to mind. However, the solution is a bit more complicated, though still easy enough to succeed in. Basically, you need to assess not just the source of your light for each photo and where it is relative to your photo, but also major reflective surfaces. With these identified, try to figure out if strong light is shining directly into your lens and causing problems.

Sometimes this discovery of light sources and reflective surfaces will be easy and other times it will take a bit more detective work. A technique that will improve your level of success and consistency is to take each photo from two or three likely angles, even if you have accounted for light and reflections.

Take the photo examples shown above. One has nice rich colors and the other is somewhat washed out and dull. Though not really bad, the dull photo is inferior because of the reflective gray wall that is directly behind the tree and off which light is shining straight into the camera. The nicer, more colorful photo is simply taken from a few steps to the left.

Tip 25 Chasing Lightning

This lightning shot was provided by Kristina Modlin of Newton, IA, USA.

Raw energy bursting across empty space in a display of unbounded brilliance and power, that’s lightning. It’s exhilarating, breathtaking and beautiful...all good ingredients for your photos. Use these pointers to enhance the spine-tingle factor of your photos.



Get a Clear View

The lightning itself should be the main source of interest, so get into a position from which you can eliminate most other aspects of the scenery. If you choose a high point or open field, be sure not to get caught in the middle of the storm yourself.

Provide Context

Include solitary buildings or landmarks in the scene, such as barns or lone trees, to lend an eerier feel to your photos and bring the sense of danger home to your audience.

Expose for Daylight

For daytime lightning shots, the trick is to expose according to the ambient conditions. The changing distance and amount of lightning will make it impractical to try to compensate accurately for conditions brightened by lightning. However, overall ambient light conditions can change quickly in a storm, so you'll need to assess the situation for each shot.

Expose for Nighttime

For night shots, you can have great success by using your time and bulb settings. Here, the trick is to get out and away from city and street lights and then to use a tripod and your longest time or bulb settings to make catching the lightning much easier. Experiment with taking a new exposure after each burst and allowing multiple bursts per exposure.

Zoom In

The tendency when out to get lightning photos is often to use a wide angle setting and try to capture the beauty of the entire landscape punctuated by Nature's electrical outbursts. While this can work with uncluttered country vistas, it is often more powerful to get as close as is safe and then use as much zoom as you can to heighten the sense of immediacy and bring out all the scintillating details.

Tip 26

Fabulous Flowers

Flowers. Nature's gift of splendor and scent, messenger of romance, sign of spring and elusive quarry of photographers. Perhaps no other photo subject is so easily found, yet so difficult to capture well. These hints will help you move your flower photos from botanical archive entry to frameable floral fantasy.

Get Close, Very Close

Flowers can have stunning appeal from a distance by adding splashes of color to a scene, or lending a particular mood, but for truly dramatic

Here is a great contribution from reader Jennifer Lewis of Gardiner, ME, USA.



flower photos getting in close is the best. This will enable you to draw attention to the intricate and fascinating details every flower has to offer.

Consider using your macro mode to get as close as physically possible or your portrait mode to zoom in and manage perspective distortion. Also, letting your flower spill over the frame of your photo will lend a larger-than-life appeal.



Here is another fantastic example by Heike Eckerle of Staufen, Germany.

Clear the Clutter

The best flower photos usually zero in on a single flower or small group of flowers making them very similar to portraits. So, just as you would for a portrait, concentrate on eliminating clutter from your view.

Accomplish this by using depth of field to blur background areas, by shifting your viewpoint to simplify the background, for example by making the background the sky rather than a field of other flowers, and by using shadows to obscure background areas.

Get the Right Light

Soft morning and evening light work best by enabling you to capture the delicate textures of petals and stamina. Backlighting works well to provide a broader range of colors, both solid and translucent, as well as to highlight the fragility and transience of each blossom.

Likewise, a deliberate use of shadows can enhance the mood and further concentrate attention on areas of high detail. Light diffusion panels widely available in camera stores can come in handy for many flower shoots as the best light can be fleeting and good shots can take time to compose.



This beauty was sent in by ACD Newsletters subscriber Rose Jacques.

Complement Colors

Look for ways to combine colors that complement each other, such as catching yellow and orange flowers against a deep blue sky, or red roses against a background of white clouds.

Arrange Your Own Setting

While thoughts often settle on the outdoors and natural settings when flower photography comes up, some of the most stunning floral photos are those arranged down to the last detail in a studio-like setting. Think of flower heads floating in a silver bowl on a white-linen, candle-lit table and you'll be on your way.

Tip 27 Macro Photos & Framing

Framing is one of the most important aspects of macro photography following focusing. This tip will show you what to keep in mind.



Here is a nice example by Robert Akins of San Antonio, TX, USA, that has been improved with a bit of cropping. Robert has chosen the intriguing subject of a ladybug having a meal. His results are almost there, read on to find out how to get things just right.

Losing Your Subject

When your subjects are so small that you need macro mode to capture them, they can easily become lost within their surroundings or at least lose their significance. Think of macro photos as like portraits and crop closely.

Exposure

When you crop closely, you will limit the amount of bright background light coming from the sky and other reflective and bright background areas. This will help you get the best exposure possible.

Focus

As with exposure, it will be easier to get the right focus if you have cropped in tightly. This is because with more of the subject occupying the center of the frame, you are more likely to get a proper focus.

Photo Tip 28 Sunset Techniques

Try these six tricks to capture powerful photos imbued with the beauty and positive feelings of sunsets.

Get a Full View

Position yourself on a beach or a highpoint to allow an unrestricted view of the sun for maximum impact. An alternative is to capture the sun falling between trees, next to an attractive monument or reflecting off the water. Make sure your photo isn't too busy with other objects that distract attention.



Here's an intriguing example that puts many of these hints together while also presenting an alternative — notice how the sun is not actually in this sunset photo. It was contributed by ACD Digital Imaging News Subscriber Johann Fouche of South Africa.

Keep Shooting

More attempts will increase your chances of getting the right results. As the sun gets lower, it tends to get redder as well, so your results should improve in the final moments of a sunset.

Look for Clouds

Sunsets on cloudy evenings are more colorful and interesting than sunsets on clear evenings. While you may not actually capture the sun itself in these photos, capturing an amazing variety of colors and rich cloudy textures will make up for it.

Shoot Off-Center

Bring more life to your sunset photos by positioning the horizon away from the center of your photo. Instead, keep it near the bottom of the shot to dramatically highlight the sky. In combination with this, leaving some foreground in the shot, such as a person or a tree, will give greater interest and give you a great opportunity to work on silhouette photographs.

Use Multiple Exposure Settings

Your camera's light meter will often under-expose sunsets because there is still quite a bit of light, so bracketing (taking several shots at different exposures) may be needed to find the perfect exposure. A little under-exposure can help to make the colors of a sunset richer. If you want to include the details of a person in the foreground, try using fill flash and night mode. This will bring out their details while still allowing enough exposure to get rich colors — remember to use a tripod in this case to avoid camera shake.

Zoom In

It is effective to use a long focal length for sunsets, because the sun will appear much larger and more impressive in the sky. Either choose the longest optical zoom lens setting on your camera or use a longer telephoto lens on your SLR.

Tip 29 Detail & Mystery at Dusk



Here are three examples. The last one was contributed by ACD Digital Imaging Blast subscriber Christine Baker of Scottsdale AZ, USA.

Dusk...with shadows growing, cool breezes picking up, the romance of sunsets and people beginning to unwind...it's a favorite time of day for many, including avid photographers. When putting our minds to great shots at this time, we tend to think of sunset photos and silhouettes, but there are some neat alternatives you can try. One of these is flash photos combined with long exposures to make haunting landscapes full of detail and mystery. Here's how to capture the magic.

Dig into your gear-bag and grab your tripod. Then, head out to a scenic location in late afternoon so you have time to find a great spot and set up before the best opportunities have past. You may want to think of a spot where there will be an opportunity to capture a compelling landscape without people in it.

Find a spot and set up your tripod and camera – try several angles and locations to see what you like best. For digital camera users, you can shoot these and review them on your LCD screen before making a final decision. Orienting your camera in the general direction of the setting sun will give the most dramatic effect.

Now, as the dusk wanes and darkness gathers in, begin experimenting with flash and exposure settings to find the best combination at the right time. As it gets darker, consider increasing exposure time to capture more detail in the distance. Also, consider using a softer fill flash setting rather than a hard flash to bring out detail in the foreground without making it overpowering. This will especially be the case if there are bright surfaces in the foreground that will wash out easily from overexposure.

Since you will be using longer exposure settings, you will also want to consider using both a remote shutter release cable as well as something to weigh down and stabilize your tripod if there is much of a breeze or camera shake may result.

Tip 30

Moon Shot Hints

Humans have had a mysterious fascination with and attraction to the moon since the dawn of time. It has been regarded as a symbol for the cycle of life and romantic love, used as a rudimentary calendar, formed the basis of religions, and been put into service as a good and bad omen.

Beyond sheer eye-catching appeal, all these reasons and more make the moon an ideal subject for your photos. Here are some hints for getting impressive moon shots you'll be proud to have in your collection.



Moonrise and Moonset

These are ideal times to photograph the moon for a number of reasons. First, the moon is close to the horizon, so you can incorporate other interesting landscape elements into your photo. Second, at moonrise it is usually early twilight, so the range of brightness within your photo will be moderated, that is the moon will not be overly bright compared to the rest of the scene. This will help you get a better exposure. You can always enhance the twilight effect by underexposing your photo 1 to 2 stops.

Dark Skies

Set your camera up on a tripod and use a higher ISO setting and a longer shutter speed so you capture as much detail as possible. If possible, use a remote shutter release button or bulb to avoid camera shake. Also, avoid an overly long bulb setting, such as 1 minute. You will end up with blurred photos showing the moon's movement across the sky rather than high-detail stills.



Big Moons

Longer lenses and zoom settings will help you get an exaggerated “big moon” feeling. For each 100mm of focal length, or digital equivalent, the moon will end up roughly 1mm in the frame. This means you’ll need a large lens or a lot of optical zoom if you want a big moon.

Clouds and Trees

Shooting the moon through clouds and trees can help produce both a feeling of ethereal beauty and spookiness.

Day Shots

The moon can be a great part of your daytime photos as well. The examples in this series show how the moon can be used to good effect to add interest to what are already breathtaking landscapes.

Double Exposures

This traditional film technique as well as the digital double exposures you can do on your computer are another great moon technique. Stay tuned for an article on this in the future.

Tip 31 Mountain Prospects

Make your mountain prospects unforgettable next time you’re out hiking with these helpful hints.

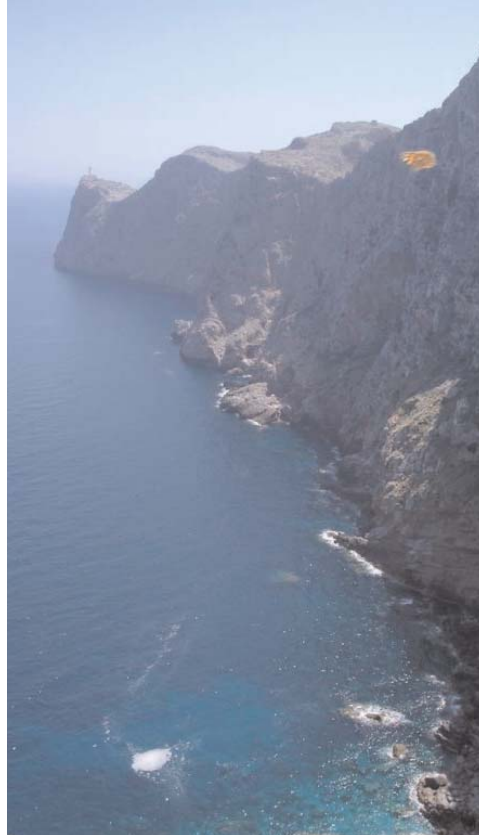
Here are a couple of great examples based on these easy to follow tips. The second example was contributed by ACD Digital Imaging News reader Mark Sampson of Sheffield, England.

