

## Getting To Know Your Camera

This lesson is all about getting to know your camera. This is going to help you know and understand your camera better, because knowing your camera's qualities and limitations will help you become a better photographer. But if you don't have a camera, don't worry, this is going to help you know what to look for when you're ready to purchase a new camera.

Now, as you already know, and have probably heard, there are so many kinds of cameras. The top brands you'll hear about are Nikon and Canon. But even within those brands, there are still different makes and models. There are crop sensor and full frame, and now we have DSLR and mirrorless, too. If you can imagine, I can't go into every camera ever made and share with you how to use it. I wish that I could. But what I will do is give you a breakdown of the universal concepts that are going to be the same no matter the camera you hold in your hand. So in this lesson, we will cover DSLR versus mirrorless cameras, cropped frame versus full frame cameras, old versus new cameras, and we'll even talk about megapixels and how they impact photo quality. First, don't roll your eyes at me, first, I want you to make use of your camera's guide. It is there for a reason, and I've actually used my camera's guide on more than one occasion. If you don't have one, usually you can find them online.

But let's get into our camera talk, and we're going to talk about DSLR and mirrorless cameras first. So DSLR stands for Digital Single Lens Reflex. These work based on a mirror inside the camera, capturing the image and reflecting it up to an optical viewfinder. You'll see demonstrated here in this graphic. Mirrorless cameras have hit the market in recent years and are becoming a favorite among photographers. The mirrorless camera still uses interchangeable lenses like a DSLR, but there's no mirror that reflects the image up into the viewfinder. Instead, the sensor reflects the images up to an electronic viewfinder. The optical viewfinder on the DSLR only lets you see an overlay of where the focal point will be and how your photo will be composed.

Whereas the electronic viewfinder of the mirrorless allows you to see the focal points, but also the white balance and exposure right there in the viewfinder before you ever

take the picture. It's awesome. I love it. And I'm obsessed. So other than those viewfinders, another difference is the fact that the DSLR has a mechanical shutter and the mirrorless has an electronic shutter. Now the electronic shutter on the mirrorless means it is much quieter. So I'm going to show you a video on the next slide and you'll actually be able to see the mirror moving out of the way on the DSLR camera. So the fact that there are less moving parts also helps the amount of noise. So take a listen.

So you can hear the difference between those two cameras. That DSLR is so much louder than the the mirrorless. Now other differences between these two is that the DSLR is going to have limited focal points, and the mirrorless camera has unlimited focal points. So take a look at the amount of focal points on the five d mark four having 61 focal points versus the R six, which has over 6000, which is why I just went ahead and made the screen red because they're everywhere. There's literally 1000s of focal points. As you can imagine, this makes focusing and composing your photos so much easier. Now another difference you'll see between these two are the lenses. DSLR has more affordable lenses. The mirrorless cameras have mirrorless lenses, but they are pricier. So the good news is that you can use an adapter on mirrorless cameras, so you can still be using your DSLR lenses on your mirrorless camera. So one thing that was apparent as I researched the differences between these two and even as I've I've shot on DSLR and mirrorless myself, I own both of them, was that there were consistently consistently more pros to the mirrorless cameras.

So here's a quick recap of these two. DSLR, they've been around for longer, they do have a longer lasting battery, there are more lens options. But the DSLRs are more limited in focus than a mirrorless though they're still you know, there's still plenty of focal points to choose from. For the mirrorless cameras, they're lighter, they're they have a faster shooting speed and they're quieter. They have more focal point points. They're really great for video, so if that's something that you are looking at doing in the future, mirrorless is just really great for that. The lenses are pricier, and they do have a shorter battery life, which I can attest to that. I do want to say, though, that while there might be more pros to the mirrorless side, that DSLR cameras are still quite capable of taking high quality images. And at the end of the day, that's really what matters the most.

Now, within the DSLR and mirrorless cameras, there are both crop sensor and full frame. So let's talk about the differences between these two. You've probably heard these terms before and wondered, does it really make that big of a difference? And yes, there is and I'm going to explain why. Now a crop sensor is often referred to as a budget camera, or an entry level. And a full frame is often referred to as a mid level or a pro level camera. Now, the crop sensor, if you can just tell by the words, has a smaller sensor, and the full frame camera actually has a full 35 millimeter sensor. And you might be wondering, like, what is a sensor really? Well, the sensor is a piece of hardware inside the camera that captures light and converts it into signals which result in an image. It consists of millions of light sensitive spots that record what is being seen through the lens. The size of a full frame sensor has the same physical size of a 35 millimeter camera. But the size of a crop sensor camera as you guessed it, smaller. It's cropped in, hence the name crop sensor. The amount of crop actually varies on the camera's manufacturer. As you can see from this diagram, you can see that this large box represents the sensor of a full frame camera and the smaller boxes represent the sensor of a Nikon and Canon crop sensor. So the Nikon is cropped in at one and a half times and the Canon at 1.6 times. Now these are actually numbers that we're going to revisit later on down the road, so they're actually really important to make note of.

