Lifehacker Night School

"The Basics of Photography"

by Adam Dachis

http://lifehacker.com/nightschool

Basics of Photography: Taking Better Photos by Understanding How Your Digital Camera Works

 Adam Dachis — With so many cameras available, figuring out how all the specifications and options translate into your everyday use is complicated. For our first lesson in the Basics of Photography, we're going to learn how cameras work and make sense of what that means in terms of choosing a camera to buy and how it affects your photographs.

The Parts

Your camera is made up of many parts, but there are a few in particular that we want to look at as they are the most important. We'll go into much more detail in a bit, but here's a basic overview of the parts we're going to look at:

> **The body** is the housing for your camera. While it has little effect on the quality of your photos, it does affect things like ease of use and comfort.
>
> **The lens** is the eye of the camera, and it's a very complex instrument. Different lenses can provide many different features, so it's important to know the differences between them. In future lessons, we'll also discuss how lenses work and how that affects your photographs.

The sensor is basically the digital equivalent of film, in the sense that—like film—the sensor is exposed to light that comes through the lens and it records that exposure. The exposure is then processed and saved to flash memory (generally an SD or Compact Flash card). The caliber and size of the sensor are also very important, as these things significantly impact the quality of your photos.

The flash card is where you save your images, and it's a component most people don't think about too much when buying a camera, aside from choosing an amount of storage that suits their needs. Flash cards range in read and write speeds as well, however, and a slow cards can significantly degrade your camera's performance. We'll take a look at what card classes mean and the minimum speed you need for different purposes.

The battery matters in a camera just like any other electronic device. While this is a simple part to understand, we'll dive into it a little more deeply to figure out actual, practical battery life for cameras and when cameras with less-powerful batteries may be a better option.

The Body

Camera body design affects the user in a couple of ways. First, the size of the body can have a major impact on comfort when being held and used. Small hands will have difficulty with large bodies and, conversely, large hands will have difficulty with small bodies. Before purchasing a camera, it's a good idea to hold it and take a few pictures so you know if you'll find it comfortable to use with regularity.

Size often impacts the location of buttons, dials, and other parts of the hardware you'll need to touch and press to operate your camera. The positioning on small point-and-shoot cameras tends to be fairly simple, because there are fewer hardware controls, but the moment you step up to a smaller DSLR (such as Canon's Rebel series) that number increases significantly. On higher-end DSLRs, the extra space tends to ensure your hands will always be able to reach and easily access the most important controls. This is a generalization, however, and you'll want to test them out for yourself. When you do, adjust

camera settings and see what all the buttons do *in manual mode* (so you're aware of their full capabilities). If it feels uncomfortable or awkward to make adjustments you'll make often, you may want to consider a different model.

While most cameras are fairly similar, the little differences in body design can have a significant impact on their ease of use. While you can generally judge a camera's abilities without ever using it, you'll need to test it out yourself to make sure it feels right.

The Lens

Full size

Certain types of lenses are better for certain situations, so it's important to know their classifications and differences. The first thing worth noting is the difference between **zoom lenses** and **prime lenses**. Zoom lenses—as you can probably guess—let you zoom in and

out. While they have that advantage, they're generally more expensive, heavier, and larger. Prime lenses, on the other hand, *do not* allow you to zoom, but they're often cheaper, lighter, and smaller. In many cases, prime lenses will provide sharper images than zoom lenses at lower price points. When you start paying thousands of dollars for lenses, lens performance tends to be a little more equal.

The next thing you want to understand is the difference between **wide-angle**, **standard**,**medium**, **telephoto**, and **ultra telephoto** lenses. These terms are all based on a lens' focal length, which is a complex definition that's beyond the scope of this lesson (if curiosity compels you, read about it on Wikipedia). What you need to know is that focal length is measured in millimeters (mm) and you can think of it like the amount of magnification. A low number is like being zoomed really far out, and a high number really far in. Here's what you need to know about each type:

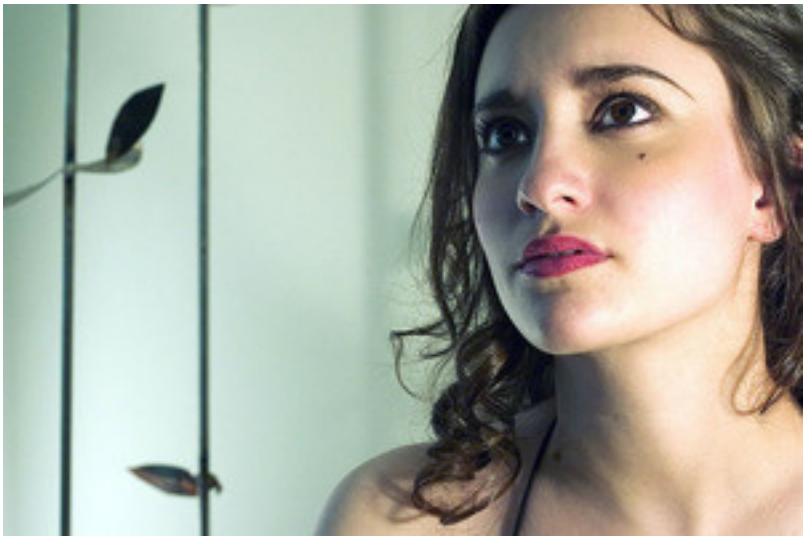
Wide-angle lenses are essentially any lenses with a focal length of up to 35mm. The wider the lens (and lower the focal length), the more the lens can see. Fisheye lenses are extremely wide and often have a rating of around 8-10mm. A regular wide-angle lens is generally around 14-28mm. As you can see from the photo on the left, wide angle lenses capture more stuff in the frame. They also distort space, increasing depth and making it look more spherical. This can be both a wanted and unwanted effect, depending on the circumstances. Some wide-angle lenses include technology that corrects this

distortion, but those lenses are almost always significantly more expensive.

