Dapto Camera Club Magazine.

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The teaching Club.

How Long Do Micro SD Cards Last?

By Cole Humphus

SD cards are an integral component of digital photography, but it's difficult to know when it's time to replace one before you've already lost important files. We're sharing what the experts have to say about how long your micro SD card should last, which brands are reliable, and what the best practices for memory card use are according to photographers.

Memory Card Reliability

Whether you're a professional photographer, a hobbyist, or something in between, you undoubtedly use an SD card often to transfer images from your camera to your computer. Micro SD cards, or small-sized "secure digital" cards that use flash memory to transfer digital data, are the smallest widely-used memory cards on the market.

Micro SD cards were designed for use in cell phones but are now widely used in small electronic devices,

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Gurushots - https://gurushots.com/
Free Lessons with Serge Ramelli - http://photoserge.com/free-lessons/all

Viewfinder cover photo taken by.
Norm Blake

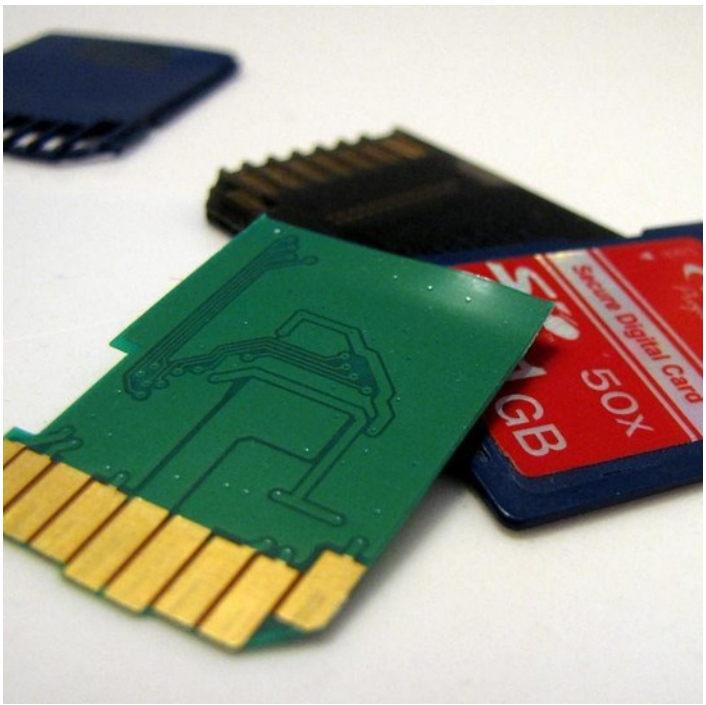
tablets, and all different kinds of cameras.
SD cards retain downloaded files by writing and erasing cycles on the card's memory cells. An SD card's lifespan has everything to do with how frequently it is used. According to HowStuffWorks, memory cells in micro SD cards can undergo up to 10,000 write-and-erase cycles before wearing out.
Since 10,000 write cycles are the equivalent of writing and erasing the card's content daily for nearly 30 years, memory cards are generally long-lasting. Still, there are specific measures a photographer can take to extend their micro SD card's life.

Which Brands Are Best?

The best way to ensure that your micro SD is reliable is to purchase from a credible, SD Association-approved brand. The SD Association, founded in 2000 by leading SD card brands shortly after the SD card's invention, provides industry standards for SD card tech. Among SD Association-approved brands are SanDisk, Lexar, and Transcend.
If you're looking to purchase the best name-brand memory card on the market, choosing one that carries an SD Association endorsement is a smart idea.

Overall Lifespan of SD Cards

There is no definite lifespan of an SD card, despite their theoretical 30-year timeline. Based on the current flash memory technology, most SD cards are projected to last ten or more years. However, cards that get heavy use are prone to wear out quicker.



Though SD cards have extensive projected longevity, if you maintain a photography business or are by any means an avid photographer, it makes sense to replace your SD cards relatively frequently.

According to the SD Association

The SD Association states that the lifespan of your SD card depends on several factors, including how the card was manufactured. The Association's stance suggests that SD card memory technology is built to last 10+ years with "normal usage" and outlast the lifespan of multiple compatible devices, including cameras and computers.