Find Open Viewpoints

The most spectacular mountain photos are taken not just from nice viewpoints along the trail, but specifically from points where the view is unobstructed at the widest arc. These viewpoints are usually higher up as you emerge from trees and onto ridges and ledges. Having a wide open view, rather than a limited one, will enable you to bring the most depth and perspective into the shot.

Turn Halfway In

It’s only natural to look straight out from a viewpoint and have your back to the mountain; however, unless you are using a panoramic lens, this view will not have the most impact as it usually decreases perspective by providing few if any points of reference in the foreground. By turning halfway in toward the mountain, you’ll be giving a better sense of perspective and location by including immediate terrain.



Look Down

Pointing your camera down will further enhance the sense of awe and wonder by revealing to your audience how commanding the heights really are from your point of view. Try to include the area right in front of your feet for the greatest impact. In order to do this and maintain a view of the horizon, you may have to turn your camera on its side. Happy hiking!

Tip 32 Sunny Day Techniques

Now that summer is here again, it's time to think about how to get the absolute best photos possible on those great sunny days we've waited so long for. Here are a few pointers to get you started. Plus, stay tuned for more detailed tips on specific pointers in future publications.

Choose the Direction of Light

The rule of thumb for direction of light, in this case bright sunshine, is to keep it beside or behind you to avoid sunspots and glare on the lens. However, it is also important to be aware of when a situation calls for an exception to this guideline. Some of the major exceptions are outlined in the following points.



Avoid Bright Backgrounds

Including bright backgrounds can “wash out” your exposure resulting in unattractive and sometimes totally unusable photos. In the example below the guideline for direction of light was followed without considering the bright background — a reflective, light-gray wall that has been mostly cropped out. The resulting photo is obviously not a keeper. This is a perfect example of how you will need to find an alternative direction of light in some situations.

Use a Lens Hood

Simply attaching a lens hood, as was done for the next example, will give you more flexibility in choosing direction of light and will dramatically decrease the likelihood of glare and sunspots in your photo.

Fill in Shadows with Flash

Many times the bright sunlight causes unattractive shadows to appear over people’s eyes and face. If you are close enough for it to make a difference (say within 6-7 yards) select your force flash mode and simply fill in the shadows.

Seek Shade

If the setting allows for this, finding shade can be a great alternative. Shaded areas on bright sunny days provide a nice soft light that can lead to really superior results. Often a combination of sun and shade can be incorporated as in this second example.

Shade or a combination of sun and shade can also enable you to defy the standard guidelines for direction of light. Again in the second example, the sun is actually directly in front of the camera, but through the combination of the shade and the lens hood, this was actually just fine.



Tip 33

Fantastic Waterfall Shots

Waterfalls and white water cascades are among the most inspiring spectacles in nature, which makes them an ever popular subject of photography. There is something about the motion and sound of the water, the mist and the wet sheen on the rocks that’s soothing and hypnotic.

There are many artistic angles you can take to capture the spirit of a waterfalls and cascades. One of the most fun ways is to take prolonged exposures to enhance the appearance of white water. By using your bulb mode or time settings, you can increase the veil-like white highlights. This lets you achieve a result that is not only more realistic, but also more fantastical.

Consider for a moment that the human brain cannot really perceive how the ever-changing scene looks at the particular split second level of a regular shutter speed. Rather, we perceive how it appears and changes over the course of whole seconds. Therefore, by taking a longer exposure and increasing the appearance of white water you are making a more realistic picture.

On the other hand, bulb exposures of any moving subject, and perhaps especially waterfalls and cascades, have an inherently unreal element to them precisely because we could never really perceive these subjects the same way on our own. Waterfalls are a particularly interesting case, however, because when nothing else is moving in the field of view during your exposure, it takes a moment for your audience to notice something is different.

The emphasized white water highlights they see serve to bring out the soothing, hypnotic and generally positive feelings associated with waterfalls. This is achieved in a way that your audience may eventually understand is not real, but that they will nevertheless appreciate. So, by making you waterfall shot somewhat of a fantasy, you are actually making the positive reality associated with the waterfall more immediate for your audience.



Here's a great example of this technique.

Tip 34

Beating Background Noise

Everyone has heard of the term "background noise." Although its meaning can have some positive or at least neutral connotations, it's often used in a negative way to refer to persistent and distracting sounds or bad music. But how does this relate to your photos?

In photography, "busy" backgrounds or even backgrounds with only a single distracting item can cause background noise. The effect of background noise is that when people look at your otherwise well-composed photos they think, "hmmm... pretty good," instead of, "wow, that's great."

So, how do you eliminate background noise? There are two simple ways to approach its removal. The first is a subtractive model best suited to landscape or still life photos that don't include people. The second is a staged model best suited for people shots.

For photos that don't include people, set about composing your shot and ask yourself, "Is everything in this photo, including in the background, making it better?" If the answer is "no," you can reframe the photo, reposition yourself to remove the "noise" or, if it can be moved, pick it up and move it out of the shot. This is a "subtractive" model because you're eliminating things as you compose the photo.



Here's an example photo with a noise-free background. It was contributed by Digital Imaging Blast reader Frank Poznick of Clinton Township, Mi, USA. Care has been taken to capture these flowers while the background was in shadow.



Here are a couple of sample photos with nice clean backgrounds. In the first one, the photographer has taken the time to re-arrange the furniture in the room and adjust the shot angle so only the father and son and couch are in the picture.



In this one, taken by newsletter subscriber Jim Bissett of Austin, TX, USA, the table itself with its clean white tablecloth becomes the background and nothing is included that doesn't belong.

As photographers, we all know that our typical subjects (i.e. the non-supermodels who aren't getting \$10,000 an hour) don't really like to be kept waiting and fidgeting while we methodically set about composing a high-class photo. Unless you're taking a candid shot, there is always time to consider and even "stage" the background for people shots before getting everyone in front of the camera.

For example, if you want a nice photo of everyone on the lawn, get them assembled only after clearing away background noise such as the lawn mower, the kids toys and the sprinkler. Try to challenge your normal frame of reference when setting up for people shots and be open to things like re-arranging furniture and removing standard elements of a room from a shot.

Ask yourself questions like, "Do I really need the coffee table in this family portrait?" Or, "Will those pictures on the wall add anything to the picture?" If you do this, you'll be much more likely to have your audience asking themselves, "hmmm... what is it about this photo that makes it so impressive?"

Tip 35 Action Panning Techniques

Q: Could you provide some tips on how I can make my action photos more impressive when using the panning technique?

A: Here are some helpful hints you can use to pan your way to the fast-action jackpot by keeping the impression of sizzling speed intact.

What Is Panning?

Panning involves moving your camera to follow a moving subject. But getting impressive panned action takes a bit more than just moving your camera.

Impressive, Fast-Action Panning

The goal here is to convey the speed of the subject by getting them in focus while the background slips into a mind-numbing blur.

What's the Trick?

The primary trick to this is to adjust your shutter speed according to the speed of your subject. You want a shutter speed that is fast enough to focus on the subject, but not so fast that the background comes into focus as well.

Shutter Speeds

For example, with a shutter speed of 1/1000 you'll be able to capture a racing motorcar in focus, but the track and crowd will be in focus too,



Here's an example photo by Alfonso Crane of Bogota, Colombia.

leaving the photo with a static, fast-as-in-a-parking-lot feeling. Similarly, with a shutter speed of 1/125 you likely won't get the racecar in focus, even if you're panning perfectly.

For most fast action panning shots a shutter speed of 1/250 or 1/500 will work, depending on the speed of the subject. If your camera does not have shutter priority controls, turn your mode dial to action and select your highest ISO setting.

Additional Techniques

Here are some other important points to keep in mind:

- Pick a good vantage point that lets you follow the subject through the largest arc possible. This will give you more time for your shot and may even allow you additional shots in a single pass.
- Use your viewfinder rather than your LCD screen for more accurate tracking of your target.
- Turn off your flash if the subject is more than 6 yards away.
- Pre-focus on the subject as it comes into view then press the shutter release button down all the way when your shot is nicely framed.
- Follow through by continuing to track the subject after you've got the photo. This will help you perfect the panning motion and will prevent you stopping short just as you release the shutter.
- Keep your feet still and rotate your torso when tracking to keep the motion smooth.

Tip 36

Shutter Priority

Q: When should I use shutter priority mode on my digital camera?

A: Shutter Priority mode is a great feature for shooting sports and other high-speed activities. It is also useful for taking photos of still objects in low light conditions. In the regular automatic mode, your camera regulates light by adjusting both shutter speed and aperture to match the ambient conditions. By using shutter priority mode, you get direct control over the shutter speed and the camera matches its aperture so enough light gets into the camera — this matching is known as reciprocity.



One example of using shutter priority effectively would include photographing mountain bikers and freezing them in the air as they go off a jump. To do this, you would choose a fast shutter speed such as 1/250 or 1/500 of a second and the camera would automatically choose a wider aperture to compensate for that shutter speed.

In contrast, if you were shooting still objects or portraits in low light, you would choose a very long shutter speed, perhaps as long as 1/2 to a full second. In these cases, you will need to use a tripod and ensure any people remain very still. For extremely low light conditions, many cameras also include shutter speeds of several seconds to half a minute or even more. It is important to remember that it is very difficult for anyone to stay still that long. A good alternative to long shutter speeds in most of these situations is exposure value compensation.

It is also important when using very slow or very fast shutter speeds to be careful of reciprocity failure. Depending on the lighting conditions, it is possible to set the camera to a speed so it compensates with the correct aperture.

For example, in low light situations, setting the shutter speed to 1/250 may not be possible because even at the widest aperture setting the camera will not be able to gather enough light. This will mean that your picture will be muddy and under-exposed. Keeping a close eye on your settings in relation to the amount of available light will help prevent this from happening, but a certain amount of trial and error to learn the limits of your camera will likely also be needed.

Tip 37

Using Lens Perspective

Q: Why does my zoom lens automatically zoom out when I switch to portrait mode?

A: Your zoom lens comes out to give a better perspective for portraits. Here's why. Lens perspective affects the appearance of depth in your photograph. Long lens settings (telephoto) compress the depth of a scene, while short (wide-angle) lens settings increase depth.

These examples show the effects of using different lens settings for portraits. The first photo was taken with a wide angle lens very close to the subject, and the second was taken with a telephoto lens farther away from the subject.

Notice how the proportions of the face are exaggerated with a wide-angle lens. A longer telephoto lens is thought to be more flattering, because it flattens the face and makes noses look smaller. Therefore, many portrait photographers will use telephoto lenses for tight headshots.

You can also use zoom settings for effect in scenic shots. For example, a telephoto setting can compress a city scene for a chaotic, busy feeling by making it look like more people are crammed into a smaller amount of space. In contrast, a wide-angle lens setting will make the scene look deeper and less busy for a relaxed, laid-back street feeling.



Tip 38

Take some photos for me? Please?