Full size

Standard lenses are generally between 35-50mm and tend to most closely represent space the way the human eye sees it. Wide-angle lenses tend to distort space and add the appearance of more depth. Telephoto lenses flatten space. Standard lenses are the middle ground and produce images that look realistic to most people. A 50mm prime lens is often the cheapest lens you can buy with a level of quality that rivals zoom lenses priced at several hundred dollars more. Standards are the most versatile lenses because they're a good compromise between the more extreme types, but they're often useless when you're in a small space and need to go wide or are far away from your subject and need the magnification power of a telephoto.

Full size



Medium lenses generally fall into the range of 60-100mm and are generally not a type you'll want as a prime unless you have a specific purpose in mind (some prefer 60mm and 85mm prime lenses for portraits, for example). This range is often encompassed by zoom lenses, and that's generally where you'll want it. Many standard zoom lenses start as wide as 28mm and end up at 70mm, at least. A good standard zoom will encompass this range.

Telephoto lenses are what you want for zooming in really far. Pretty much anything over 100mm is considered a telephoto lens, and anything over 400mm is considered an**ultra telephoto lens**. While telephoto lenses can magnify an image many times over, and are necessary when you can't get close to your subject, they're both heavy, are more subject to motion blur (as a result of camera movement), and do not perform as well in low light. You will find some options that are compact, come with image stabilization (to prevent motion blur), and offer wider apertures (to perform better in low light), but all of these features increase their cost significantly.

The Sensor and CPU

The sensor is the part of your camera that captures the light exposure filtered through the lens. For our intents and purposes, we're just going to call this the image. The way the sensor was produced, and how large or small it is, has a pretty big effect on the end result: your

photograph.

First of all, the size of the sensors matters. Compact point-and-shoot cameras have very small sensors and the difference in size between them is a smaller factor when choosing a camera. When it comes to cameras with interchangeable lenses, which include DSLRs and MILC/CSC/EVIL cameras (which are basically compact, mirrorless DSLR-like cameras that often—but not always—have smaller sensors), sensor size has a greater impact. Generally larger sensors provide better low-light performance, greater control over depth of field, and produce higher resolution images with less noise than a smaller sensor.

The majority of DSLRs have a sensor size most commonly known as APS-C. An APS-C sensor is about half the size of a frame of 35mm film and generally magnifies all lenses by a factor of 1.6x. This means that using a 35mm lens on a DSLR with an APS-C sensor is basically the same as using a 56mm lens on a regular 35mm camera. This is good news for telephoto lenses but bad news for wide angle, as every lens isn't as wide as advertised when placed on an APS-C-based camera. A 10mm fish eye lens will produce photos like a 16mm wide-angle lens. It's not a major downside for most people, but it's important to know.

Some higher-end DSLRs contain full-frame sensors, such as the popular Canon 5D Mark II, which is equivalent to the size of a frame of 35mm film. Full-frame sensor DSLRs have the previously mentioned benefits that come with large sensors, but also are *not* subject to the 1.6x magnification like you'll find with APS-C sensors. Basically, a full-frame sensor DSLR is about as close as you're going to get to 35mm film with a digital camera.

While sensor design is very relevant to the image quality, and the only way you're going to be able to judge that quality for certain is to see or produce sample images, you should pay attention to the sensor's megapixel rating. In general, the more megapixels packed into a sensor the more noise you'll find in a given image. This is why you don't necessarily want to choose a camera with a high megapixel rating—especially when a camera has a smaller sensor. For most people, even a 6.3 megapixel camera is sufficient, but anywhere from 8-10 should be more than sufficient. The point is, don't just buy one camera over the other because it has a higher megapixel count. It may produce noisier, less-desirable results so you should always test first.

The Flash Card

Flash cards come in all different sizes, but they come in different speeds as well. Nowadays you're most likely to end up with an SD orCompactFlash card. The speed of your flash card is important

because most cameras nowadays are very fast. You can take many images in rapid succession, but if your card has a slow write speed it can't keep up. For SD cards you'll be best served by a Class 6 card. For CompactFlash, a card rated at 133x should do just fine.

Many DSLRs and compact cameras come with video capabilities, and writing this kind of data requires a fast flash card. Class 6 SD cards will still be enough for most point-and-shoots, but if your video-capable DSLR uses SD cards you'll probably want a Class 10. Class 10 cards are not all created equal, however, and some are marginally faster than Class 6. In most cases any Class 10 should sufficient, and anything with a max write speed of 15MB per second be more than enough. Of course, it doesn't hurt to get a faster card and some Class 10 SD cards are capable of write speeds twice that fast. CompactFlash cards are often used in higher-end DSLRs because they're capable of faster speeds at a lower cost (mainly because they're physically larger and that's easier to achieve thanks to their size). A CompactFlash card rated 233x or higher should handle video in most any DSLR just fine, but faster cards will definitely make things run more smoothly.

The Battery

Most DSLRs pack a battery that will last you all day, but compact point-and-shoot and MILC/CSC/EVIL don't necessarily come with that luxury. When considering something of the more compact variety, you want to weigh both the longevity of the battery and the cost of a second one. Sometimes you can get a better camera with poor battery life, but the cost of an additional battery isn't very expensive. If you don't mind charging two batteries this can be a good option.

