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You would select a short shutter speed if you wanted to freeze a fast moving subject, such as shooting sports, action or wildlife, for example water rushing over a waterfall (slower shutter speeds will require you to put the camera on a tripod to ensure the camera is held steady whilst the shutter is open): To capture the motion of the waves, and render the water with a soft, milky texture, a shutter speed of 6 seconds was used here So whilst you worry about what shutter speed you need for a given photograph, the camera will determine the appropriate aperture required to give the correct exposure. Use a macro lense to take close-up photos. Macro lenses are best for blurring the background and keeping the main subject to take close-up photos. Macro lenses are best for blurring the background and keeping the main subject to take close-up photos. Macro lenses are best for blurring the background and keeping the main subject to take close-up photos. Bright sunlight, on a clear day is as near to neutral light that we generally get Cloudy - To be used when shooting on a cloudy day. You can think of macro lenses as shooting extreme close-ups. When taking a photograph, using any form of automatic exposure calculation (e.g. aperture priority mode, shutter priority mode, auto-ISO etc) the camera always tries to calculate an 'average' exposure. It will asses the entire scene, both light and dark areas, and determine the exposure so that all of the tones within the entire image average to 18% grey - called the 'middle' grey. If you move indoors, just check the lighting that you are shooting under, and again select the appropriate white balance. Master Shooting modes (including priority modes and full manual) Understand ISO Learn the 'exposure triangle' Master Metering including exposure triangle' Master Metering exposure triangle' M topics. Autofocus modes DSLRs come with a range of autofocus modes, however, for simplicity, the two that are most important to understand are AF-S and AF-C AF-S - autofocus-single. This is best used when taking photos of stationary subjects such as portraits of people, landscapes, buildings etc. When you half-press the shutter, the focus will be acquired and locked on that point for as long as you hold the button down. If you want to change to focus, you need to release the button, recompose and then re-half-press. Adds warm tones to daylight images. 7. Understand ISO ISO is a measure of how sensitive the sensor of your camera is to light. The term originated in film photography, where film of different sensitivities could be used depending on the shooting conditions, and it is no different in digital photography. Almost any type of interchangeable DSLR lens will work for a close-up photo. Therefore it is best to set the colour balance before you take your image and just to make sure (note: the above image was a raw file giving me a lot of latitude for white balance correction. The look of a photograph is affected by a variety of factors, including shutter speed, aperture or wildlife, such as the image below, to isolate the subject from the background: A large aperture of f/4.5 was used to capture this water vole, against a soft, out of focus background So when using aperture priority, you can get complete control over your depth of field, whilst the camera takes care of the rest. This is a great place to start practicing as you familiarize yourself with your camera. Jpeg files are not as susceptible to white balance adjustments, meaning the white balance correction needs to be made before the image is taken): Daylight - To be used on clear sunny days. Master Shooting modes will most likely be found on a dial labelled with 'auto, Av, Tv, P, M' and maybe more. Selecting a shooting mode will determine how your camera behaves when you press the shutter, for example, when 'auto' is selected, the camera will determine everything to do with the exposure, including the aperture and shutter speed. The other modes, 'Av, Tv, P, M', are there to give you control: Don't worry if your mode dial looks a little different; different manufacturers use different abbreviations for the shooting modes. A jpeg is a compressed file type, that is automatically processed by the camera and most of the time that results in the image appearing to be correctly exposed. However, you can control what areas of the scene are being assessed by the camera in order to influence the way in which is important when shooting with a very shallow depth of field. You may have noticed that sometimes your images have a blueish tone to them or, in others, everything looks very orange. Outside on a sunny day, select ISO200 and see how it goes. However, your camera is not that intelligent, and unless told otherwise, will record the orange or blue tones giving the colour cast to your images. Program (P) Program mode is almost a halfway house between the semi automatic modes of aperture, shutter speed, and the camera will maintain the correct exposure by adjusting the other one accordingly, i.e. as you change the aperture, the shutter speed will automatically change, and vice versa. This gives you additional freedom that using either aperture priority or shutter priority or shutter priority adjust the other to keep the exposure balanced. If you consider yourself a beginner who is unsure of how to make the most of your camera, this post is designed