Q: I recently hosted a large gathering of family and friends to mark an important anniversary. I thought it would be neat to set out a few family cameras and ask everyone to take photos. While guests did take a fair number of photos, I was disappointed with the quality of the results. Can you suggest a solution to this for the future?

A: You're not alone in your experience. The solution is really to have a designated photographer for important events and a professional photographer for genuine milestone occasions like weddings. Setting out some cameras to add some fun and get people involved is great, but not a substitute to a designated photographer.

Basically, the reason for this is that good photography takes time and careful consideration. Therefore, unless someone has made a mental commitment beforehand or is an experienced photographer able to



manage people and settings quickly, it's likely most of your "friend-taken" photos will be average or worse. That said, you may get some weird and wacky results that would otherwise have been missed when you set the camera out for a free for all, so it's worth a go.

Another more typical scenario is when we ask someone to take just one or two photos of us somewhere special or doing something unique. The way to get good results in this case is to set up the entire shot yourself. Take lighting, flash options, position, framing, zoom options, quality settings, potential traffic in front of you and everything else you can think of into effect then make the proper settings on your camera for the results you want.



Having done this, you'll only need to describe to the person how to frame the photo and how the rest of the settings are taken care of. Ask them ahead of time if they'll snap three or four pictures for you. This will help you ensure at least one is what you really want.

Here's an example of a just such a scenario in which neither the camera nor the substitute photographer was prepped to get a good shot. Above is the mediocre or worse result. Below, the best possible result after editing, which is still not nearly as good as a pre-planned shot could have been.

Tip 39 Falling Light & Texture

Savvy photographers know dawn through mid-morning and late afternoon through dusk are prime times to shoot. During these times the light is softer and less apt to cause unwanted reflections, glare, and dark shadows where they are not wanted, such as on people's faces. Another reason for shooting at these times, especially in the afternoon and evening when the light is falling, is the enhanced detail and texture that can be found.



Here's an example photo in falling light. Notice the shadow of the woman's nose crossing her face. In this light, the mild shadow is not distracting as shadow shrouded eyes would be in bright light. Take note also of the soft shadow patterns following the ripples of the sand.

Low-angle light skimming across surfaces reveals otherwise hidden textural qualities. It does this by adding shadow to areas of low relief and by not drowning details with reflections and glare. In fact, paleontologists have been known to make many fossil discoveries by looking for surface patterns in rock at the beginning and end of the day when details are enhanced.

To capture the most detail it is important to suppress your flash and, if necessary, compensate with longer shutter speeds and wider aperture. This may require using a tripod to avoid camera shake.

Tip 40 Tough Focusing

Ever got “ooohs and aaahs” for getting the focus right in a photo? No? Yes? In some cases you might, such as for a good example of depth of field with the foreground and background out of focus and the subject crystal clear. But normally the goal is for focus to be a non-issue and not distract anyone, as it will if your subject is blurry. To that end, it is useful to recognize situations in which getting things in focus might be extra tough.

Some of the primary examples of tough focusing scenarios include when the subject within the focus area of your viewfinder (often marked by lines) is too low in contrast, when multiple subjects at different distances overlap within the focus area and when the subject is too close to a bright object or area.

Low Contrast

The first example addresses the problem of low contrast. Prior to cropping for this example, the plane was smaller compared to its background and took up only a third or less of the focal area. The rest of the focal area was filled by the low contrast sky, which is difficult to focus on.

Likewise, the plane itself is blue and white, just like the sky, so the camera would not have been able to pick it out easily. The trick here is to zoom in or move closer to your subject and fill the focal area when shooting with a low contrast background.

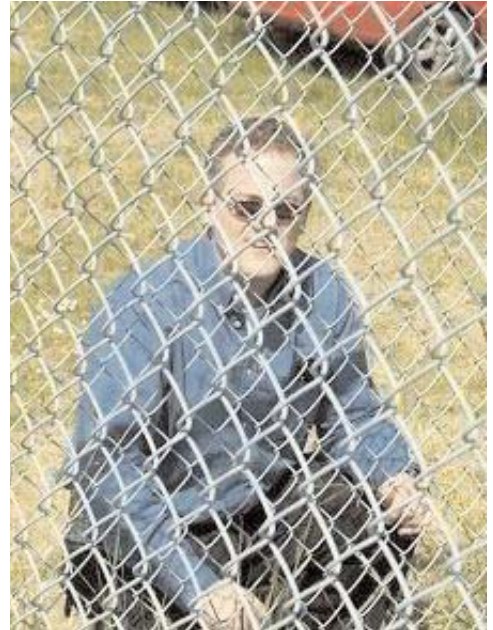
Overlapping

The second photo is an example of items overlapping at different distances in the focal area. Here, the trick is to switch into manual to get the subject in focus as was done here.

Bright Background

The last example shows how bright backgrounds can interfere with proper focusing. One solution here would be to focus on the subject from another point without the bright background and then return to your chosen spot while keeping the same distance. Another solution is again to switch to manual focus mode for precise control.

Here are some examples of these scenarios.



Summary

The first step to getting your pictures in focus when faced with difficult scenarios is always to realize you're in one and then adjust. Keeping these tips in mind will be a start

Tip 41 Light and Contrast

Stunning, memorable photographs are different in some special way that isn't always readily definable. They may be unusually composed, contain odd subject matter, include brilliant juxtapositions of color, or dramatic counterpoints of light and shadow.

When attempting to generate these photos ourselves, looking for settings with lots of contrasting light and shadow can often be the quickest route to impressing friends and maybe that high-priced talent scout, too...hey, you never know.

Why might using contrast be easier than unusual compositions, odd subject matter, or opposing colors? Because it takes less work and is less likely to flop. Wherever you go, there will be examples of contrasting light and shadow that might represent an easy photo opportunity.

Once you find a good contrasting setting, you can then go through your normal routine to get a shot. In contrast, thinking about an unusual composition takes longer, though it too can be fun and rewarding. Moreover, finding odd subject matter or brilliant juxtapositions of color can be rare or may require bring props.

Of course, you may often be able to create your own high-contrast setting as well by playing with window blinds, partially opening doors or using spot lighting. Doing so can really add that special something to your photos and make your friends wonder if you recently took that expensive photo course they wish they had time for.

Tip 42 Black and White Photography Hints

Most digital cameras now provide the option to take black and white photos, which is a great opportunity for many of us to break new ground with our photography skills. Not because the option to do black and white photography wasn't there before, but because it's so much easier to switch a camera setting than to buy different film and pay more for specialty development. On many cameras the black and white photography option is under ISO settings.

Why experiment with black and white photography? Well, for a change, for a challenge, for artistic effect, and for plain old fun, of course. Black



Here's an example of using window light to make a moody, high-contrast photo.

and white photography offers us an uncomplicated, direct quality that can be difficult to harness in color photos. It does this by recording subtle tones, shifts in contrast and strong, simple shapes more powerfully than color.

Some good hints for black and white photography experiments include playing on the strengths of the medium. For example, looking for settings with marked extremes in contrast can help play up the focus on and experience of the subtle tones of the subject.

Here's a great example of this hint – this tightly framed photo sets of the simple joy of a baby boy in his father's hands against the father's dark sweater.



Likewise, seeking uncomplicated subjects and settings will play to black and white's strong suit. Want to enhance a feeling of history and heritage for a particular shot? Try black and white photography. Enjoy taking architecture photos? Many of these can really be brought to life in black and white because of how details are enhanced and unnecessary distractions diminished, such as the fact that a gargoyle may be grungy and splotchy brown.

Barren, uncomplicated winter landscapes are another great example of the type of setting that can really be brought to life and made stunning by black and white photography. Simply consider the strengths of the medium and then use your imagination. And remember, when you've looked at someone's cherished black and white collection, have you ever thought, "gee, why didn't you take that one in color?" ...thought not, and hey, with digital, you're not paying any more for the fun either.

Tip 43

Lighting Scenarios and Effects

Since all photos rely on light to expose either a film frame or a CCD (charged coupled device or the digital equivalent of film), it's clear light is the key element of photography. Your first consideration should therefore always be whether you have enough or too much light and how you'll compensate in any given scenario.

However, a lot more fun and artistic expression can be brought into the equation by also considering the direction and type of light you're working with and how you might make adjustments to improve your results.

The direction and type of light in a particular setting can affect not just the quality of your final photo, but the colors, the mood, and so on. In short, direction and type of light determine the overall dramatic effect.



Here's an example of back lighting

In any scenario you as the photographer can make adjustments to enhance your use of light and its affect on your photos. In outdoor photos on sunny days, for example, by simply walking around your subject you will get different effects, except perhaps when the sun is directly overhead.

The following are descriptions of some fundamental light scenarios, examples of their effects, both positive and negative, as well as things to think about and look for.

Front/Direct Lighting

...describes a setting in which the sun or another powerful light source is shining directly onto the subject from behind the photographer. This scenario provides plenty of shadow-free light, but reduces the texture and depth of photographs. It may also cause people to squint, especially in powerful sunlight. For a bright and cheery effect or when you've got few options and little time (some action shots) it will usually do fine.

Side Lighting

...comes from an oblique angle to the subject relative to the camera. It creates contrasts between shadowed and lit areas and is good for displaying texture and fine details. In some cases it may produce undesirable shadows that can be fixed with flash, while at other times the shadows are a nice touch. Considering side lighting is always a good step.

Back Lighting

...when the sun or another light source is directly behind the subject, can create sharp edges and dramatic highlights that really catch the eye. However, without proper exposure the subjects face may be badly shaded. Using a flash in situations like this, even if it is bright outside, can help bring detail back to the subject.

Go for it – back lighting can be cool, sassy or romantic. Really strong back lighting, or backlight at dusk can also be used to create a thoughtful silhouette effect - as below.

Soft Lighting

...such as on overcast days, refers to ambient, non-directional light that is easy to work with for photographers because it is forgiving. That is, it does not create lots of harsh shadows that need to be either incorporated as positive elements or compensated for using flash or shooting angle.

Soft lighting is the friend of most photographers, so grab you camera on overcast days and look for soft light everywhere. Below is a good-example of soft lighting.



Back Lighting



Soft Lighting

High Contrast

...lighting includes a variety of bright and shadowed areas in one scene. It allows for some of the most dramatic effects in photography by focusing attention on very specific spots while still including details in darker areas. Look for patchy clouds or light filtering through foliage or semi-blinded windows. Here's a classic example sunlight falling on wild animals on a cloudy day.



High Contrast

Tip 44 Pre-Focus and Moving Subjects

There are several particular scenarios in which focusing using standard auto-focus techniques can not only be tough, but sometimes near impossible. These include subjects that are too dark; extremely low contrast subjects such as skylscapes; subjects at different distances within the focus frame; subjects near very bright objects or areas; and – the focus of this tip – moving subjects whose distance from the camera is constantly changing.

Each of these special focusing situations has a variety of potential solutions. Today, we'll look at using pre-focus (also called focus lock) for getting moving subjects in focus when their distance from the camera is constantly changing.

At this point you're probably trying to think of situations in which a moving subject's distance from the camera is constantly changing. Here are a couple of examples. Children on playground equipment such as swing sets and merry-go-rounds and subjects playing fast-moving sports at close quarters, such as squash.

Getting a properly focused shot in these scenarios simply requires a bit of forethought, some careful judging of distances and the use of pre-focus when your camera is in auto-focus mode.

Here's what to do:

- Decide on a spot where you'd like to capture your moving subject, for example, at the height of the front swing on a swing set.
- Move to a vantage point in relation to the subject's position from which you can get a well composed photo.
- Estimate or pace off the distance between the two points.
- Pick a separate object or person about the same distance away from you and pre-focus on them by pressing the shutter-release button down half way.
- While continuing to hold the shutter-release button down half way, turn to your subject and wait for them to be in position.