With DSLRs you'll often get a good battery but sometimes that battery will perform better in certain circumstances. DSLRs do not require the use of the LCD screen and you'll generally take pictures through the viewfinder. The battery will last much longer when the LCD screen is not powered, so companies will often provide two ratings for the battery life: one in the number of photos you can take and one in the

number of hours the battery will last. The number of hours generally refers to the amount of time the camera can be actively functioning with the LCD screen turned on and the number of photos is simply how many pictures you can expect to take without the aid of the LCD screen. When judging battery life for a particular camera, be sure you know if you plan to use it more with the LCD screen on or off first.

Other Considerations

Your camera's processor is also important, but most are so fast these days that it's becoming somewhat irrelevant. If it can handle more than 7 RAW frames in succession, or 20-some JPEGs, it will never feel slow.

If your camera comes with a flash, you may want to find out how bright it is and test if the light it produces is sufficient. In most cases, it won't be. If you really need a flash, you're better off with an external, so don't be discouraged if your camera doesn't have one.

Basics of Photography: Your Camera's Automatic and Assisted Settings

 Adam Dachis — Now that you've got a pretty good idea of how the different parts of your camera work, we're going to take a look at its various settings. In this lesson we'll cover the basics, and in the following lesson we'll take a look at manual mode.

Here's a look at what we'll be covering today:

> **Shooting modes**, or the different ways your camera can assist you in taking a photograph.
>
> **Flash modes** and when to use them.
>
> What different **image enhancement settings** do and what they're good for.
>
> **Shooting assistance functions**, like auto focus.
>
> A brief look at **video mode**.

Shooting Modes

Most cameras come with a few different types of shooting modes, from full automatic to full manual. We're going to take a look at the most common and discuss when you should use them. You may not be familiar with terms like shutter speed, aperture, and ISO but don't

worry—we'll be going over those in detail in the next lesson.

Automatic takes care of everything for you. There's not much to explain here.

Program automatic sets your aperture and shutter speed automatically, but gives you control over other settings like ISO (the rating that affects how sensitive your camera's sensor is to light—similar to film speed in film cameras).

Scene modes generally have icons to represent their purpose, such

as a mountain for landscapes or a fast-moving person for sports. Scene modes can be useful if you want the camera to assist you in photographing the types of photos each mode is designed for, but hopefully after you're done with these lessons you won't need or want to use them anymore.

Shutter priority allows you to set the shutter speed and ISO but allows the camera to set the aperture automatically. This mode is useful if the shutter speed is the most important consideration when taking a photo. This is often the case when you want to make sure you take a photo fast enough to capture motion but do not care about the aperture. This is useful for photography sports, dance, or anything with a lot of movement.

Aperture priority allows you to set the aperture and ISO but lets the camera set the shutter speed automatically. This is useful when the

aperture is the most important consideration in your photograph. The aperture can have some of the greatest visual impact on your photographs because it is one of the largest contributing factors to depth of field. A wide aperture (represented by a low f-stop like f/1.8) will produce a photo where your subject is in sharp focus but the background is very much out of focus. This is useful for portraits, or focusing on a single object in an otherwise busy frame. A narrow aperture (represented by a higher f-stop, like f/8) will produce a photo where most everything appears to be in focus. This is useful for landscapes, or any other situation where keeping everything in focus is desirable. Wider apertures also let in more light, so they're useful when you don't have much and want to avoid using a flash. Aperture priority is one of the best shooting modes your camera has because you can still control your ISO settings (light sensitivity) and the shutter speed is often something that's best left for the camera to decide unless you have a reason to choose it yourself. Don't worry if you don't fully understand this yet. We'll be discussing aperture, shutter speed, and ISO in much more detail in the next lesson.

Manual mode lets you set everything, and we'll be discussing this mode in detail in the next lesson. It's worth noting, however, that this mode does not imply manual focus with DSLR cameras. Switching between manual and automatic focus is generally a dedicate hardware

toggle switch on your lens and not on the camera. If you want to focus manually on a DSLR, you can use any shooting mode you want if the switch is set to manual on the lens.

Flash Modes

Your camera has a couple of different flash modes, and most of them you'll never need. Here's what they're called and what they do.

Automatic flash will only fire the flash when needed, which the camera determines by reading the available light on the subject. This generally happens when there isn't enough light anywhere in the frame or if the subject is backlit and appears dark to the camera as a result.

Automatic flash with red eye reduction works the same as the regular automatic flash mode but attempts to reduce the red eye effect that flashes often produce. If you're going to use an automatic flash

mode, you might as well use this one.

Forced/Fill-in flash means the flash fires with every exposure regardless of whether or not the camera believes it's necessary. This is the mode you choose when you know you're always going to need the flash, or just think it's funny to cause temporary blindness to a bunch of people in rapid succession.

Slow shutter flash (with red-eye reduction) is what you want to use in a very low light situation, as the shutter speed will be reduced and the flash needs to offer a repeated bursts of light to compensate. If you're using an automatic mode, the camera will determine when this is necessary and do it automatically. If you know you're going to need a slow shutter flash, however, you can force it with this mode.

No flash is pretty obvious. It turns the flash off so it won't be used under any circumstances.

Fancier flashes will have additional modes and settings on the flash units themselves, so if you have a nice external flash be sure to experiment with everything it can do.

