The following pages contain a sample section from the book.
Introduction
Although every camera operates a little differently, here are some operational tips that work on almost all digital cameras. We’ve broken this chapter into three sections. The first part deals with the basic operating procedures for your camera. Creative Controls refers to adjusting the settings, such as shutter speed and shooting modes. The third section applies to taking pictures under special circumstances, such as low light or macro photography. For instructions on how to do these techniques on your specific camera, refer to the manual that came with your camera. For general photography hints, refer to Chapter 7.

Basic Operation
If All Else Fails… Read the Manual
If all else fails – read the manual. Seriously, before you start using your camera, look over the instruction manual. You’ll probably find this more efficient than trying to figure out what all those tiny buttons do. Keep the manual handy to refer back to it in the field for advanced camera operations. At my school, we photocopy the manual and include a copy of it in the camera kits we check out to students and faculty.

Press, Hold, Then Shoot
One of the most common problems people new to digital photography have is not knowing exactly when their camera actually takes the picture. You usually need to wait a second or so for your camera to “lock on” to the scene. Here’s the correct shooting method for most cameras:

• Hold the shutter button halfway down to lock the auto-focus and exposure. You will probably see a green light or hear a beep indicating the camera is ready to take the picture. It might take a bit of practice to get the feeling of pressing down just halfway without taking the picture.

• Press the shutter button the rest of the way down to take the picture. You’ll probably see a red light or green light flash, indicating the camera is recycling to get ready for the next picture.
Focus was locked on a flower near the center of the frame.

Photo by Arnie Abrams

When Focus Is Fooled
Cameras with auto-focus capabilities tend to focus well most of the time, but are often fooled when the subject matter is not in the middle of the frame, or under low contrast or dark conditions. Few digital cameras allow manual focusing, so here’s how to use selective focus:

1. Point the camera so the item you want to lock on is in the focus area in the center of the viewfinder.
2. Press the shutter-release button down halfway and hold it there to lock in the focus.
3. Without releasing the shutter-release button, recompose the scene and press the shutter-release button the rest of the way to take the picture.

Refer to the section on focus in your camera’s manual for more specific instructions.

When Exposure Is Fooled
Most of the time your camera’s light meter does an excellent job of properly exposing the image, but sometimes it can get fooled (and sometimes you’ll want to fool it). This often happens with scenes at the beach or on snow. Of course, you can adjust exposure later after uploading the image to your computer, but you may want to start with a certain type of exposure. In general, there are two ways to handle tricky exposure settings – take a variety of exposures using different settings or use exposure lock.

Many cameras let you select a setting from -2 to +2 stops in increments of half of a stop. The LCD monitor will display the result of the changes. If you select a + value, the scene will look brighter. If you select a – value it will look darker. Shooting a variety of exposures is called bracketing.

When the scene you are photographing has lots of contrast, the camera’s meter has a tough time deciding what exposure to set. The extreme contrast in this scene is a challenge to the camera’s light meter.

Photo by Arnie Abrams

Inexpensive digital cameras (as well as cell-phone cameras and PDA cameras) have fixed focus. They always focus at a medium distance. Most digital SLR cameras use auto-focus systems to lock the focus on something around the center of the frame. Digital SLRs also offer manual focus, where the photographer can rotate the lens to selectively change the focus. Better digital cameras let you select and use different focusing systems while taking pictures. This is more powerful than using the method outlined above to fool the focus.
Here’s how to lock in the exposure on a certain part of your image:

1. Point the camera so the subject that you want to lock exposure on is in the focus area in the center of the viewfinder.
2. Press the shutter-release button down halfway and hold it there to lock in the exposure.
3. Without releasing the shutter-release button, recompose the scene and press the shutter-release button the rest of the way to take the picture.

Look in your camera’s manual for sections on exposure compensation and exposure lock for more details. By the way, if in doubt, it’s better to underexpose a tricky shot rather than over expose it. A too dark picture can usually be lightened up on the computer. But if a picture is greatly overexposed, it becomes “blown out” and its brightest areas are not captured in the image.