- Take your picture.
- Repeat. Because it can be difficult to get all the elements of a composition just right with a fast moving subject, it is especially important to repeat the shot a few or several times for best results.

Tip 45

Pre-Focus and the Rule of Thirds

Want to improve your picture clarity and delve into new creative options for your auto-focus camera? This simple tip will get you started by showing you how to use pre-focus and the rule of thirds.

Many digital and film cameras feature an automatic focusing mechanism to make taking pictures easier and faster. These cameras have built-in sensors that decide how the lens should focus based on how far away your subject is.

In most auto-focus cameras you will see crosshairs or brackets in the center of the viewfinder. This is the "focal point," which tells the camera to focus on whatever it is lined up with. If you point it at your friend, the camera will focus on your friend. But what happens if you want to be more creative? For example, by using the rule of thirds and putting your friend off to the side and incorporating an interesting background or foreground.

What is the rule of thirds? It's simple. When you are composing a shot, mentally use straight lines to divide your viewfinder frame into horizontal thirds and vertical thirds. Then try to position your subject at the intersection of any two of these lines. Ideally, this will give you a shot that looks more alive than a shot where the subject is centered in the middle of the frame.

Without using pre-focusing (also known as focus locking) you may end up with your friend out of focus in a rule-of-thirds shot where you want to bring in an interesting background. This is because by simply pointing and shooting, the focus point will be the background, not your friend.

To use the rule of thirds and keep your friend in focus, direct the focus point at them and, once the lens focuses, depress the shutter-release button half way. You have now "pre-focused," which means that as long as your friend doesn't move, they will remain locked in focus when you move the focal point and recompose your shot for artistic effect.

You'll be surprised at the amount of creative freedom this technique provides. Stay tuned to ACD newsletters for an upcoming article on pre-focusing and action shots.



Here's a classic example.

Tip 46

Alternative Landscapes: 5 Ideas

This spring when you begin to venture out with your camera, add some eye-catching spice to your landscape photos by choosing alternate perspectives and compositions.

The first two examples below are a typical landscape followed by an alternative landscape.

Here are five ideas to get you started:

Get Down

So many good landscape shots miss the chance to be great simply because we lift the camera to our faces and shoot. This may capture the inspiring scenery, but from a head-height perspective that we are all unconsciously accustomed to. Simply getting low to the ground can improve your results and make your photo stand out.



NOTE: Using high ISO settings may cause a significant loss of quality on some digital cameras. You may want to test the ISO results on your camera before relying on it for an important photo.

Tilt Forward

Enhance the impact of your immediate location in the context of the whole by tilting your camera forward and focusing on what's immediately in front of you while keeping the rest of the landscape in the picture.

Shoot Through

Shooting from just inside a tree line or through a bunch of tall grass or flowers will heighten the sense of being in the landscape.

Seek Contrast

Include strong elements of light and shadow to achieve a more stunning effect.



Frame

Look for opportunities to frame your landscape photos in dramatic ways such as breaks in the foliage or open portals like glassless windows and open doors.



Tip 47

Window Tableaux

In painting, window tableaux are often composed of someone gazing out a window and can symbolize a thoughtful mood, a glimpse at the future or a barrier from the outside world. Here are some tips on how to take your own artistic window tableau photos.

This interesting example was provided by reader Shirley Reyes. Capturing foul weather and the feeling of indoor protection and coziness can be an excellent pre-spring theme.





Tip 48 Fixing Indoor Light with White Balance

Want all your indoor pictures to look great? Ever wondered why so many of them could be better? Read on and see how simple it is to dramatically improve your success rate when shooting digital photos indoors by using your camera's white balance feature.

Many photos taken indoors have a yellow or brownish cast to them while others simply have dull colors or a lack of vitality. Why is this? Well, the fact of the matter is that regular indoor light can present some of the most beguiling shooting scenarios.

This intuition-challenging fact arises because in many cases there seems to be enough light for good photos and if we have our cameras set on auto-flash, as is usually the case by default, the flash will often fail to fire because the camera agrees that there is plenty of light. The difficulty and likelihood of so-so or poor pictures results from the fact that indoor light is often the wrong kind of light.

And why is indoor light often the wrong kind of light? Because fluorescent, halogen and tungsten (a.k.a. incandescent or standard) bulbs emit color tones the human eye can't see, but that cameras pick up. These color tones then discolor the resulting photo in a way that we can see onscreen or in print.

"OK," you may say, "but can't I simply use my flash to override this effect?" Yes, you can, but in various circumstances you may either not want to use your flash, or you may be able to achieve better control and results using white balance.

For example, if your indoor setting includes various reflective surfaces that you can't or don't want to eliminate, you will likely not want to use your flash, but rather opt for white balance. Another reason might be that you'd like to shoot a series of photos quickly and not using your flash will speed things up because you won't have to wait repeatedly for it to recycle and be ready to fire again.

In these cases and others using white balance is preferable. Here's what to do:

1. Switch your camera into manual mode by turning the dial to the option that has an "M" beside the camera icon.
2. Select the W.B. to bring up a list of specific white balance options. On many cameras, the other choice will be E.V., which brings up your list of options for exposure value compensation.
3. Assess the particular indoor light source or sources you're



Here are examples of typical results with and without white balance.

contending with and make the appropriate choice in the list. Many digital cameras have 5 options to choose from: Auto, Outdoor (Daylight), White Fluorescent, Standard Fluorescent, and Incandescent (Tungsten or Halogen). Auto mode will be indicated by text, Outdoor (Daylight), White Fluorescent, and Incandescent (Tungsten or Halogen) are indicated with the following symbols.

4. Take your picture.

5 (Optional). If you are taking important, once-in-a-lifetime pictures, you should also bracket your shot by using a range of E.V. settings (see Related Articles below). However, simply taking the time to set the correct W.B. setting will definitely ensure you get a good shot.

Below are four examples of different settings for an indoor shot in which using a flash was not a desirable option due to reflective interior windows. This scenario also included a mixture of significant light sources, including fluorescent, tungsten, halogen and some natural light. From left to right the results are as follows: 1. Poor – No Flash, No W.B., 2. OK – Auto W.B., 3. OK – Incandescent W.B., 4. Good – White Fluorescent W.B.

A closer look at the OK results – #s 2 & 3 – reveals the colors are not as vibrant or realistic as in example 4. This indicates that the fluorescent lights were overpowering the tungsten and halogen lights and thus the fluorescent setting was a better choice.

Tip 49 Watch Those Windows

Avoid unwanted silhouettes, dark shadowy figures, sunspots and generally unattractive photos when shooting with brightly lit windows as a backdrop and even use brightly lit windows for specific, desirable effects.

Perhaps the simplest and quickest thing to do to avoid the bad results mentioned above is to change your shooting angle and avoid having a brightly lit window as the backdrop for your photo. In many cases, however, it's either impractical to avoid this for a quick shot or there is a specific effect you're seeking from the window light, such as a cheery feeling or romantic glow. Here's what to think about in both cases. In certain circumstances, you may want a candid photo and not really have much control over your shooting angle or the lighting.

For example, if you're at a birthday party with the birthday boy sitting in his favorite seat in front of the window with people crowding around to watch and take photos. While it may not be practical to rearrange the entire scene and everyone in it to get a quality shot, you can take some steps to ensure your photo turns out well, or at least OK.





Here is an example of adding a cheery glow with strong window backlighting that is diffused and compensated for.

First, you'll want to set your EV compensation to +1 or +2 depending on the intensity of the backlighting (settings will be opposite on many newer cameras.) For many digital camera owners, this function can be found by switching into manual mode, usually indicated by an "M" next to a camera icon on your mode dial.

Next, assess the overall lighting of the room. Is all the light coming from the window? Is there a balance between window light and light from artificial sources? In the case of a balance, you can leave your lighting compensation alone, that is, on auto. If the majority or all of the light is coming through the window then use the same set of initial choices in manual mode, select your white balance (W.B.) options and choose sunlight.

Taking a few seconds to choose these options will make all the difference between capturing the moment and filling your memory card with a bunch of photos you don't want. Think about it this way...it'll take you more than a few seconds to go through and delete all the bad photos after the fact.

For the desirable effects of using brightly lit windows as a backdrop to achieve a cheery feeling or romantic glow, you'll need to take a bit more time to control and filter the light. Specifically, your window will need to be covered by white or off-white sheers, or a sheet or papered over. This will diffuse the light and generally soften it so it can be used to positive effect.

Covering the windows and diffusing the light in this way will not, however, solve the problem of underexposing your subjects using automatic settings. As outlined above, you'll still need to adjust your EV compensation and perhaps also your W.B. settings to bring your subjects and their features out of the shadows. In this case and the first one your background will be overexposed and washed out. In the first case, that is simply what it takes to get a good exposure of your subject and in the second case that is part of the "romantic glow" or "cheeriness" that you're looking for.

Tip 50

Why Zoom? Four Good Reasons

Want to shoot like the pros? Taking the time to consider your zooming options for each photograph will help you improve the quality of your compositions. Here's a quick refresher on some the options zooming gives you as well as some of the things to keep in mind when deciding about zoom.

1. Zoom to Keep Out of the Way

If you want to catch the action of sports or even just people in motion or working, zooming can enable you to do so without getting in the way. The greater the zoom and the faster the motion the more likely you are to experience camera shake and/or blurring, so remember to adjust your shutter speed accordingly if your camera allows this.

2. Zoom for Candid Shots

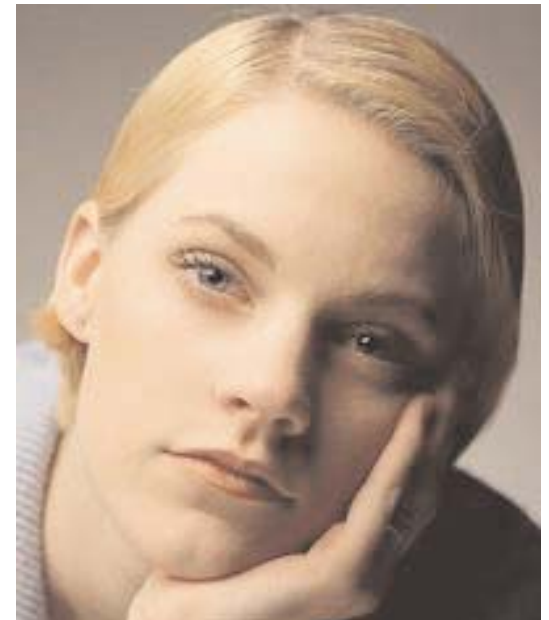
Whether you're looking for great slice-of-life pictures on the street or want to capture a friend in an unselfconscious pose, zooming can be your secret weapon. The first trick is to know the approximate range of your particular zoom lens. Also, to preserve the candid moment, you may also want to find your range and focus on something other than your subject that is about the same distance away. This may give you the extra seconds you need to get the shot before the jig is up.

3. Zoom for Quick Compositions

Framing is an important part of any good photograph, but when you know the opportunity for the picture you want is a fleeting one zooming can come to the rescue. Simply fire up your camera, get your subject in view and adjust your zoom until the framing is as good as it can be, then click away. Better to get as good a photo as you can rather than pass it up because your vantage point and framing references could be better.