Image Enhancement Settings

Not all cameras have image enhancement settings, but it's become more common in DSLRs and nicer compact cameras in recent years. The ones you want to want to pay the most attention to are lighting correction and noise reduction. Lighting (and tone) correction, which is referred to as D-lighting on Nikon cameras and Auto Lighting Optimizer and Highlight Tone Priority (the modes are split into two) on Canon, will try to retain more detail from under- and over-exposed parts of your photographs while improving color as well. Noise reduction does what you'd expect—it reduces noise. It also reduces detail. Lighting correction tends to increase noise. Basically, these

modes are nice but they have their drawbacks. Often times you can set how aggressively they alter your photos. Low settings are recommended.

Video Mode

Full size

We're dealing with photography, so we're not going to talk much about video mode. It's also handled very differently by different cameras as there isn't currently much of a standard. Additionally, video mode varies significantly between the different types of cameras. Point-and-shoots can often automatically focus very quickly in video mode and act a lot like a dedicated video camera. Compact mirror-less cameras with interchangeable lenses tend to provide a higher quality video but automatically focus a bit slower and are not terribly easy to focus manually. DSLR cameras generally produce the highest quality video, automatically focus extremely poorly (if they do at all), but provide excellent control over manual focus. If you're recording video with a DSLR, you'll want to become comfortable with manually focusing your lenses.

When you record video on any camera, it's generally saved in the same folder as your photos on your flash card, but some cameras have a dedicated folder for video. If the file was saved as an AVI, MOV, or MP4, you should be able to just copy it off your camera and play it back. All of these formats also work fine for uploading to video sharing sites like YouTube or Vimeo. Other formats may be video streams which generally require conversion to be useful, so consult your camera's manual if you don't recognize the file type.

If you'd like to learn more about video, be sure to check out our guide on recording great video with your DSLR.

Basics of Photography: Your Camera's Manual Settings

 Adam Dachis — In the previous lesson we covered the basic settings on your camera. Today we're jumping into the fun stuff: manual mode. We'll learn the details about shutter speed, ISO, and aperture, as well as how those settings affect your photos.

If you're following along with your camera, be sure to set it into manual mode so you can access every setting we're going to discuss.

Aperture

Aperture is often the most difficult concept for people to grasp when they're learning how their camera works, but it's pretty simple once you understand it. If you look at your lens, you can see the opening where light comes through. When you adjust your aperture settings, you'll see that opening get bigger and smaller. The larger the opening, or wider the aperture, the more light you let in with each exposure. The smaller the opening, or narrower the aperture, the less light you let in. Why would you ever want a narrow aperture if a wider one lets

in more light? Aside from those situations where you have too much light and want to let less of it in, narrowing the aperture means more of the photograph will appear to be in focus. For example, a narrow aperture is great for landscapes. A wider aperture means less of the photograph will be in focus, which is something that's generally visually pleasing and isn't seen as a downside. If you've seen photographs with a subject in focus and beautiful blurred backgrounds, this is often the effect of a wide aperture (although that's not the only contributing factor—remember, telephoto lenses decrease depth of field as well). Using a wide aperture is generally considered the best method for taking in more light because the downside—less of the photograph being in focus—is often a desired result.

Aperture is represented in f-stops. A lower number, like f/1.8, denotes a wider aperture, and a higher number, like f/22, denotes a narrower aperture. Lenses are often marked with their widest possible aperture. If you see a lens that is a 50mm f/1.8, this means it's widest aperture is f/1.8. The aperture can always be set to be more narrow, but it won't be able to go wider than f/1.8. Some lenses will have a range, such as f/3.5-5.6. You'll see this on zoom lenses, and it means that when the lens is zoomed out to the widest position it's f/3.5, but when it's zoomed in all the way it can only have an aperture as wide as f/5.6. The middle changes as well, so halfway through the zoom range you'll end up with a widest aperture of about f/4.5. An aperture range is common with less-expensive zoom lenses, but if you pay more you can get a standard aperture throughout the range.

That's pretty much all you need to know about aperture. The important thing to remember is that a wide aperture, like f/1.8, lets in more light and provides a shallow depth of field (meaning less of the photo appears in focus). A narrow aperture, like f/22, provides deeper focus but lets in less light. What aperture you should use depends on the situation and the type of lens you're using, so experiment to see what effects you get and you'll have a better idea of how your aperture setting affects your photographs.

Shutter Speed

Photo by Digi1080p

When you press the shutter button on your camera and take a picture, the aperture blades take a specific amount of time to close. This amount of time is known as your shutter speed. Generally it is a fraction of a second, and if you're capturing fast motion it needs to be at most 1/300th of a second. If you're not capturing any motion, you can sometimes get away with as long of an exposure as 1/30th of a second. When you increase your shutter speed—the length of time where the sensor is exposed to light—two important things happen.

First, the sensor is exposed to more light because it's been given more time. This is useful in low light situations. Second, the sensor is subject

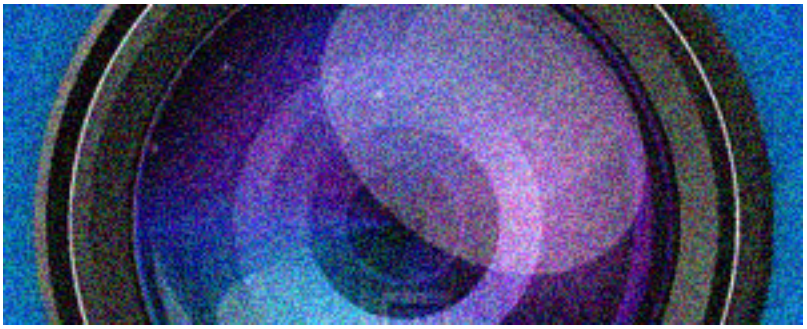
to more motion which causes motion blur. This can happen either because your subject is in motion or because you cannot hold the camera still. This is fine if you're photographing a landscape at night and the camera is placed on a tripod, as neither the camera nor your subject is going to move. On the other hand, slow shutter speeds pose a problem when you're shooting handheld and/or your subject is moving. This is why you wouldn't want a shutter speed any slower than 1/30th of a second when photographing handheld (unless you're known for your remarkably still hands).