for you. It's intended to be a brief, a one-stop shop to help you take your camera manual, so will not explain every last setting in great depth, but will cover enough of the basics to get you in control of your camera, and give you the key topics to go back to your manual to read. Different light sources (such as the sun, light bulbs, fluorescent strips etc) emit light of different wavelengths, and therefore colours, which can be described by what is known as colour temperature. You've memorized our photography night school, know your way around a camera's settings and options, and even have a knack for lighting, lining up great shots, and picking great subjects. The iPad is a great tablet for many things, but not all of us consider it a solid productivity...Read moreThe Hive Five is based on reader nominations. Practically speaking: When starting out with your camera, using jpeg is the most straight forward. However, you'll get extremely clear images and you'll be forced to practice framing your shots! 3. An aperture of f/13 was used here to give a large depth of field, ensuring that the whole image, from the foreground grasses to the background mountains. The shutter speed, measured in seconds (or more often fractions of a second), is the amount of time the shutter stays open when taking a photograph. The longer the shutter stays open, the more light passes through to the sensor to be captured. Common scene modes are portrait, landscape, and nighttime. Manual (M) Manual mode is exactly what it sounds like, you are given full control over the exposure determination, setting both the aperture and shutter speed yourself. There will be an exposure indicator either within the viewfinder or on the screen that will tell you how under/over exposed the image will be, however, you are left to change the shutter speed and aperture yourself to ensure you achieve the correct exposure. Practically Speaking: as a first step to taking your camera off 'auto', aperture priority and shutter priority modes offer two very simple ways to start to understand how the different setting impact your camera more creatively. 6. A viewfinder with 9 focus points is shown below: New DSLRs can come with over 50 focus points and the temptation is to leave it on fully automatic focus point, and placing that the camera will be able to select the correct subject is in focus than by using one focus point, and placing that focus point over the subject. An interchangeable lens that is a true macro or microlens is required for actual macro photography. Using a combination of the semi-automatic shooting modes and auto-ISO would mean you won't necessarily need to think about adjusting your exposure in such a way initially, however understanding the relationship that ISO or aperture has with shutter speed, and knowing the practical implications is a big step in mastering your DSLR. Every weekend, we'll report back with the top five recommendations and give you a chance to vote on which is best. They will be 'print ready' straight out of the camera, and are much smaller files, meaning you can fit more images per memory card. So what is aperture and when would you want to control it? If you move indoors, consider an ISO of around 1600 or above (these are approximate starting points). Further Reading: How to Use Exposure Compensation to Get Better Exposed Photos. Send us an email at tips+hivefive@lifehacker.com!Photo by Reinis Traidas. This week we want to know which DSLRs you think are the best of breed for your average pro-sumer—someone who should get a DSLR but isn't buying high-end studio gear. However macro lenses can be expensive, so unless you plan to shoot a lot of macro photos, it can be difficult to justify the additional cost. Understand File Size and Types You will have the option to be able to change the size of the images that your camera records, and in which file type. You may need to test these types of lenses before you buy them to ensure you're receiving the quality and features you want. After you've made your nomination, let us know what makes it stand out from the competition. About the Hive Five feature series asks readers to answer the most frequently asked question we get: "Which tool is the best?" Once a week we'll put out a call for contenders looking for the best solution to a certain problem, then YOU tell us your favorite tools to get the job done. 2. Further Reading: Understanding Focus Modes Focus Points Both of those focus modes rely on what are known as focus points. When you look through the viewfinder, you should see a number of squares/dots overlaid across the screen. The DSLR camera also has a few accessories that are designed specifically for close-up or macro photographs. You don't necessarily need to consider them all straight away, but exploring and understanding the effect of each setting will soon have you in complete control of your camera. It's just a case of understanding that they are all linked, and so changing one setting, will cause a change in another. Your mode dial may have the letters 'A, S, P, M' (instead of Av, Tv, P, M), yet they all function in the same way. If you wanted to reduce the depth of field, and decided to use an aperture of f/4.0, you would be increasing the size of the aperture by two whole f/stops, therefore increasing the amount of light entering the camera by a factor of 2, twice). Let us know which models you think are the best in the discussions below. The call for contenders is closed! To see which of your nominees made the top five, head over to our hive five feature to find out! Don't forget to vote for your favorite tool for the job. Rely on the DSLR camera's autofocus mechanism to attempt to provide a sharp focus, but some autofocus mechanisms struggle with extreme close-up photos. You also can achieve much greater magnification using a macro lens with your DSLR camera. Flash - the flash will add a cool blue cast to the image, so used to add some warmth. 