4. Zoom for Close-Ups

The best close-ups are often taken using zoom settings or interchangeable zoom lenses. This is because maintaining your subject's personal space, whether it's a person or animal, will help to retain a natural demeanor. Zooming will also help to soften the features of your subject for a more flattering appearance. This is because zoom settings tend to compress the depth of a scene.



Tip 51

What's Your Angle?

After a lengthy search you've scoped out an ideal spot for a cityscape photo; or, maybe you picked a great holiday destination months ago with opportunities for some once-in-a-lifetime architecture shots. Now, you want to capture the grandeur "on film" (or more likely, on CCD, but somehow that doesn't have the same ring to it). Of course, a mountain of factors play into getting the photos you really want, but by keeping these tips on shooting angle in mind you can add more interest to your pictures and improve your chances of getting dramatic results.



Depth Finder (Architecture)

It's always good to keep in mind that just because a scene looks good to your eye, doesn't mean you'll get a good photo by simply lifting the camera and snapping away. Remember, our eyes see a lot more than you can get into a photo, so to convey depth and context in your close range photos of buildings and grounds it's best to choose an oblique angle from your subject. Not only will this give you a picture of more than one side of the building and thus provide more detail, it will also add depth by giving a better perspective of the building's surroundings and background.



Moreover, shooting from an angle will introduce noticeable diagonal lines that lead from bottom to top and side-to-side and draw the eye through the photo. Far from taking away from the impact of your subject, drawing the eye through the photo so it notices more surrounding detail will enhance the impact of your subject by keeping it from appearing as a stark and overpowering chunk of stone and metal just floating there. It's worth noting that this technique works when shooting inside buildings as well.

The first photo below encompasses this tip. Compare it to the straight on shot below that has less interest and impact. The photos are of China's Forbidden City.

"You Are Here" (Cityscapes)

Whether traveling in an exotic city or just exploring your own urban playground, if you're carrying your camera there'll be plenty of occasions when you think, "Hey, just a sec, let me get a shot of this." One way to get really memorable shots is to look for genuine cityscapes rather than street photos. This means finding a high point, whether a window, balcony, rooftop, or the like.

As you look for a promising location and then line up your shot, make sure you include a view of your immediate surroundings as well, rather than just the pretty buildings in the distance. And this means what's as close to right below you as you can manage and still get those distant buildings in. Doing this will lend your photos a sense of, well, "immedia-

cy” or being in the scene - the “you are here” factor, if you like.

Here’s a nice example of a “You Are Here” cityscape.



Tip 52

Don't Forget Those Legs

There are always plenty of things to consider when examining our people and animal pictures with a critical eye. Lighting, framing and background are some of the more obvious ones, but even as we learn to master these, or at least train ourselves to remember them, there are often little details that continue to elude us in our pursuit of the best pictures possible. One of these elusive little details is what to do about those admittedly (in most cases) forgettable legs.

Have a quick look through your collection to see how many of your photos account properly for what to do about people’s legs. We bet that you have a load of photos in which people’s legs are awkwardly cut off anywhere from just above the ankles to the mid-thigh. Does that seem right or artistically pleasing? If you were to have considered it, do you think you’d take those pictures in the same way again? Some of the reasons you probably answered “no” to the above questions include that cutting people’s legs off in a photo, while not as bad as missing part of their head or lopping off an arm, still leaves them looking unbalanced in some way. Another reason is that it confuses the viewers’ attention between the person and their surroundings as



well perhaps as making them appear as if they are floating awkwardly in the scene.

In a good close-up or portrait, taken from waist or chest level up, the focus is definitely on the person. In the same way, when the whole person is included, the focus becomes a balance of the person in the context of their surroundings. With legs cut off, there can be a tension between the two types of focus that diminishes the overall appeal of the photo, not to mention giving your subject(s) an unbalanced look.

So, when framing up your people photos (and this tip applies to animals, too) remember to think about whether you want to make your shot a close-up or portrait style picture, or a photo of the person in the context of their surroundings. Then include or exclude their legs accordingly.

A couple of exceptions to this can include: i) wanting to show your subject in context when an object in the foreground such as a plant or pet is obstructing a full view of their legs; ii) tightly framed shots of animals that don't include much foreground and background detail, but nevertheless are not portraits (they are made differently after all).



Tip 53 Festive Photos I: Glittering Lights

Make vivid pictures of your Christmas lights or the ones in your area part of your collection this holiday season with these simple tips.

1. Shoot at Dusk

To set the stage for a good exposure, shoot towards the end of dusk. The additional light at this time will bring out the details of the scene without taking too much away from the effect of the lights.

2. Use Night Mode No Flash

If you're using an automatic camera, ensure a longer exposure by setting it to night mode without flash. A crescent moon and a lightning bolt with a line through it usually indicate this mode.

3. Lock and Shoot

Again, to get maximum detail in lighter and darker areas, lock your exposure by pre-focusing on a darker area then recompose your shot.



The lights will end up somewhat overexposed, but this will only add to the festive feeling. To pre-focus and lock your exposure, press your shutter-release button halfway down.

4. Use a Tripod

Because you'll be using a long exposure, a tripod is a must. Without it, you'll just get a bunch of blurry shots.

5. Use Low ISO

One side effect of long exposures is "noise" or unsightly graininess and pixelation. Reduce this as much as possible by using a low ISO setting.



Tip 54

Holiday Posed Portraits: Steps to Success

The winter holidays are one of the most important times of the year for photos, especially when it comes to posed portraits for posterity. These simple guidelines will help you get results you can be proud to share with friends and relatives and can cherish for years to come.

1. Pick A Good Backdrop

Avoid busy backdrops, ones that will reflect too much light or ones that are too dreary. What with furniture, lamps, bookshelves and so on this can actually be a difficult task. You may need to think creatively and be willing to move things around temporarily to get a good shot. Setting up your shot in front of a hearth is often a good bet as the stones or brick will usually be a nice medium or dark color.

2. Have Someone Else Take the Photo

Trying to anticipate when the photo will be taken if you're using a timer can result in looking tense and unnatural. We've all experienced holding a smile for 15 seconds waiting for the timer only to have someone admit they closed their eyes – even after a few tries at this you'll often end up with unsatisfactory results. Instead, have a friend or neighbor take the photo. This is most easily done if you are ready to do the portrait while you have some visitors over.

3. Wear Plain Clothing

Just like busy backgrounds, busy clothing patterns can distract the eye from the main focus of people's faces thereby taking away from the power and effectiveness of a portrait. It can also help to wear dark clothing, as this can further emphasize faces.

4. Avoid Shadows and Use a Fill Flash

Using a soft fill flash will even out the light in the room without over-exposing your subjects, but it is still good practice to think about your light sources. If possible, let in some natural light from outside as long as it isn't too hard or shining in your subjects' eyes. Also, avoid shadows being cast over your subjects' faces. Be prepared to move or change your light sources quickly to compensate for these concerns.

5. Use a Tripod

Using a tripod will enable you achieve consistency between shots as well as make finer adjustments to contents, focus and depth of field. It will also let you set up your shot so the camera is level with your subject's eyes.

6. Get Insurance Shots

If you are using a film camera, be sure to take plenty of additional shots so you can be sure you'll have one that works. Even if you're shooting digital and can check your results right away, once you see them in the larger, onscreen format you'll quickly find that some are more to your liking than others.

7. Go for Professional Polish

For a really polished look try using a wide aperture to put the background slightly out of focus, thus drawing even more attention to people's faces. Also, try using a diffusion filter. A diffusion filter will soften the light and lines of your photo and add a romantic glow. You can mimic this effect by applying a slight blur using the Blur function in ACD FotoCanvas.

Tip 55 The Art of Sunstars

Shooting directly into the sun is usually a photographic "no no" But with a little consideration and a few simple techniques you can turn the direct, harsh light into a "sunstar" with light rays shooting out in all directions from the sun's orb. This can result in spectacular, artistic photos ready for a frame.

Sunstars occur when the sun is partially hidden behind an object in the photograph and the rays shoot out in all directions in a star shape. It's something the human eye doesn't normally see, but it can be captured on film. Basically, you just have to line the sun up properly behind a tree, building, the horizon or a person and shoot it as it emerges. Most of the sun should be covered to start, with just a bit of it shining through.

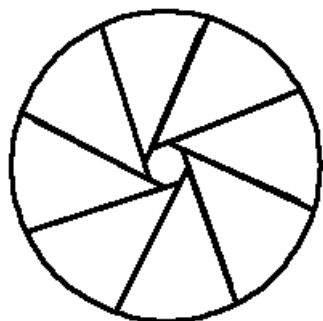
Using a narrow aperture such as f/22 will create longer and more spectacular rays. Keep in mind that if your camera is pointed towards the sun, much of what's facing your camera will be in a shadow if there are few reflective surfaces. Therefore, for portraits and pictures of things close to you, using a burst of flash to lighten the scene.

Another thing to consider is how quickly the sun actually moves through the sky. One great way to get these shots is to set your camera up on a tripod while the sun is totally hidden behind something. Then, wait for the sun to move and begin taking pictures as it emerges.

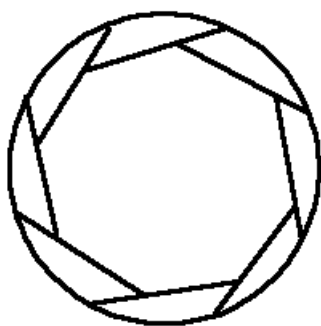
Be careful when you are lining this up that you don't look directly into the uncovered sun. Your camera's lens can intensify the light and hurt your eyes quickly. The obvious way to avoid this if you are shooting digital is to use your LCD view screen to compose the shot.



Above are two good examples of this technique contributed by fellow readers Juanita Melton of Cocoa, FL, USA and Ruth Odermatt of Zürich, Switzerland.



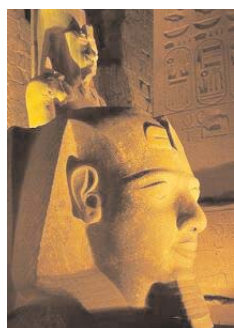
Narrow Aperture (f/16)



Wide Aperture (f/1.8)



Examples of using wide and narrow aperture respectively to get specific and deep focus.



Tip 56 Aperture: Light and Focus

Do you want to have greater control over your pictures? Learning to adjust the aperture will give you freedom to perfect the light and focus of your photographs.

Think about the aperture of your camera as being the same as the iris in your eye. If it is bright out, it contracts, giving you a smaller hole and letting less light in, but if it is dark, it opens up wide to collect as much light as it can. Just as the iris in your eye regulates the amount of light getting to the retina, the aperture in your lens regulates the light getting to the film or CCD.

The aperture of your camera is actually a series of thin plates that look like an iris:

Automatic-exposure cameras, like your eye, will automatically choose the aperture based on how bright it is when you are taking the picture. Manual-exposure cameras will allow you more control over the aperture to fine-tune the exposure and focus.

Have you heard of F-stops, but are uncertain of what they are? F-stops refer to the setting of the aperture. A common progression of F-stops is: 1.8, 2.8, 3.5, 5.6, 8, 11, 16 and 22. You will normally see these numbers on the barrel of the lens. The funny thing about F-stops is that the higher the number, the smaller the opening. For example, an aperture set to 16 would have a tiny opening, letting little light into the camera, but an aperture set to 1.8 would be wide open, letting the most light possible reach the film or CCD.

You can adjust this on SLR cameras by rotating the ring on the barrel of the lens where you see the F-stop numbers. On other cameras that allow you to set the aperture, you can adjust it using the LCD screen and menus on the back or top of the camera. Like the shutter speed settings, each increase in aperture will let twice as much light reach the film. A 1.8 aperture lets twice as much light through as a 2.8.