In general, you want to use the fastest shutter speed you can but there are plenty of circumstances where you'd choose a slower shutter speed. Here are a few examples:

- You want motion blur for artistic purposes, such as blurring a flowing stream while keeping everything else sharp and un-blurred. To accomplish this you'd use a slow shutter speed like 1/30th of a second and use a narrow aperture to prevent yourself from overexposing the photograph. *Note: This example is a good reason to use the Shutter Priority shooting mode discussed in the previous lesson.*
- You want an overexposed and potentially blurred photograph for artistic purposes.
- You're shooting in low light and it's necessary.
- You're shooting in low light and it's *not* necessary, but you want to keep noise to a minimum. Therefore you set your ISO (film speed equivalent) to a low setting and you reduce your shutter speed to compensate (and let in more light).

These aren't the only reasons but a few common ones. The important thing to remember is a slow shutter speed means more light at the risk of motion blur. A fast shutter speed means low risk of motion blur while sacrificing light.

ISO



ISO is the digital equivalent (or approximation) of film speed. If you remember buying film for a regular camera, you'd get 100 or 200 for outdoors and 400 or 800 for indoors. The faster the film speed the more sensitive it is to light. All of this still applies to digital photography, but it's called an ISO rating instead.

Full size

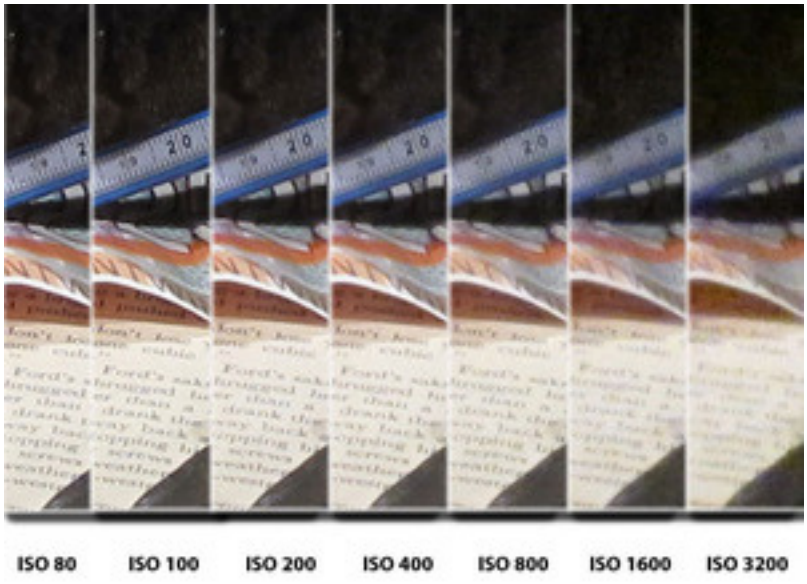


Photo by CNET Australia

The advantage of a low ISO is that the light in a given exposure is more accurately represented. If you've seen photos at night, the lights often look like they're much brighter and bleeding into other areas of the photo. This is the result of a high ISO—a greater sensitivity to light. High ISOs are particularly useful for picking up more detail in a dark photograph without reducing the shutter speed or widening the aperture more than you want to, but it comes at a cost. In addition to lights being overly and unrealistically bright in your photos, high ISO settings are the biggest contributors to photographic noise. High-end cameras will pick up less noise at higher ISOs than low-end cameras, but the rule is always the same: the higher you increase your ISO, the more noise you get.

Most cameras will set the ISO automatically, even in manual mode. Generally you can stick with the same ISO setting if your lighting situation doesn't change, so it's good to get used to setting it yourself. That said, sometimes lighting changes enough in dark, indoor settings that letting the camera set it for you automatically can be helpful—even when shooting manually.

Combining the Settings

In manual mode you set everything yourself (except ISO, if you set it to automatic), so you have to think about all three of these settings before you take a photograph. The best thing you can do make this easier on yourself and hasten the decision is to give priority to one of the settings by deciding what's most important. Do you want to ensure a shallow depth of field? If so, your priority is your aperture. Do you

want the most accurate representation of light? Make ISO your priority. Do you want to prevent as much motion blur as possible? Concentrate on shutter speed first. Once you know your priority, all you need to do is set the other settings to whatever is necessary to expose the right amount of light to the photograph.

In manual mode your camera should let you know if you're over- or under-exposed by providing a little meter at the bottom (pictured to the left). The left is underexposed and the right is overexposed. Your goal is to get the pointer in the middle. Once you do that, snap your photo, and it should look just how you want it.