**Note – Auto-Exposure Bracketing**

A few digital cameras offer an exposure control called Auto-Exposure Bracketing. When you turn this feature on, the camera will automatically shoot at the user-selected f-stop, as well as at one f-stop over and one f-stop under. One of the exposures should be a good one.

Don’t Use Digital Zoom

Most digital cameras offer two types of zoom capabilities – optical and digital. Optical actually causes the lens’ elements to move, digital simply magnifies the existing view. You will only want to use optical zoom. Digital zoom causes noticeable distortion and besides, you can always do a digital zoom when you edit the picture on the computer using the magnifying brush. Look for optical zoom power when purchasing a digital camera – 3X or three times zoom is normal, and a few cameras offer up to 10X optical zoom.

**Note – Metering Options**

Cameras measure the light in a scene using several different systems. Better cameras will allow you to change the metering mode for different conditions. Three of the most common systems are center-weighted, matrix, and spot metering. Matrix metering is the most useful. It measures light falling on numerous parts of the frame and averages the exposure. Center-weighted takes its reading from the center of the frame – this is useful for portrait photography. Spot-metering sets the exposure based on a specific point in the frame. This is useful for taking pictures against a dark background.

Keep It Steady

A steady hand equals a steady picture. When shooting in low light or with extreme zoom mode, you need to hold the camera steady. Even better, put it on a tripod. In these situations stand with your legs about shoulder width apart and flex your knees. Keep your elbows in to lock your arms. Holding the camera up to your face and composing the picture with the optical viewfinder is steadier than holding it at arm’s length and composing the image using the LCD screen.

Bring along a tiny tripod can come in really handy for nighttime photography or other low-light situations.
Note – Anti-Shake Technology

A new trend in digital technology is cameras that feature an image stabilization system (often called “anti-shake.” This comes in especially handy with cameras having powerful zooms.

Choose A Resolution

Even though you bought a fancy five megapixel camera, you may not want to always shoot at your camera’s highest resolution. Shooting at high resolution means you will get fewer pictures on your memory card and that the camera will take slightly longer to recycle before you can take another picture. I often like to shoot at 3 megapixel resolution. This allows me to get quality for good prints up to 8” x 10.” If I see a scene that I might think is a real “keeper,” I’ll change my camera’s setting up to maximum resolution. If I’m just shooting for on-screen images, I might move into low resolution to fit more images on my memory card. Some cameras have settings for both size (number of pixels) and quality (“good,” “best”). This also sets the compression rate of the file.

Use the LCD Screen Sparingly

The problem with LCD screens is that they really eat up battery power. With most digicams you’ll use up a charge of batteries in about 15 minutes of LCD time. It’s also often difficult to see the screen when shooting in bright sunlight. If I know I’m going to be out with the camera all day, I’ll limit the use of the LCD screen. Flash photography also zaps batteries. I like the feature of the Nikon cameras that turns on the LCD screen after you take a picture for just a few seconds, so you can decide whether to keep or delete the picture. In any case, most cameras have modes to shoot with the LCD on or off.

Take Some Test Photos

Before you come back with a bunch of out of focus pictures, take a couple of test photos and examine them on the camera’s LCD screen. If there are any problems or the camera is set incorrectly, you can correct this before you need to take the actual photos. For example, you might discover you need to...
put the camera on a tripod for low light situations. Better yet, if you have a laptop handy, look at your test pictures on the computer screen to examine them even closer.

**Review Your Images on the LCD**

One of the biggest advantages of digital photography is the ability to instantly examine your images on the camera's LCD screen. This allows you to check the lighting, focus and composition of your pictures while you’re still at the location to take more photos. You can also instantly delete bad photos. You can lock photos so you (or others) won’t accidentally erase them.