According to Lexar

While Lexar does not overtly state SD card products' intended lifespans, the SD Association-approved memory company boasts that its products undergo a rigorous testing process for reliability. Further, Lexar offers a lifetime warranty on all of its micro SD products, suggesting that they are intended to last.

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According to SanDisk

Like Lexar, the SD Association founding member corporation SanDisk offers a lifetime warranty on most of its SD card products. Though it is difficult to determine the brand's exact lifespan, there is an extensive help forum on the SanDisk site for troubleshooting faulty cards, which suggests a moderate failure rate.

According to Photographers

Professional photographer QT Luong is a seasoned photographer with recent experience in SD card failure. His experiences reinforce the idea that memory cards can last years. In his article, "Lessons from Losing a Week of Photos to Memory Card Failure," he writes that he has been practicing professional photography since 2000 (around the time these types of memory cards were invented) but didn't have a mishap with an SD card until 2018.
Despite this, when he finally did lose essential files because of a card failure, his biggest regret was not backing up his material elsewhere, as the trouble he underwent attempting to recover his files far outweighed the time it would have taken him to back up his footage.
Matthew Saville, a professional wedding photographer, adheres to the general principle that well-constructed micro SD cards are made to last years on end. He has never experienced a card failure at a crucial moment in his career.

Despite this, he adheres to certain practices to prevent the loss of images, including replacing entirely functional SD cards — even cards with no sign of wear — every two to three years. Additionally, he swears by purchasing only high-quality, SD-Association approved memory cards.

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Best Practices in Caring for SD Cards

According to the professionals, an SD card's lifespan is projected to last years, but it is by no means set in stone. Most photographers (including Luong, Saville, and Mike O'Leary at Fstoppers) have some helpful tips for avoiding SD card failure and file loss.

Go with a reliable brand.

All three professional photographers we consulted warned against buying the bargain brand and suggested seeking out authorized sellers when shopping for well-known brands such as Lexar and SanDisk, as some sellers list counterfeit cards.

Purchase multiple SD cards.

Owning multiple cards allows for a constant rotation and minimizes the writing and erasure frequency on memory cells. Additionally, suppose you buy just one card with a large capacity. In that case, a failure could result in a loss of all your work, while if you evenly distribute your work over multiple cards, you never have to risk losing your entire portfolio.

Back your photos up on a separate device.

It's always a safe choice to have your meaningful photos saved in multiple locations, and this proves to be the responsible route for avoiding the loss of personal files and clients' content according to professional photographers.

Handle your card with care.

SD cards — and especially micro SD cards — are fragile. Be sure to exercise caution when removing your card from your camera or computer, don't let it get wet or dirty, and don't expose it to extreme temperatures. Additionally, use caution in daily use when removing the card from computer and camera slots, and always make sure to properly eject your memory card from your computer after downloading files.

Micro SD Card FAQs

Here are some of the most frequently asked questions about micro SD cards and the professionals' answers.

How Do I Know If My Micro SD Card is Bad?

The unfortunate thing about flash memory technology is that if your SD card is worn from writing and rewriting, you often won't be able to tell that there is anything wrong with your card at all until you are unable to access your files.

DataNumen compiled the most common signs you've got a faulty SD card, including if your files go missing, your devices can't recognize your card, or you receive an error message. Another factor to consider when assessing your SD card's performance is any physical damage or long-term wear-and-tear to your memory card.

Are Micro SD Cards Good for Long-Term Storage?

While it may be easier to store files solely on your micro SD card than to go to the trouble of saving your photos in multiple locations, it pays off to store your files on multiple devices. The storage space on an SD card is not technically impacted by long periods without use, though most store-bought cards aren't ideal for archival purposes.

After all, a memory card's primary role is not to store files for long periods but to transfer them from your camera to larger, more reliable devices built for editing and dissemination purposes. Especially if your card is on the older side, backing up your images on a separate device and downloading files often are both safe options.

Do Micro SD Cards Wear Out?

Short answer: yes. After undergoing the excessive writing and erasing that accompanies heavy use, the flash memory systems micro SD cards operate with *can* wear out. It's always a good idea to back up your files and keep multiple cards on hand, especially if you often use your SD card.

How Often Do SD Cards Fail?

Most memory cards do not fail. According to photographer Mike O'Leary at Fstoppers, a majority of memory cards are entirely reliable. A poll conducted among professional photographers concluded that the more shots a photographer takes, the more likely they are to have experienced an SD card failure. Therefore, facing some memory card failure in an entire *career* as a photographer is nearly inevitable. However, most photographers operate under this assumption and should always be prepared.