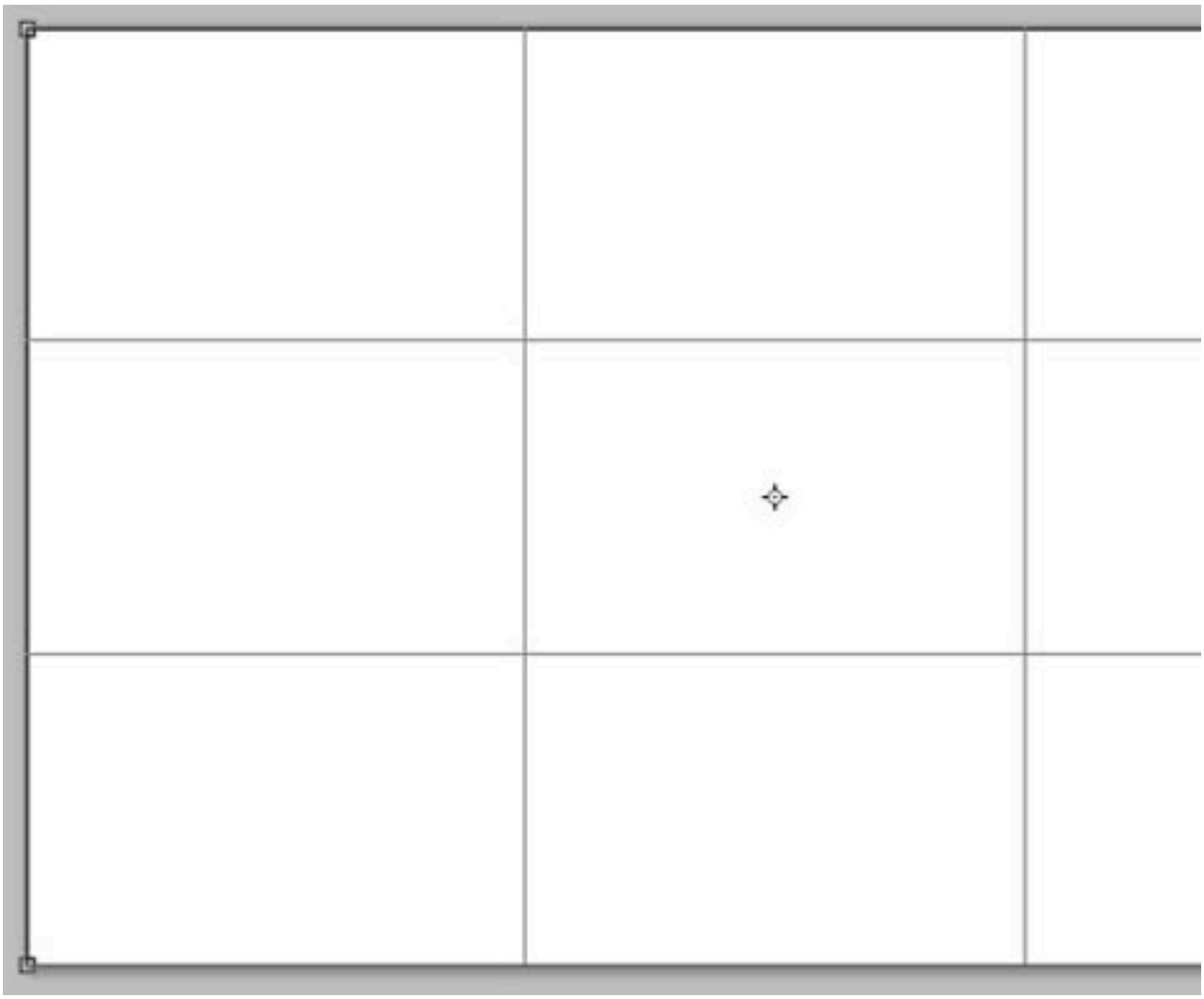
We're all done learning about how your camera works in all its modes. Tomorrow we're going to explore composition and technique.

Basics of Photography: Composition and Technique

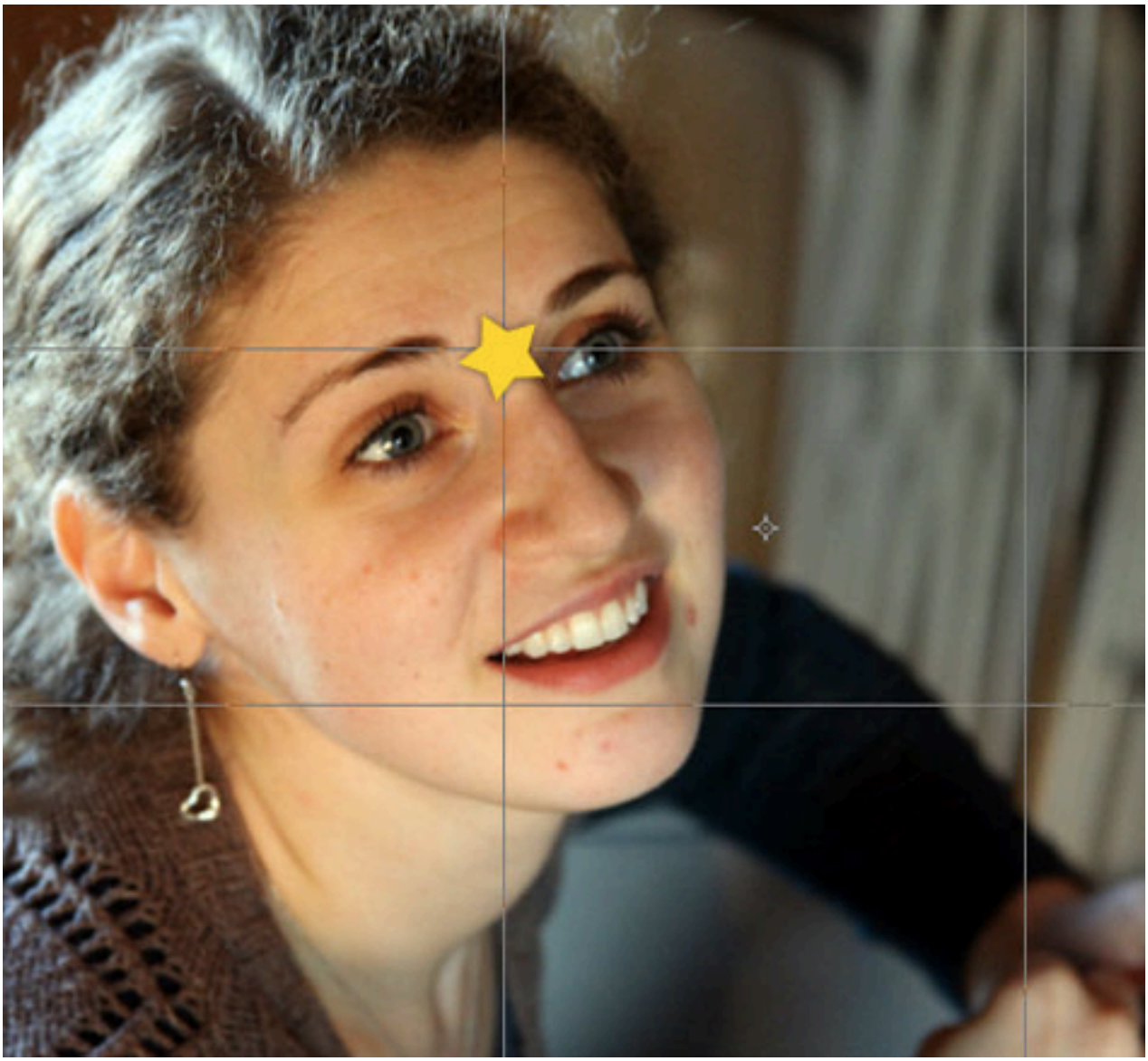
 Adam Dachis — A well-composed photograph is really a matter of opinion, but there are a few tricks that tend to result in better pictures. That's what we're going to take a look at today.