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**Note – Zoom In to Review**

To really see if your pictures are in focus, or to see other details, you should learn how to zoom in on images in playback mode. You usually do this by pressing the zoom button on the camera, while in playback mode. Don’t be afraid to zoom way in to really check focus. You can scroll around in the magnified image by clicking the direction arrows on the camera. On some cameras, you can press the shutter button and record the magnified displayed image as a separate file. This is a great way to edit your pictures right in the field. I often do that while I am traveling back from a trip. Of course, you can always zoom and crop the pictures on the computer, but you might have forgotten about it by then.

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**Creative Controls**

Use Your Camera’s Programmed Exposure Modes

Most digital cameras have the ability to shoot in several special programmed exposure modes. These are often easier (and more effective) than using full manual settings. Common modes include Portrait, Action, Night, and Close-Up. Look up program or modes in your camera’s manual for specific information.

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**Note – Scene Modes**

Many digital cameras allow you to select pre-set Scene Modes. These are combinations of shutter speed, f-stop, flash and focusing distances optimized for special circumstances. Here’s how a few of them work:

- **Party/Indoor:** In low light a slow shutter speed is selected to bring out the background. In very low light, the Slow Synch flash fires.
- **Beach/Snow:** Handles the extreme contrast of dark against light, which normally fools the light meter.
- **Sunset:** Enhances the natural reds of sunsets for richer colors.
- **Museum:** Uses a slow shutter speed and increased light sensitivity in places where flash is not allowed.
- **Close Up:** Puts the camera into macro focus mode and allows manual focus.
- **Back Light:** Very useful! Flash fires to provide fill light for subjects lit from behind, which usually results in a silhouette.
- **Night Scene:** This mode combines an exposure for the background while providing flash for

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**Checklist – Get Ready to Use the Camera**

1. Check to see if the battery is charged (and possibly pack a spare battery).
2. Check to see if the memory card has space on it and is formatted. Are previous images uploaded and ready to be deleted?
3. Check to see if the camera’s date is set.
4. Check resolution setting – set to high for prints.
5. Check if white balance is set to automatic.
6. Know how to change flash settings.
7. Make sure the camera is not set to macro mode, unless needed.
8. Bring the camera manual along, if possible.
9. Bring along shot cards or notes, if needed – see project for sample cards.
10. Put the camera in a case.
11. Put the camera’s strap around your wrist or neck.
12. Bring along a tripod, if needed.
13. Take a test photo or two — check them on LCD screen, zooming in to check focus.
the foreground. This is useful for shooting capturing the ambience in a dark environment, such as a street scene at night or just after sunset at a beach, where you still want to see what’s in the background while providing light for the people in the foreground.

**To Freeze the Action, Use “Sports” Program Mode**
With traditional photography you freeze the action in a fast moving scene by using a fast shutter speed. You can go into full manual mode and set a shutter speed on most digital cameras, but a faster way is to use Sports or Action program mode. This optimizes the settings to help freeze the action. This setting is usually represented on the camera’s controls by the icon of a running man.

**Experiment with Fixed White Balance for More Natural Color**

Daylight white balance gave this shot good color. Photo by Arnie Abrams

Notice how the “soft” background doesn’t distract from the kids in the foreground. Photo by Sonny Asehan

**To Blur the Background, Use “Portrait” Program Mode**
One of the most striking differences between digital photography and film-based photography is that digital cameras tend to record everything in focus in a scene, from the closest objects to the background. Although this can be a good thing, it’s often distracting in portraits. You decrease depth of field by using a larger f-stop (in manual mode) or selecting Portrait program mode. This mode is often represented on the camera’s controls by the icon of a person’s head.

Digital cameras use something called automatic white balance to set the color balance of an image. With traditional photography some film has a warm balance (a slightly reddish color cast) and some film a cool balance (a slightly bluish tint). More advanced
digital cameras allow you to move away from the neutral automatic white balance and use a fixed color balance. This is useful for sunsets and other outdoor photography. You can test this out by shooting the same scene in different white balance settings and then comparing the results.