3. Aperture priority (A or Av on Canon): You control the aperture while the camera takes care of shutter speed. The biggest step, that will give you the most noticeable difference in the feeling of control and direct influence on creative results, will be to start using the 'aperture priority' or 'shutter priority' shooting modes and once you are familiar with those, you can start thinking about exploring further. Now that you understand the basics, try experimenting with different lenses to get the perfect shot! Here are five common types to consider: 1. Shutter priority (S or Tv on Canon): The opposite of Av: You control shutter speed while the camera adjusts the aperture accordingly. This is to do with the white balance and, whilst you can make some adjustments to the image on your computer, it is much simpler if you get it right up-front. With an actual macro lens, you can capture far greater details in your photos than you can with simple close-up photography. We understand it's a bit of a popularity contest, but if you have a favorite, we want to hear about it. Manual mode: this will give you full control of shutter speed, aperture, and ISO. was sharp Whereas a shallow depth of field (achieved by using a large aperture (small f-number)) would produce an image where only the subject is in sharp focus, but the background is soft and out of focus. Not sure what DSLR you should buy? Further Reading: learn more about Shutter Priority Mode. More Ultimate Photography Guides If you enjoyed reading this tutorial we've put together a series of other similar articles that you may find useful: Right: the same image, corrected for a 'Tungsten' white balance, giving the cooler tones on the stone work, and the bluer sky As the colour temperature of different light sources is well known, there are a number of presets built into your camera that help to overcome the different colours of light in different situations - cooling the warm light, and warming the cool light - all in the cause of trying to capture the colours of the scene accurately. Generally, there are three metering modes that you can choose from: Average - The camera will assess the tones across the entire image form corner to corner, and expose the scene to 18% grey from that assessment. You will also have the option of choosing whether to record the images as 'raw' or 'jpeg' file type. Which DSLR do you choose? Therefore, to balance the exposure, you could do the following: Situation 1: Reduce the shutter speed by a factor of 4, i.e. to 1/40th second. Master Metering Through out all of the above discussion, I have said that the camera calculates the exposure depending on the amount of available light, but what is it actually doing? Soon enough, you will no longer think of your camera as a mysterious black box, but understand how to achieve the photographic results that you bought it for in the first place. Further Reading: Read more about Aperture Priority Mode. It will soon become second nature to set it as you take your camera out of the bag. Learn About Focusing Regardless of what shooting mode you are using, or what ISO you define, the chances are there will be a subject of your image that you want to have in focus. If that focus is not achieved, the image will not be what you wanted. Practically speaking: avoid auto white balance and set the white balance manually. Therefore, this was shot with ISO4000, however you can see very obvious noise in the 100% crop (right) Practically Speaking: you want to keep the ISO as low as possible, as the lower the ISO, the less noise and the higher the quality of the resulting image. (These modes are not to be confused with the AF/MF switches on the lens, where AF stands for manual focus. That switch is an override for if you want to make use of the autofocus modes discussed above, ensure the lens is set to AF). Situation 2: Reduce the ISO by a factor of 4, i.e. to ISO100 Situation 3: A combination of the above, shutter speed by a factor of 2 (to 1/20th second) AND reduce the ISO by a factor of 2 (to 1/20th second) AND reduce the ISO by a factor of 2 (to ISO200). Have a suggestion for the Hive Five? Additionally, make sure it can sharply focus on the subject without causing the overall scale of the photo to be distorted. This feature supports a very shallow depth of field, which blurs the foreground and background and produces a sharp focus on the subject. When using the DSLR camera's macro setting, you're simply causing the camera to adjust its autofocus mechanism to work with subjects that are very close to the lens. It will enable you to get the best results whilst you learn the basics or your camera before complicating matters with post-processing of raw files. If you've bought yourself a DSLR (or mirrorless camera) and, after unpacking it from the box, you are intimidated by the number of buttons and dials, and by the thickness of the manual, it can be