One of the most useful things about aperture is that it will let you choose how much of a shot is in focus. Using a narrow aperture such as f/22, you will increase the Depth of Field so that items both far away and close to you will be in focus. This is great for landscapes, and will let you add interest to your shots by including foreground objects. Using a wide aperture such as f/1.8 will let you isolate your subject against a fuzzy background by focusing on only a very small range of distances. This is great for portraits or subjects with a busy background when you want to direct attention to the subject.

Learning the ins and outs of your aperture settings will take some work and practice, but it's well worth your time to master it. Knowing how to use aperture to achieve the shots you want is key to becoming a talented photographer.

Tip 57

Long Exposures — The Art of Blur

This great shot, an example of long-exposure photography, uses a slow shutter speed in order to purposely blur motion. This is a simple technique that can fill city streets with streaks of light, fill the sky with skinny circles or make tumbling waterfalls look silky smooth.

Many new cameras will come with built-in shutter speeds of up to 30 seconds or longer, which is enough for most long-exposure photography. Other cameras will have a B (bulb) setting that will keep the shutter open as long as you keep your finger on the shutter release button or a T (time) exposure setting that will keep the shutter open until you press the shutter release button a second time. Cameras with bulb settings can also be fitted with a locking cable release so that it isn't necessary to keep your finger on the shutter for long exposures.

A tripod, or something to rest your camera on, is essential because the camera must be completely still during the time that the shutter is open. In the photo shown above, the photographer rested the camera on a table, which allowed the shutter speed of eight seconds to blur the barista and the doorway while keeping the rest of the photo sharp.

If you want to make a fast-moving car blur as it speeds by you, a relatively fast shutter speed of 1/20 of a second may give you the results you are after, however, if you want to make stars in the nighttime sky look like glowing rings as the earth rotates, your exposure may last all night.

The light meter on your camera may not be able to accurately judge the best aperture setting for longer shutter speeds, especially in low-light situations, so your best bet is probably to "bracket." This means taking up to six pictures of the same subject, but doubling the shutter speed each time. This will give you a variety of effects and exposures and allow you to choose the best shot. In general, slow shutter speeds will allow a lot of light into the camera, which means that you will want to use a small aperture (i.e. f/22) to avoid over-exposing the film. In bright daylight it may even be necessary to use a 50 ISO film or a neutral density filter to cut the light down. On the other hand, the low light of the above photo allowed the photographer to use a wide aperture of f/2.



Some great effects and shutter speeds to try are:

Moving stars: several hours

Moving cars at night: 10 seconds

Waterfalls: 4 seconds +

Amusement park rides: 1 second

Tip 58

Low Light Experiments

Want to capture the drama of a darkening cityscape? How about a twilight portrait of a partner or family member that captures the details of their face as well as the darkening surroundings? If your camera allows you to take long exposures, try experimenting with these low-light techniques.



For low-light situations in which you want to capture a lot of detail by using a long exposure, it is best to use a tripod. If you don't have tripod, rest your camera on the ground or on a wall and use a piece of clothing underneath it to prop the lens up to the right angle for your shot. This will allow you to get a proper photo without the risk of camera shake.

If you are shooting the stars or a cityscape, try the Backlight setting on your camera to expose the shot for longer than your automatic settings. You can also try using your EV (Exposure Value) Compensation settings to capture more detail in low-light situations. EV Compensation is set on a plus or minus two scale. Go straight to -2 for genuine low-light situations. How much detail you want to capture will vary from one low-light situation to the next, but if these techniques don't provide the results you want, try moving to your manual shutter speed settings.

For a twilight portrait, experiment with using flash to capture your subject in the foreground and letting a long exposure fill in the details in the background. Remember, you're not trying to light up the whole scene using your flash, just your nearby subject, so don't assume you have to use a night flash setting; try various settings, but remember to use red-eye reduction as your subject's pupils will be wide open due to the low light.

Another thing to remember with this kind of portrait is that your subject will need to sit still. Using a long exposure with live subjects can lead to camera shake, where the subject is blurred because they moved during the exposure. Just remind them that it won't be as bad as sitting for graduation photos, and certainly not as bad as the old days of photography where entire groups of people had to hold still for half a minute at a time.

Tip 59

Intrepid Hiking Photos

Want to capture outstanding photos that make you look like an intrepid nature adventurer? You can by simply taking your camera on your next hike, allowing some extra time to capture the scenery and thinking about shooting from spots that look, well, dangerous and thus adventurous.

This doesn't mean you actually have to risk life and limb. Rather, look for dramatic scenarios that you can make look difficult by manipulating your use of foreground, background, perspective and framing. One great example and a favorite among adventurous nature photographers is the passage between craggy rock walls. By framing your photo with the rocky walls on either side and de-emphasizing the foreground (where you're standing squarely on both feet) you can quickly achieve awe-inspiring results.

Shooting out and over steep drop-offs and fast descending slopes can be another way to get powerful results quickly. To enhance the effect of a downward-angle hiking photo, put the horizon near the top of the photo or leave it out altogether. Also, avoid close-in framing to give a greater sense of the expanses spreading out below you. And, of course, try to make it look like you're hanging off a terrible precipice if you can.

Taking your camera into the woods or high-country during fall can bring dazzling results even if your goal isn't to look like an intrepid adventurer. For the best experience, here are some other things to think about.

Don't carry too much photographic gear with you when you're hiking as it may be cumbersome and prevent you from getting into the places you want to go. Think about investing in a high-quality compact camera for particularly daring or weight-conscious trips. Otherwise, bringing along a camera with adjustable shutter speed and aperture will be worth the extra weight because it will give you additional options.

A small folding tripod is lightweight and opens up all kinds of new possibilities. It can be particularly crucial during low-light sunset photographs. If it won't put it at risk, keep your camera around your neck. You can get padded and water-resistant bags made just for this purpose. This will help you move quickly from one shot to the next over potentially rough terrain.



This adventure hiking photo was taken by Digital Imaging News reader Sait Ayaslioglu of Almaty, Republic of Kazakhstan.

Also, keeping your camera around your neck will give you the opportunity to quickly get action pictures with your hiking partners walking through the shot. This can provide a sense of scale and added interest. If you are hiking with photography as one of your main goals, you will probably want to spend less of your day on the trail and more of it exploring with the camera.

If it is an overnight trip, try to plan your campsite in a particularly scenic spot so that you will have easy access to great scenery for sunset and sunrise shots. If you can take just a bit more time with each photo, try to note your camera settings so that you can learn from your successes later, this will save time and increase your satisfaction in the future. Happy hiking.

This adventure hiking photo was taken by Digital Imaging News reader Sait Ayaslioglu of Almaty, Republic of Kazakhstan.



Tip 60 Cool Action

Capturing people in action can be one of the most fun and rewarding ways to exercise your photographic skills. As with any type of photography, there are lots of things to consider to get the results you want. With action shots, some of these would be deciding whether you want to get a clean, focused shot, or allow for some blurring to emphasize the motion in the picture. Another would be to consider the distance to your subject along with their speed and decide on an appropriate shutter speed. Thinking about what would be a defining moment for the type of action and trying to capture it would be another. All of these are important and getting them right can make all the difference, but they won't necessarily make your action shot stand out from the crowd as unique and cool.

One good way to add spice to your action shots is to change your position and perspective to greater emphasize the thrill of the moment. First, try to get as close to the action as you reasonably can. If you are out with friends engaged in casual recreation, this may mean getting right into the field of play while the game is on, or asking them to go through the motions of a particular play several times while you take snaps. If you're attending an organized practice or game, move away from the regular, center-field viewing area to where the action is more intense. In most sports this will be the corners and the goal area.

Another great way to liven up the action is to change your perspective on it. The quickest and easiest way to do this is to go for up-angle shots. Dropping to one knee or lying down and pointing the camera up to capture a big jump shot or kick can add a feeling of being right in the action. Down-angle shots can be even more impressive, but will usually require more effort. You may need to climb up on something or even

bring your own stool or ladder to make this work. If it's an organized practice or game, be sure to ask someone before doing this to avoid getting funny looks and causing a fuss. But don't be shy, photography is one of the most popular hobbies going and you'll probably be pleasantly surprised at how accommodating people can be to enthusiastic photographers.

Left is a great example of getting a down-angle shot that creates the feeling of being right there in the action. This photographer took the time to get right in close and also took advantage of the relative ease of getting a down-angle shot of a swimmer.

Tip 61

Seasonal Reflections

Capturing the spirit of the moment and preserving it for later reflection is what we all intend and take for granted when shooting photos of friends and family. This can also be the result of landscape and nature photography and works especially well when applied to themes of the seasons.

Setting out to capture the spirit of a season can lead to stunning and moving results that stir deeply-rooted feelings and may leave impressions with your audience that last much longer than those elicited by the average family snap.

When setting out to do this, first pick a theme such as "Fall Reflections," "The Harvest," or "Winter's Solitude" then simply keep that theme in mind when looking for shots. Notice the combination of a season with something memorable about it, rather than simply "Fall," this will help to focus your efforts and improve your results by reducing the possibilities. When going over your results later, decide which photos truly meet your intentions for each theme.

While you'll want to pick a specific theme and stay focused, try to keep from thinking in too linear a fashion. Allow yourself to create double meanings and stretches of the imagination. For example, "Fall Reflections" as a theme allows for all sorts of photos that include actual reflections or simply motifs that lead us to reflect on our feelings and remembrances of fall.

Here are some great examples of the kinds of results your fellow readers achieved when shooting for "Fall Reflections." Any one of these images would be perfect for inclusion in a family photo album next to pictures from a thanksgiving dinner. They'd also look great in seasonal arts and crafts, as the background for a Thanksgiving e-mail, or as a part of a Thanksgiving screen saver or slide show. Happy snapping!





Tip 62

Bug Portraits

While creepy, crawly critters may make a lot of us feel, well, creeped out, getting a close up view of our diminutive fellow inhabitants can make for some colorful, funny and even beautiful results. Here are some things to think about and try when heading out to get some bug portraits.

1. Get Close and Go Macro

This may require some stealthy maneuvers and awkward positions, so wear comfortable clothes you don't mind getting dirty. Because most bugs are so small — at least the ones you'd want to try this on, which wouldn't include the giant poisonous centipede of Australia, for example — you'll need to get within a few centimeters and have your macro mode turned on: this is the mode indicated by a flower symbol.

2. Think Portraits

That is, remind yourself that you're out to get a portrait and think of the kinds of elements you'd want for a regular portrait of a person. Not all of the same elements will apply, but some examples include getting the background right with nice colors and no clutter and making the face and the eyes the focus. This will give your photo a more personal feel.

3. Focus and Freeze

For best results you'll want to bring the foreground into sharp focus by using your lowest aperture setting. You'll also want to freeze the action by using a flash. Even though there may not be much action, those little critters can move quick and aren't exactly holding their breath for you while you set things up.

4. Go Botanical

You'll have a lot easier time finding subjects and good backgrounds at public gardens, or even better, commercial gardens set up for tourists.

5. Experiment with Settings

Macro mode shots can play tricks on your camera's light metering and focusing functions so be sure to try a few different manual settings for each portrait, not just your automatic ones.