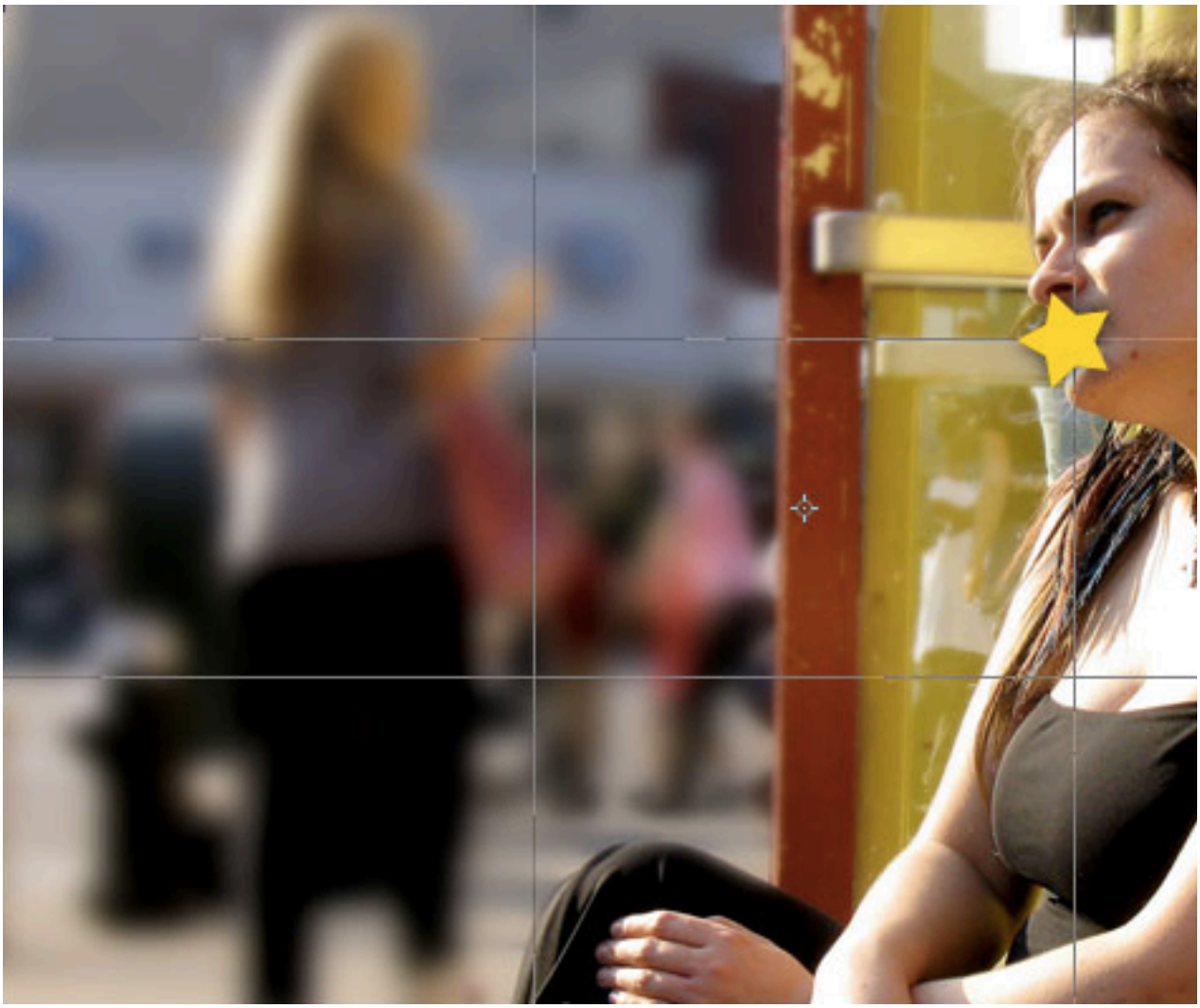
Rule of Thirds

The rule of thirds is the simplest rule of composition. All you do is take your frame and overlay a grid of nine equal sections. This means you split the vertical space into three parts and the horizontal space into three parts. Here's what that looks like:



Generally you want to place important elements where the grid intersects. Here are a few examples:





The intersection points are where the eye tends to go first, so it's useful to place your subject on one of those points. People generally tend to aim for the center, but that's often less effective.