very tempting to put the manual down, flick it onto 'Auto' and start shooting. Whilst that is fine for some, it may not be long until you crave the creative control that inspired you to purchase a DSLR in the first place, but where do you begin? Steps for Learning How to Use Your DSLR include: Here's some steps for learning how to use that new DSLR that we'll cover in this article. Scene modes: These are preset settings based on what the manufacturer believes would be best for particular subjects. Note to Mirrorless Camera Owners too! 1. The aperture is the size of the opening in the lens through which light is allowed to pass whenever the shutter is opened - the larger the aperture, the more light passes through. This coloured light is reflected off of surfaces, but our brain in clever enough to recognise this and automatically counter the effect, meaning that we still see a white surface as a white surface. This is known as metering, and it is the reason that if you point your camera at a bright white scene, such as after it has snowed, and take a photograph the resulting image will always appear darker than you or I see it. Similarly, if you point your camera at a bright white scene, such as after it has snowed, and take a photograph the resulting image will always appear darker than you or I see it. image will always be brighter than you or I see it. One of the great things about using a DSLR camera to shoot close-up photos is that you have a lot of options for adjusting the aperture and other settings to create a high-quality close-up photograph. Kit (standard) lens: These versatile lenses often come standard with your DSLR and are great for budding photographers. Light from a candle, or from the sun during sunrise/sunset, is very warm, and contains a lot of blue wavelengths. Learn about White balance If shooting in jpeg, as recommended above, you will need to make sure you set your white balance before taking a picture. The bright snowy background caused my camera to underexpose this scene by nearly two stops, which could have been corrected by exposure compensation in camera. The 'auto' feature (auto WB or AWB) will attempt to predict the colour of the light by detecting the predominant colour of the scene and then countering it, however it may not necessarily make a correct decision, leaving you with inaccurate colours. The noise will be most pronounced in the darker/shadow regions. The white balance can significantly impact colour tone of your photographs. Telephoto or Superzoom: You'll be able to zoom. Therefore, they are all linked, and understanding the relationship between them is crucial to being able to take control of your camera. A change in one of the settings will impact the other two. For example, considering a theoretical exposure of ISO400, f/8.0, 1/10th second. This way, you will be able to choose what you are focusing on, ensuring that the subject you want to capture is in focus. As with most Hive Five posts, if your favorite was left out, it's not because we hate it—it's because it didn't get the nominations required in the call for contenders post to make the top five. Now you're ready to upgrade your camera. Do you have a DSLR? Instead, make your vote and reply separate discussions. The macro setting doesn't change the way the lens itself works. For a photo to truly be called a macro photo, it must be shot with a DSLR macro lens, which must have the capability of shooting at least a 1-to-1 ratio magnification. Further Reading: A Beginners Guide to Metering Modes Exposure Compensation Generally found on a small +/- button near the shutter, this is one of the most useful functions to learn how to use. It allows you to either increase or decrease the cameras default meter reading to account for the actual brightness of a scene. A raw file is uncompressed, and so contains a lot of image data that allows for a lot of flexibility during post-processing (i.e. on your computer) but also comes with additional complications such as the need to 'process' every file using dedicated editing software and a larger file size. Most digital SLRs now have an 'auto-ISO' function, where the camera sets the ISO depending upon the amount of light in which you are shooting, keeping it as low as possible. Once you are familiar with the basic focussing modes and focus point selection, you can then explore the more advanced modes that your camera may offer. If a scene contains primarily bright tones and is being rendered too dark, for example, a bright white snow scene (that will typically be reduced to 18% grey by the default metering system), you can apply positive exposure compensation to let the camera know that the scene should be lighter than middle grey. Macro is the more common term, though, referring to DSLR equipment designed for close-up photography. This image was taken as the sun was going down, meaning there was not much ambient light. It's just a case of balancing the books! They all have the net effect of reducing the amount of light by a factor of 4, countering the change in aperture. When you shoot true macro or close-up photography, use manual focus to ensure the sharpest focus possible. But what can you do if a scene is under/over exposed? That is where exposure compensation comes in. Below, I have given each abbreviation for the given mode. This guide gives beginners a grasp of the basics with easy-to-understand explanations of the features and design