So take a look at these two photos shot the same distance with the same lens, but one was on a full frame and one was on a crop sensor. So you can see that that photo on the left with a crop sensor is a cropped in version of that photo on the right. So crop sensors will typically have lower quality because it simply has less surface area to be able to capture information. Full frame cameras are going to have better white balance, the size of the sensor and the quality of the camera all help to make those colors look really great. So you can see some examples right here. In my experience crop sensor cameras typically have more dull colors than a full frame camera. However, using an Expo Disk, which we will get to later, you will this is going to help those colors significantly. So this would be like an auto white balance option. With the Expo Disk, we're going to be setting a custom white balance, which is really going to make a big difference.

Another difference is that the full frame cameras have quick access buttons. As you can see here, the full frame has more options on the top of the camera more readily available even more on the back of the camera. This makes your shooting flow go so much faster and so much smoother. Another big difference between these two are the amount of focal points. You can tell how important these are to me since I keep bringing them up. They make a really big difference. I started out with a Canon 60 D that had nine focal points. Nine, okay. It definitely made focusing in the right place a challenge. Then I moved to my Mark 3 and 4, my Mark 4 had 61 focal points. What a difference this made. It made life so much easier on me. So to sum these two up, crop sensors are great starter cameras, and they can produce some pretty decent work which I'm going to show you on the next few slides. But you're going to want to make sure that you use the best light possible and that you're setting a custom white balance. You might find that you're going to outgrow this camera and may want to upgrade sooner than later. With full frame cameras, they can handle low light better, they have more focus abilities and produce higher quality images. They are more expensive but will last longer as it's a camera you can grow into.

So take a look at these images. I just want to show you side by side crop sensor camera and a full frame camera. So I know we have a lot of people joining Pretty Focus that are starting out on these crop sensor cameras. So I just want to let you know and encourage you that you can take beautiful images as long as you have a great light and you can utilize the custom white balance options inside of your camera.

So now let's talk about old versus new cameras because this is probably one of our biggest questions that people have. And they want to know how their older cameras are going to perform. Can I use what I have? Or do I need to upgrade? Now the major differences between the old and the new camera is the fact that the technology on sensors have improved drastically. While you may end up having the same megapixels and sensor size on an older camera, newer cameras will have newer technology that just directly affect the image quality. This is going to be noticeable in low light settings. Images on older cameras are going to appear grainier than new cameras. And yes, okay, I'm going to bring this up again, focal points on older cameras, as you saw on my 60 D are limited. So this is a 12 year old crop sensor

camera with nine focal points. This is a two year old crop sensor camera, and you can see the amount of focal points on it is a heck of a lot more. Okay, focal points make composing and focusing so much easier. And if you can imagine, focus is pretty darn important on photos.

The food, and your subject needs to be in focus. And the way it's in focus is by placing that focal point on your subject. If you can't put your focal point on your subject, it's not going to be in focus. Now other differences you'll find are the fact that some cameras are so old, that they are unsupported by new software. Now newer cameras are going to produce better white balanced photos and will work better in lower light. To sum these two up, if you're using an older camera, you can create good images as long as you have a lot of great light. So using artificial light is going to be really, really helpful here. Newer cameras will have newer technology that will make producing quality images easier. They have better colors, handle lower light and have better focus systems.

Now you might be wondering how megapixels play a role in all of this. And we hear that term a lot megapixels, well how many megapixels does it have? And we just throw this number around. Well, let's talk about megapixels. A pixel is the smallest unit of visual information, and it is actually a unit of measurement. One megapixel is equal to 1 million pixels. So when you hear that a camera has 20 megapixels, it's actually referring to the fact that you have 20 million pixels covering your images. Megapixels determine how much detail is captured. Typically, the higher the number, the more detail it can capture.

Of course, when it comes to megapixels, like with most things in photography, we can't just simply rely on the number because we would want to think that more must be better, right? Well, not necessarily. While the number of pixels certainly are important, there are a few factors involved, such as pixel pitch, which is the size of the pixel, the pixel area, which is the area which the pixel covers, and even pixel density, which is the number of pixels per one square centimeter. You guys even the size of the sensor matters. The size of the pixel matters because a bigger pixel can hold more light. So think of it this way. The bigger the pixel, the more light it can hold.

Typically, when you have a larger pixel, your camera's going to operate better in lower light situations.

So you may be wondering, okay, what am I supposed to do with all of this information and how does it affect me? So while megapixels certainly do play a role in image quality, the other area that megapixels effect is when it comes to printing your images in a large scale format, or when you're cropping your images. When it comes to the work that we do as food photographers for food bloggers, we don't need to be overly concerned about our images being blown up in a large scale format. I'm talking like 12 by 18 or larger. They're typically all shared online. The area that we do need to pay close attention to though is when it comes to cropping. You can definitely crop images, but you have to be careful not to crop them too much or you will start to lose detail of your images. Now if you want to dive more into learning the megapixel details about your camera, I highly recommend this digital camera database website. It shares all of these details with you and even allows you to compare other cameras. One thing though that isn't on this website though is the quality or technology of the sensor as well as other poor performances of the camera. This is strictly related to sensor size and megapixels.

So if you are looking for a camera, I would start with your budget. Of course that's a really great place to start right. Then decide if you want to go the DSLR or mirrorless route. Then decide if you want to go a crop or full frame route within the DSLR mirrorless and then make sure you've got plenty of focal points to work with. As you saw, it's so important. And lastly, I would look into the amount of megapixels. Now in the next lessons we're going to take a specific look at your camera menu settings as well as lenses.