If you find the rule of thirds a little boring, try composing using Fibonacci's ratio.

Perspective

Photographing your subject straight-on is sometimes the right choice,

but you can create visual impact by moving the camera left, right, above, and below. When you're beneath the subject it often makes them/it appear more powerful to the viewer. Conversely, when you're above the subject it makes them/it appear more diminutive. You can use this to an extreme for a powerful impact, but it's also a very good subtle technique for portraits. Slight positioning above or below the subject can subconsciously imply aggressiveness and passivity (respectively) without being too, uh, obvious...

Additionally, left and right positioning isn't as direct and can often make a photograph feel more honest and candid. When capturing a moment, whether it's staged or not, photographing the subject head-on can often seem a little awkward and end up being less-effective.

Of course, you can also combine different positioning elements to create other effects. Try taking photographs of the same subject from different perspectives and see how people interpret them. This is a good way to understand the effects your choices have on the end result.

Use Shapes and Lines to Draw the Eye to a Specific Point

The viewer's eye doesn't magically end up looking at one of the intersections in the rule of thirds grid, it's just more natural. That said, if you have a reason to draw the eye elsewhere you can accomplish that pretty easily by choosing where you place shapes and lines in your photograph. A shape doesn't mean a literal, detail-less shape, but in the sense that a building could serve as a rectangle. Roads often make nice lines in landscapes. When you're composing your photograph, consider the shapes and lines and where they draw your eye. If they're taking you out of the photograph or away from the primary subject, you'll probably want to consider a different composition. Let the roads lead where you want the eye to go.

Perspective can even make a road straight ahead appear like a triangle and draw the eye into the horizon. Whatever the case may be, make sure your shapes and lines are taking the viewer where you want them to go.

Frame Your Subject with Objects

A subject against a white background can often be simple and effective if you have a good subject. If you have a boring subject, like an ordinary house, a blank background (like a clear sky) isn't going to be very compelling. Instead, try framing your subject with surrounding

objects.

Photo by Dan Eckhart

With the house, for example, using nearby trees (or what remains of them) may help. You'll want to make sure the trees don't create lines and shapes that draw your viewer away from the subject (the house), as previously mentioned, but often times they can be helpful in making your photograph more interesting and helping to draw the eye where you want it.

Make Your Choices for a Reason

You don't have to follow any of the "rules" of photography to end up with a good photograph. What's probably the most important is that you make your choice for a reason. When you take a picture and choose where something goes in the frame, know why you're doing it. An example of a rule-breaking image would be to have a person facing left and placing them in the left third of the photograph:

You might choose to do this because you want to draw the viewer's eye

away from the subject and make them look at the space behind the subject's head. In the background, something's happening that's slightly out of focus. You could argue that this is a way of depicting a subject trying to remember a past event, or being lost in a half-memory. This may or may not be the most successful way of getting such a message across, but it's a reason to try breaking one of the "rules" you'd generally adhere to when composing a photograph.

If you're just trying to take a pleasing picture, the rules are your friend. On the other hand, if you're trying to convey something with the photograph, figure out how you want to convey it and compose your image accordingly. This may or may not involve breaking the rules, but you increase your chances of ending up with a compelling image if you choose a specific composition for a specific reason.

That's all for today. Tomorrow we're going to look at editing your photos in Photoshop (or another image editor) to improve color, touch up blemishes, and perform a few neat tricks.

Basics of Photography: Editing Images in Post

 Adam Dachis — For our final photography lesson this week, we're going to talk about the final step: editing your images. We'll take a look at different kinds of techniques for color correction, touch ups, and a few other fun effects.

This lesson is really more of a roundup than anything because we've covered tons of photo editing tips and tricks in the past that it would be kind of redundant to re-write them all here. First things first, we have entire night school on Photoshop, including a lesson on color correction and touch ups, so you might want to start there. If you're looking for more, here are a bunch of handy tips and tricks to get your photos into shape.

Note: A lot of these tips are demonstrated in Photoshop, but not all of them are and many can be replciated in other (cheaper) image editors.

Color and Tone Correction and Enhancement

> Our comprehensive guide to getting the best color out of your photos
>
> Change a specific color in a photo.
>
> Brighten up a specific part of a photo

- Fix poorly exposed photographs with the Levels tool
- Give your photos a gritty, high-contrast look
- Fix uneven skin tones
- Get better black and white conversions
- Make any photo look like it was taken with a vintage camera
- Create color correction/enhancement presets to save you time later
- Simple, fast, and accurate color and tone correction

Correcting Scratches, Blemishes, and Other Problems

- Repair damage and scratches
- Fix distortions
- Whiten teeth
- The funniest touch-up lesson you'll find

Other Enhancements

- Make crappy photos look much nicer
- Add sharpness and detail without adding noise
- Learn all about sharpening techniques
- Sharpen photos better with unsharp mask

That's all for our photography night school. Thanks for learning with us!

You can follow Adam Dachis, the author of this PDF, on Twitter and Facebook. Twitter's the best way to contact him, too.