Tip 63

Sports Photos – The Defining Moment

Want to take better sports photos? If so, learn enough about the sports you're shooting to know what its "defining moments" are. Let's look at a few examples of "defining moments":

Football

The ball leaving the quarterback's hand when throwing; the receiver as he is about to catch the ball

Tennis

The server as the ball is at its apex prior to serving; a backhand shot either immediately before or after the ball is hit

Basketball

The ball leaving the shooter's fingertips during a jump shot

Baseball

The ball as it leaves the pitcher's fingertips – preferably shot straight on

Track

The runner exploding out of the blocks or reaching for the finish line

This is a very incomplete list and just about any sport has numerous moments that make for excellent photos, but these are the kinds of moments you want to concentrate on.

Here are a few tips becoming proficient at capturing photos of these moments:

- Learn about the sport. Only by being familiar with a sport can you anticipate what is about to occur and be ready to capture the shot as it happens.
- Get in the right spot to take the shot. No matter how great your timing, your shots aren't going to look good if you're shooting from the wrong perspective.
- Work on your timing. What type of camera you have will play a great part here. Even if you have a consumer-level camera with significant "shutter lag" you can still take great sports shots if you get your timing down. By learning, for instance, that you have to depress the shutter as a basketball player leaves the ground for a jump shot (instead of the point where they release the ball) in order to get a shot of the ball leaving their hands, you'll learn to adapt to the shutter lag of your camera. Moreover, a digital camera makes this fast and affordable as you can instantly review your results and you don't have to print them.
- Consider buying appropriate equipment. If sports photography is a passion for you, you'll likely want a camera with a good, fast zoom lens and minimal shutter lag. Don't simply compare spec sheets in these regards – make a point of trying out any and all of the equipment you're considering before buying.

Learning to take great sports shots takes a while, but if you take the time to experiment and learn, you'll find the effort well worth it.



Tip 64

Architecture I: Perspective and Color

One of the highlights of any vacation is the unique architecture of foreign lands. However, there are opportunities for architecture photography nearly everywhere. Since your subjects don't move, photographing buildings allows you to have ultimate control. They won't mind holding their pose while you wait for the perfect lighting, weather and time of day.

Here are some key things to think about and try when taking architectural photos:

1. Allow for Perspective Distortion

Be on the lookout when shooting buildings for an effect known as "perspective distortion." This is when buildings seem to get smaller as they get further away from us or higher in the sky. For example, the top floor of the apartment building you are photographing will appear very skinny compared to the ground floor.

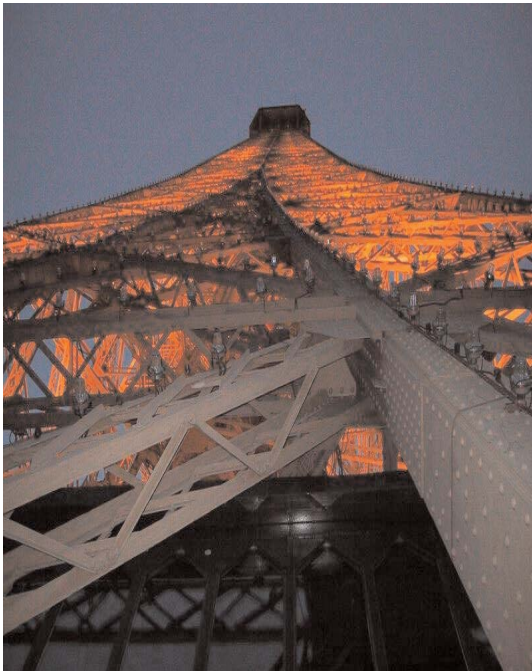
Although perspective distortion can be used effectively to cause the building to look larger and more menacing, you will often want a realistic view of a building. To keep the sides of the building straight, stand further away to take the picture, and hold the camera level.

2. Shoot at Dusk

Many of the best architecture shots are made at dusk. The long shadows, soft light and illumination of lights within the building can create dramatic results. You may need a tripod to hold the camera steady so you can use a slow shutter speed to capture enough light for photographs at this time of day.

3. Try Black and White

Usually, it is the overall shape, design and details of a building that make it interesting, rather than the colors. For this reason, using black and white won't necessarily take anything away from your photo. On the contrary, it can enhance the dramatic effect and appearance and focus the viewer's attention on the architectural details. This is partially because buildings are often bland in color and using a color photo can distract attention from the subject because everything else will likely be more eye-catching. But also, it is because using black and white can enhance the effect of light and shadow by making it more apparent.



Tip 65

Architecture II: Night Shots

The majority of us take most of our architectural photos while on trips and vacations because we are inspired by impressive and unfamiliar building designs or want to record our own personal glimpse of a famous structure. But all too often, after snapping away all day, we leave the camera behind in the evening and miss out on what can be the most impressive architectural photos of all: night photos.

Here are some things to remember to get the kind of stunning results seen below:

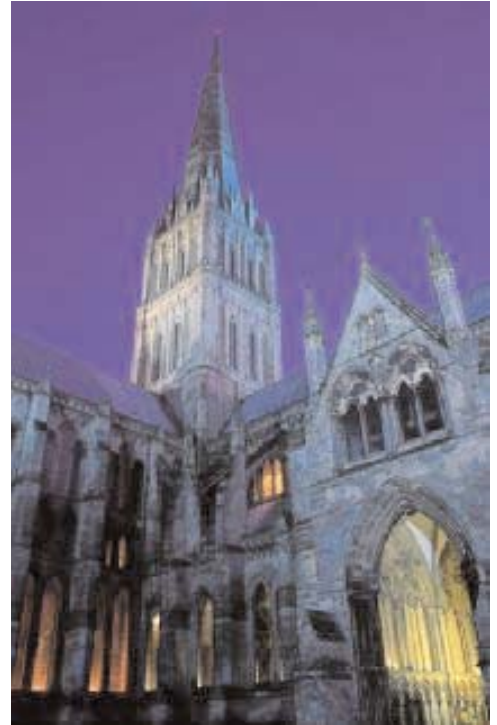
1. Pick a few likely candidates and angles during the day, or better yet the evening before you intend to shoot, and aim to take your photos during dusk from pre-decided locations. The best “night shots” of buildings are actually usually taken at dusk when colors are richer and details are easier to catch. Since your window of opportunity will therefore be small, it’s best to decide ahead of time where are how you’d like to take your photos.

2. Use longer exposures, a wide aperture and avoid your flash. If you’re going for a very specific special effect on a smaller segment of a building a flash might be OK, but in general using a longer exposure and wide aperture will give the most natural results. Your flash will also not be powerful enough to illuminate an entire building.

3. Use a tripod and shutter-release cable if you have one. Using longer exposures increases your risk of camera shake and for extra-long exposures you simply need a tripod. For even greater insurance against camera shake a shutter-release cable is best. If you’re shooting with film and intend to hold your camera, remember to use a faster ASA such as 400 or higher.

4. Experiment with different settings and keep a record of them to help you judge what will be appropriate for a given situation in the future.

There are no hard and fast rules for getting proper exposures at night. Light meters on cameras often meter improperly for long nighttime photographs, so many photographers consult an exposure chart to guess at what the appropriate exposure may be. Best of luck.





This photo by Jason Knauff of Arlington, MA, USA is a great example of capturing silhouettes.



Here is another great example by ACD Staffer Robert Cooper.

Tip 66 Silhouettes

Create great, moody silhouette shots by learning a few simple techniques. The first rule of silhouettes is to have your subject between the sun and the camera, so that the subject will be backlit. This way they will be shadowed, making it easier to get the silhouette effect. If the sun is still fairly high in the sky, you will want to move around until it is hidden behind your subject. If it is starting to dip behind the horizon, direct light is less of a concern.

To make your subject appear as a black silhouette, you will have to under-expose them a bit. The easiest way to do this is to make your camera think that it is bright out. So, point your camera at the sky, which will be brighter than your subject. The camera will choose a smaller aperture in order to limit the amount of light coming into the camera from the sky. Then, lock the exposure on your camera and re-compose the shot to include your subject. Since less light is being captured, there will be less detail in your subject. The under-exposure will pull the detail from them and make them appear as a dark black silhouette. (See this week's "My Camera" section for more information on locking the exposure.)

If your camera can't lock the exposure, you can often still under-expose the picture with other controls. Setting your shutter speed faster, your aperture narrower, your EV to -1 or -2, or your film speed faster will all under-expose your picture as well.

Tip 67 Pet Portrait Tricks

Q: I enjoyed your previous photo tip on pet portraits (August 2002). What additional tricks can I use to get some memorable photos of my pet?

A: Pets can make great subjects, but because we are so attached to them it can be hard to take a step back and think about the details of photo composition that can make for a truly memorable portrait. Here are some additional things to think about beyond the points discussed in our previous Tip (August 2002).

1. Frame Your Subject

Zoom in or get close enough so that you're filling your frame with your subject's head and shoulders and not the background.

2. Reduce Distracting Backgrounds

Beyond framing, you can reduce distracting backgrounds by moving around your subject to get a better background or by using a large

aperture to reduce your depth of field. Doing this will blur the background so it's less likely to draw the eye away from your feline, canine or perhaps more exotic companion. If you can't specifically control aperture, switching to portrait mode will reduce the depth of field.

3. Consider Lighting

Don't underestimate the importance of a pleasant light source. For outdoor shots, try using your flash to fill in the shadows that may be falling on your subject's face. Indoors, experiment to develop some flash/lighting configurations that work well with your available equipment and try for as much natural light as possible.

4. Anticipate

Combine your knowledge of your pet with your photography skills to anticipate key moments in your pet's movements and expressions so you can capture them. Pre-focusing before shooting can help here by ensuring there's no "lag" between depressing the shutter release and your picture being taken.

5. Use Your Zoom

As your pet goes about its activities and you anticipate potentially good expressions, use your zoom when necessary to frame your portraits. This will allow you to keep from unduly distracting your pet by staying a little further away, thus making it more likely for you to get the photo you want.

Tip 68 Fill Flash and Range

Every time you raise your camera to take a photo you should think about whether you are going to use a flash and whether your subject is close enough for it to make a difference. Most of us remember to use a flash for nighttime and low-light situations, but ugly dark shadows can appear in your subjects eye sockets or below the brim of a hat in the middle of a bright day.

Using a "fill flash" will lighten shadows and bring detail back to obscured faces. With manual cameras, simply tell the flash to fire as you normally would. With some automatic-flash cameras, it may be necessary to select the fill-flash option, often represented by a lightening bolt and a sun.

With other cameras you may need to shade the lens with your hand before pressing the shutter release button to trick your camera into thinking that it is dark enough to use a flash. Fill flash can be particularly helpful in back-lit conditions where a light source, such as the sun, is behind the subject of the photograph. Without a fill flash, the subject can be entirely shaded.

Below are two excellent examples of pet portraits. The first one is a contribution by reader James Lowell of Jacksonville, FL, USA where he captures a candid and funny pet moment. The second, shows a thoughtful use of depth of field to focus attention on the cat's face.





The photos above exemplify the tips mentioned above (if we assume the photographers remembered to protect their equipment). Notice especially the different focusing methods and the good evening and morning lighting.

Tip 69

Water Photography I – At the Beach

Photos with people in and around the ocean or lakes are often very impressive. The kinds of stunning beach photos we see in magazines and brochures are possible to get with a little preparation and forethought. Here are a few things to think about when you want to pack your camera to the beach for a day of shooting.

1. Protect Your Equipment

Water and sand can be hazardous to the health of your camera, so prepare yourself and your equipment to deal with this inevitability. Keeping equipment not currently in use packed safely away is a start. Another trick is to put your camera in a zip-up sandwich baggy with a hole cut for the lens, and if it is at all windy, move away from the sand when changing lenses, film, memory cards, and so on.