You Can Increase the ISO for Low Light Situations

With traditional photography you use film with a faster ISO speed rating (such as 800 speed) in low light to increase its sensitivity to light. Digital cameras mimic this by changing their sensitivity to light by allowing you to change the virtual ISO. The trade off is that when you increase the ISO setting the pictures lose some sharpness.

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Raising the ISO and using a tripod captured this tricky scene.

Photo by Arnie Abrams

Lock Your Best Photos

It’s so easy to erase images from your camera’s memory card that you may want to protect your really good shots until you can upload them to a computer (and store them on a CD). Most cameras have a way to lock or protect individual files on your card. This prevents those images from being zapped if you select “Erase All”. The SD and Memory Stick types of memory cards have a “lock” tab that you can slide to prevent any changes to the card.

Shooting in Special Situations

Use Natural Light

Incandescent light bulbs give off an ugly yellow tint; florescent lights an ugly green. Using your camera’s flash gives you a neutral balance, but usually results in harsh, flat lighting. Why not move outdoors and use natural lighting? Opening the curtains in a room will also allow you to take advantage of natural lighting (assuming its daytime). Shooting in the shade may eliminate harsh outdoor shadows.

Use Fill Flash

Now that I’ve bad-mouthed flash photography, let me add that your camera’s flash can be effectively used to fill in the dark areas of an image. High-end digital cameras will have a “fill-flash” setting that allows you to use the flash for supplemental lighting.

This scene of a boy in the Philippines needed a bit of flash to fill in the shadows.

Photo by Arnie Abrams
Prevent Red Eye
Small digital cameras usually have their flashes positioned very close to their lenses. This results in many pictures suffering from red eye. You can easily fix red eye on the computer. Adobe Photoshop Elements has a great red eye brush to fix red eye with one click. Some cameras advertise “in-camera red eye elimination,” but that is debatable. Most cameras have a red eye reduction setting for the flash. In this mode, the camera fires a couple of flashes before it takes the actual picture. Unfortunately, this seems to throw off the people in the photo who never know when the picture is actually being taken. To get around red eye try to shoot portraits outside, preferably in the shade to avoid harsh shadows and shadows under eyes.

For Close-ups, Use the LCD Screen
To see exactly what the camera sees, you need to compose your close-ups via the LCD screen. The optical viewfinder suffers from parallax (see Chapter 7 for more info). You may also need to switch into macro mode. Macro mode is usually represented on your camera controls by the icon of a flower.

Don’t Bother with Special Effects, for Now...
Many cameras let you shoot in black and white, old fashioned, watercolor or other specialized modes. It’s better to shoot the pictures in normal mode and then experiment with special effects when you edit the images on your computer.

Turn the Camera Sideways
Lots of images look better in a vertical format rather than a horizontal orientation. Portraits often look better in vertical aspect and landscapes as horizontal. Get in the habit of turning your camera sideways to create a different composition. In fact, shoot in both orientations and later decide which one to keep.
Experiment – Shoot Lots of Pictures, Then Erase Them

I think the biggest revolution in digital photography is that you are not limited to just capturing a few images. Since you can quickly and easily erase images, you can experiment and shoot lots of pictures. Try different angles, swish the camera around while shooting, and try different exposure settings. Take dozens of portraits of people, pretend you’re a fashion photographer and keep clicking away. You might discover many intriguing images appear almost by accident.

Don’t Bother Capturing Video on Your Still Camera. Don’t Capture Stills on Your Video Camera.

Someday video cameras will capture great still images, but that day isn’t here yet. Video cameras allow little control over exposure and most capture only 640x480 pixel resolution (Sony and Canon do offer models with 1.3 megapixel resolution). On the flip side, digital still cameras can usually only capture a few seconds of small-sized video (often without audio). Video capture will really fill up your memory card.

A group of Kokopelli spirits in the Utah desert.
Photo by Arnie Abrams

This innovative camera has separate lenses for video and stills.
Courtesy of Samsung

For more photography tips, please refer to Chapter 7.