of digital single-lens reflex camera, pick a lens that achieves the type of magnification vou want. We get hundreds of nominations, so to make your nomination clear, please include it at the top of your post like so: VOTE: BEST DSLR. Aperture and shutter priority shooting modes may be semi-automatic, meaning that some may deride their use because they're not fully manual, however they are incredibly useful modes to shoot in that can give you enough creative control to capture scenes as you envisage them. Aperture Priority (Av or A) Aperture priority can be thought of as a 'semi-automatic' shooting mode. When this is selected, you as the photographer set the aperture and the camera will automatically select the shutter speed. Thanks for letting us know! Tell us why! Got a DSLR but overwhelmed by all of the features? A spring lamb leaping in front of a snowy hillside. Wide angle lens: Great for landscapes, this lens will capture a scene with a wide viewing angle. So why would a photographer care if he or she is shooting macro or close-up photos? The ISO sensitivity) up to ISO 6400 (high sensitivity) and beyond, and controls the amount of light required by the sensor to achieve a given exposure At 'low' sensitivities, more light is required to achieve a given exposure compared to high sensitivities where less light is required to achieve the same exposure. To understand this, let's look at two different situations: Low ISO numbers If shooting outside, on a bright sunny day there is a lot of available light that will hit the sensor during an exposure, meaning that the sensor does not need to be very sensitive in order to achieve a correct exposure. Therefore, you could use a low ISO number, such as ISO 100 or 200. This will give you images of the highest quality, with very little grain (or noise). Aperture is one of the most important aspects of photography as it directly influences the depth of field - that is, the amount of an image that is in focus. A large depth of field (achieved by using a small aperture (large f-number)) would mean that a large distance within the scene is in focus, such as the foreground to the background of the landscape below. Auto mode: The camera takes control of every setting. Left: The image captured using auto white balance has a heavy yellow tone from the artificial street lighting. Please don't include your vote in a reply to another person. Fluorescent - Compensates for the green/blue tones of fluorescent light strips when shooting indoors. Another advantage of most macro DSLR lenses is that they are fast lenses that can shoot at a wide open aperture (with a small f-stop number). If you select a single focus point, you should be able to change which point is active fairly easily either by using directional buttons one of the dials. If you select a focus point that is on your desired subject, you will ensure that the camera focuses where you want it to. After a small amount of practice, you will soon get into the habit of being able to change the focus point without taking the camera away form your eye. 6. Taken at ISO 100, the image does not show signs of noise (even when looking at the 100% crop (right) High ISO numbers If shooting in low light conditions, such as inside a dark cathedral or museum for example, there is not much light available for your camera sensor. A high ISO number, such as ISO 3200, will increase the sensitivity of the sensor, effectively multiplication effect comes with a side effect of increased noise on the image, which looks like a fine grain, reducing the overall image quality. 5. Practically speaking: when starting out with your camera, either average or centre weighted metering are a good starting point. They will soon begin to understand when a scene will be under exposed (i.e. too dark) or over exposed (i.e. to light) compared to how you see it with your own eyes. Mei Horiuchi from reviews.com is here to explain some of the basics that will have you shooting like a pro in no time. Further Reading: Learn more about White Balance Conclusion So that is an overview of the settings you will encounter when you want to take the leap and take your camera off 'Auto'. Among lenses for your DSLR camera, the terms micro or macro both refer to the same type of lens. Generally, you will be able to look up at the sky and see what kind of day it is, and determine the colour balance required pretty easily. 3. Spot metering - The camera will use a very small area of the scene, typically a small circle in the centre of the viewfinder that totals approximately 5% of the viewfinder area. It will make the assessment of dark/light tones in this area and expose the entire scene to 18% grey, from that assessment of dark/light tones in this area and expose the entire scene to 18% grey, from that assessment of dark/light tones in this area and expose the entire scene to 18% grey, from that assessment of dark/light tones in this area and expose the entire scene to 18% grey, from that assessment of dark/light tones in this area and expose the entire scene to 18% grey, from that assessment of dark/light tones in this area and expose the entire scene to 18% grey, from that assessment of dark/light tones in this area and expose the entire scene to 18% grey, from that assessment of dark/light tones in this area and expose the entire scene to 18% grey, from that assessment of dark/light tones in this area and expose the entire scene to 