2. Use Your Biggest Lens

If your subjects are actually out on the water, use your biggest lens to get as much of the action in the shot as possible. This way you'll still get the stunning effect of the water without losing your subject in it. For digital shooters this means selecting the highest zoom setting and considering an add-on telephoto lens that goes over your regular lens.

3. Shoot in the Morning and Evening

Shooting at these times of day, when the light is softer, means having to compensate less for glare. Also, natural colors tend to become richer in this softer light, which adds a nice touch to any photo.

4. Compensate for Glare

Whether you intend to capture photos of people on the water or simply eat it, be sure to compensate for the glare off the water by either spot metering off your subjects or using a positive EV compensation.

5. Focus, Focus, Focus

The effectiveness of any photo has a lot to do with focusing; here are just a couple of the many things to think about when shooting around water. First, if you are capturing people actually on the water, try to put the whole shot including the water in focus. This will enhance the context of the shot by bringing out the details of the subject's powerful surroundings. Second, if you are shooting people on the beach, think about bringing them into focus while blurring the background. This way, you'll still get the powerful impression of the backdrop without taking away from the importance of your subject's on the beach.

Tip 70

Water Photography II – Reflections

Taking photos of reflections on water has always been a favorite among photographers and high quality examples abound in photography-related books and magazines. Here are some things to consider when attempting to take a water-reflection photo that will stand out from the crowd.

1. Clouds

Look for overcast days, preferably with patchy or low-lying clouds. There are a couple of reasons for this. First, capturing reflections is much easier and produces more attractive results in soft-light situations. Second, clouds will add more interest to the reflection by filling in what is otherwise a blank area of sky in both the top and bottom of the shot. Low-lying clouds or patchy clouds add a further element of mystery by shrouding parts of the scene and leaving it up to the imagination as to what is really there.

2. Glare

Remarkable water-reflection photos include little if any glare. On cloudy days, glare will already be minimized, to further minimize it, think about shooting in the morning and evening when the sunlight is at a lower angle and is less likely to cause glare. Also, if the sun isn't completely blocked by clouds, be sure to shoot from the right location so it is beside or behind you and not beaming into your camera.

3. Mise en Scène

One of the most compelling aspects of water-reflection shots is often their lonely, romantic feeling and their ability to convey the majesty of nature. To capture such feelings yourself, think about arranging and composing the physical elements of your shot with the same care as a professional stage director. Include nothing that takes away from such feelings and put elements in that enhance them if possible.

For example, if you were setting up a reflection shot of a lonely pier on a dark, cloudy day, you could include an empty rowboat off to one side in the foreground for dramatic effect. Also, if you are going to include people, the fewer the better for a romantic feeling and it is best not to have them looking at the camera or situated too close to it. Rather, have them appear to be doing something that requires their attention and try putting them further back and into the scene, rather than in front of it.

4. Still Waters

While it is possible to get some interesting reflective effects from mildly active waters or waters that have been slightly disturbed, the best reflective shots still come from completely still water. This usually means shooting first thing in the morning before the winds come up.



Above is an excellent example of all the above points. Good luck!



Tip 71

Water Photography III – Morning Steam

Mornings can be the best time for photos for a lot of reasons including softer light and calm winds, but another great reason is the steamy effect quick temperature increases can have on shallow bodies of water such as man-made ponds and swamps. The sight of steam rising off waters can be both inspiring for its beauty and calming through the things it brings to mind consciously or subconsciously. Things like the approaching warmth and freshness of a brand-new day or a sense of cleanliness and invigoration.

Think about where you've seen or might find a pond, swamp or marsh in your area and then keep these three things in mind for successful morning steam photos:

1. Type of Light

Just like with other kinds of water photography, soft light is better for capturing morning steam, and while the light will automatically be softer in the morning, you'll still need to watch out for too much glare on the water. If it's not a cloudy day, remember to use your EV settings or manual controls to compensate for bright reflections.

2. Direction of Light

Unless you're intentionally capturing the sun or looking to get a specific landmark in the shot, the rule is usually to keep the sun beside or behind you to get the best exposure. However, when walking around the pond I chose as my subject for this project, I found that the steam caught the most light and was therefore most visible when I was facing or almost facing the sun. Taking this into account, I positioned myself so that direct rays were blocked from my camera by one of the shade trees near the pond.

3. Wildlife

Simply capturing the image of a steamy pond or marsh by composing a well-framed photo from the right angle will be rewarding; but the final touch can be put on by including some local wildlife in the foreground or middle-ground if possible. In the example provided here, you can see that the ducks simply didn't want to cooperate and the window of opportunity for taking such shots can be small, so I made do without them. They would, however, certainly have added some more interest to the shot.

Tip 72

Cool Macro

Looking at things up close can often bring a new and exciting perspective to the world. You can catch that perspective and share it with friends and family easily using the macro mode on your camera (usually marked by a little flower symbol). Here are a couple of neat ideas for taking cool macro photos:



1. Capture the Dragon

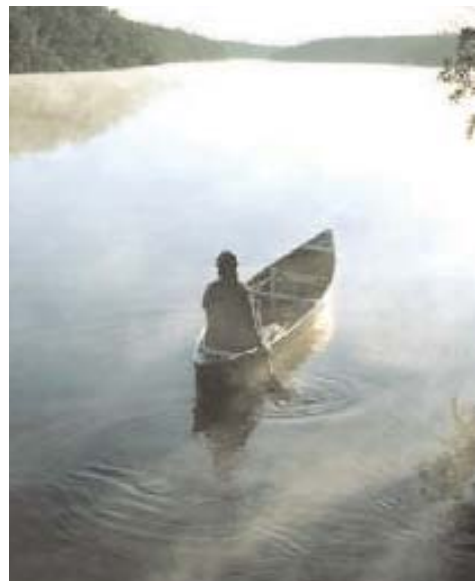
Dragonflies are some of the most beautiful and impressive insects in the world, even close up, which can't be said for a lot of insects. Furthermore, they tend to land on a regular basis and don't seem to take too much notice of humans. These things combined make them great subjects for macro photos. While getting a macro photo of one may not be a cinch, thinking of it as your personal dragon quest will add some fun.

2. Catch Your Reflection

The world is full of convex surfaces that capture our reflections and reveal us as funny little stretched-out creatures. Try holding your camera close to one of these objects and in line with your shoulder, so your face appears in the photo. The human eye can make for a great reflective surface that will add another layer of artistry and self-reflexiveness to your image as people use their eyes to look at an eye that is reflecting you the artist. Pretty cool!

3. Swim with the Fishes, Fly with the Birds

For a really far out macro effect, try setting up your camera in close proximity to a hummingbird feeder and using your remote control cable at the right moment. Or, press your camera up to the edge of your fish tank and wait for Freddy the Fish to come have a look. You might just end up with some really impressive results. Happy snapping!



Tip 73 Lock and Shoot

A commonly experienced problem with point-and-shoot photos taken in high- and low-light situations is a washed-out look that lacks color depth and detail. This comes from your camera automatically overcompensating for light and not capturing enough detail in darker areas either because of overwhelming natural light or too much light from your flash. An easy way to avoid this is with the simple lock-and-shoot technique.

“Lock and shoot” refers to picking a point in the scene, usually your subject, or a darker area away from your subject but at the same distance, and locking the focus on them then recomposing the shot using the rule of thirds. (Locking the focus is done by depressing the shutter-release button down halfway and using the rule of thirds is the standard method for producing well composed shots.) By locking the focus in this way, you are also locking the exposure levels for the area immediately surrounding the focal point as opposed to the average levels in the entire photo. When you recompose the shot after locking the focus, the exposure levels will give it a more natural feeling and texture through proper color depth.

In the examples below you can see how one shot is overexposed because the lock-and-shoot technique wasn't used. To make for a good composition, the rule of thirds was employed and the canoeist sits nicely at the transition point between the bottom and middle third, but the lack of focus locking has led to the typically washed-out look of many point-and-shoot photographs. In the properly exposed photo, the lock-and-shoot method was used by focusing on a darker area away from the subject but at the same distance and then recomposing the shot by using the rule of thirds and returning the subject to the transition point between the bottom and middle thirds.

If you remember to think of your camera as a lock-and-shoot camera instead of a point-and-shoot camera, you be well on your way to producing far fewer washed-out photos. Good luck!

Tip 74 Festive Photos II – Preparing for Group Shots

Do you have relatives that dread having their picture taken on special occasions like Thanksgiving, Christmas or New Year's? Ever regretted not getting a better group shot at an important event? Make memorable,

high-quality festive photos quicker with less frustration by taking 5 minutes or less to prepare in advance. You'll be amazed at how much knowing what you want and being ready to get it will ease the task of taking group shots and improve your chances at total success.

Here are the most important things to figure out in advance so your festive group shots will be quick, painless and ready for a silver frame:

1. Location

Find the most appealing spot for a group shot. Ensure that everyone will be able to squeeze in, consider what furniture will have to be rearranged and what clutter may have to be removed. Do you really want that ceiling lamp to look like it's coming out someone's head? Set up the shot beforehand so you'll know where to place the tripod before you call everyone into the room.

2. Timing

Picking the right moment to take a photo can make all the difference. If you have to go hunting around for everyone and drag them into a room and make them stand there until you find everyone else...well, they may have a hard time smiling for your photo. The best time for a special occasion photo is often just before the meal is served. Everyone is hanging around waiting already and will likely still look their best – think kids without stained shirts. A good trick to get people moving the direction you want is to announce that dinner is served and then, as they appear, explain that you just need them to pose for a quick group photo before sitting down.

3. Light

If it is still daylight, let in as much as you can for improved exposure coloration, but remember to keep it beside or behind you. If it is night, shut the curtains on any windows to reduce reflective surfaces and use an appropriate flash mode setting to compensate for the negative effects of artificial light. Most cameras will let you choose an indoor mode for the kind of light that is illuminating the scene, for example, tungsten or florescent.

4. Reasons, Bribes and Coaching

Think about why you want a high-quality group photo and be prepared to share these reasons with everyone. "We get together so seldom and I want to make sure we all have a chance to remember this special occasion..." etc. Bribing everyone by expressing a willingness to share your great group portrait by sending everyone a print or at least a copy by e-mail can help a lot. Think about how many group photos you've posed for that you've never seen – dozens probably. The chance to actually see the results can be a great motivator.

Finally, even with all your advance preparation, it will still take a couple minutes to line everyone up and multiple pictures for insurance. Let everyone know this and you'll maintain group cohesion by keep people from thinking they can run off after the first bulb flash.

Tip 75

Landscapes in Perspective

Landscapes can often be breathtaking and bring real pleasure, whether you're on vacation and stopping at a special vista off the highway or just walking through a park in your home town. But too often when we try to capture these views on our cameras the results are less than awe-inspiring. Placing an object into the foreground is often all that's needed to bring the shot together and recapture that great feeling.

To do this, look for a point of view that allows you to capture your landscape as the background for a flower, large rock, tree, lamppost or other appropriate object. Usually, you wouldn't use a person or object that draws too much attention as this will take away from the landscape feeling.

Then: frame your shot, so you won't have to crop it later; make sure you get the horizon above the centerline to enhance the landscape; and, choose how you'll focus – focusing on the landscape itself and putting the object in the foreground out of focus can be a nice touch.

Here are some examples of landscape shots. The first image on the left is a poorly composed shot without an object in the foreground and with the sky below the centerline. The other two photos follow this tip with admirable results. Good luck!