18% grey, from that assessment of dark/light tones in this area and expose the entire scene to 18% grey, from that assessment of dark/light tones in this area and expose the entire scene to 18% grey, from that assessment of dark/light tones in this area and expose the entire scene to 18% grey, from that assessment of dark/light tones in this area and expose the entire scene to 18% grey, from that assessment of dark/light tones in the entire scene to 18% grey, from that assessment of dark/light tones in the entire scene to 18% grey, from that assessment of dark/light tones in the entire scene to 18% grey, from that assessment of dark/light tones in the entire scene to 18% grey, from that assessment of dark/light tones in the entire scene to 18% grey, from that assessment of dark/light tones in the entire scene to 18% grey, from that assessment of dark/light tones in the entire scene to 18% grey, from the entire scene to 18% grey, f photography, from the way your camera works Read more We're drawing some brackets around this one—point and shoots are out, of course, but we also aren't looking for high-end camera gear that photographers own. Nominations emailed to us will not be counted. Read more of Mei's tips for new camera owners here. Shutter Priority (Tv or S) Similarly to aperture priority, this is another 'semi-automatic' shooting mode, though in this instance, you as the photographer set the shutter speed and the camera will take care of the aperture. Further Reading: Read more about the Exposure Triangle. When you half-press the shutter, you should see one of these squares be highlighted in red. That is the active focus point, and it is that position within the frame that the camera is focussing on. Tungsten - Used for shooting indoors, under incandescent light, to cool down the yellow tones. Angela Heine / EyeEm/Getty Images If you don't want to purchase a macro lens for your DSLR camera, you still can shoot close-up photos by simply moving closer to the subject. Aperture, shutter speed and ISO are all facotrs that influence your exposure, and are all linked. Check out our free Ultimate Guide to Photography for Beginners. Left: Straight out of camera, with the snow caught as grey. Centreweighted - The camera weights the exposure reading for the area in the centre of the viewfinder that can total up to approximately 80% of the scene, ignoring the extreme corners of the image. Practically speaking: Initially, set your camera manual should tell you how to do this). The aperture is measured in 'fstops' and is usually displayed using an 'f-number', e.g. f/2.0, f/2.8, f/4.0, f/5.6, f/8.0 etc, which is a ratio of focal length over diameter of the opening) has a larger f-number (e.g. f/2.2). Reducing the aperture by one whole f-stop, e.g. f/2.0 to f2/8 or f/5.6 to f/8.0, halves the amount of light entering the camera. Right: With +2 stops exposure compensation (added in post processing). Both will perform the kind of photography you want—in other words, making a small subject look big. Program mode (P): The camera will set the optimum aperture and shutter speed. Auto-ISO is a very useful tool when starting out with your camera, as it is allows you to define an upper limit i.e. where the images become too noisy such as ISO1600 or 3200, and then forget about it until situations where you specifically want to override the automatic setting, for example if taking landscape images using a tripod, you can afford to use the lowest ISO possible. Further Reading: Discover more about how to use ISO. Shade - To be used if shooting in the shade, as shaded areas generally produce cooler, bluer images, so need warming up. Macro: If you're into close-up photography, try out one of these to capture flowers, insects, and more! The biggest takeaway is to practice, practice, and practice some more! The more comfortable you are with your DSLR, the better your images will turn out. While a DSLR camera may offer a macro setting, most of the time this actually is close-up photography. Conversely, if a scene contains primarily dark tones and is being rendered too light, for example, a dark night scene (that will typically be increased to 18% grey by the default metering system), you can apply negative exposure compensation to let the camera know that the scene should be darker than middle grey. Want more tips on DSLRs for beginners? New to Photography? You want to set the file size to the largest possible (whether it is 'large' or 'fine' or 'super fine') to ensure that you are making the most of the mega pixels that you have just invested in. Leave us a comment with your favorite tip. AF-C - autofocus-continuous. This is best used when taking photos of action or moving subjects such as sports and wildlife. When you half-press the shutter, focus will be acquired and locked on to a given subject. When that subject moves, the focus will adjust with it, refocusing all of the time until the photograph is taken. If it clouds over, maybe select an ISO between 400-800. Learn the 'Exposure Triangle'. They all control either the amount of light entering the camera (aperture, shutter speed) or the amount of light required by the camera (ISO) for a given exposure. This guide outlines some important features to consider when shopping for and shooting with your first DSLR. Even so, we're sure that most of you have some concrete suggestions for great DSLRs that you'd suggest to the budding photographer in your life.