Key Takeaways

- SD cards are designed to last for 10 years or more.
- Frequent users should replace their SD cards every few years.

Professional photographers should have a substantial collection of high-quality backup SD cards on hand.

How long your micro SD card lasts depends on a handful of factors. But by using backups and replacing them every so often, you can keep snapping photos with confidence.

Cole's Classroom https://www.colesclassroom.com/how-long-do-micro-sd-cards-last/?vgo_ee=LZUF0DSktzd%2BFaA236qvQEzkASpiHornD%2Fz2wZTd1jg%3D

Inexpensive Lenses for your Camera

By NYIP Staff

Most people who buy a Digital Single Lens Reflex (DSLR) camera purchase the lens bundled with the camera — the "kit lens" — and do just fine. After a little shooting, though, they realize there's a world of possibility out there for their photography if they add a few new lenses. That's what an SLR camera allows you to do — take that kit lens off and put other lenses on. At this point, however, sticker shock can set in: the best-rated lenses often come with a very big price tag.

So, are there some great bargains out there? Can you start adding to your camera bag without breaking the bank? Could we assemble a full camera bag of high-quality, useful lenses for under $1000? It turns out that we can.

The Bargain 50mm

Let's start with the easy bargains. Most camera brands have a "plastic fantastic" 50mm available. For example, Canon sells a 50mm f/1.8 new for $100, and the Nikon 50mm f/1.8 is $125. These are classic lens designs, perfected over the years, and they have excellent optical qualities despite the bargain price. (These same brands usually also sell a 50mm f/1.4, generally around the $400 range. For most people, the less expensive 50mm will be just fine.)

50mm is a great focal length for basic portraits — it's slightly telephoto on most DSLR cameras so it's flattering to the human face, and it provides a working distance that is very comfortable for half-length portraits. In other words, with a 50mm on your DSLR, you end up standing at a distance from your subject that's really comfortable for most people — not too close, not too far.

Also, because a 50mm f/1.8 provides a very wide aperture, it's excellent for low-light work. And you can experiment with shallow depth of field: it becomes very easy to shoot at f/2.8 and get a person in focus and the background out of focus. A bargain 50mm is light, cheap and optically perfect — and that's tough to beat.

The Off-Brand Macro/Portrait Lens

Judging by the email we receive, many photographers are interested in portrait photography, and many are interested in exploring macro photography. What type of lenses are needed for portraiture or macro work? Well, we usually use focal lengths between 50mm and 135mm for portraits — it turns out that somewhat-telephoto focal lengths are usually flattering to the human face. Macro lenses tend to fall in that same range of focal lengths as well. (A macro lens is a lens designed to let us get a tiny subject at full size in our shot. In other words, even if we are photographing a tiny praying mantis or a button from a coat, we can get close enough and magnified enough that we can fill the frame with that object. This would include photography of everything from bugs to jewellery to architectural details.)

Well, all the major camera brands provide lenses just perfect for either task — for example, you can find a really classic portrait lens, like an 85mm f/1.4, designed and branded for Nikon, Canon, Sony, Pentax or Olympus. These are great lenses, but they're expensive. And you can typically find 50mm and 100mm macro lenses, also, but again the major brand versions tend to be pricey.

So, can we find a lens that will work in our price range? Yes. It turns out there are some "off-brand" macro lenses that perform very well as portrait lenses. They do incredibly well on optical tests, matching or beating the branded lenses, and they come in at good prices. There are two I would look at: the Tamron 90mm f/2.8 and the Sigma 70mm f/2.8.

The Tamron 90mm f/2.8 is currently listing at many places at about $450. All the lens reviews and tests show this lens is a match optically for the best lenses out there — and at about 25% of the price of the "pro" branded lenses. One surprise with this lens: while most lenses don't test their best at the widest aperture — usually lenses perform much better stopped down at least one stop — it turns out that the Tamron does very well at its wide-open setting. So while it doesn't go to f/1.4, you can shoot at f/2.8 with it for very shallow depth of field.

I've shot with this lens to try it out, and I really like it.

The Sigma 70mm f/2.8 is another great possibility. A review in *Popular Photography* magazine a while back called it the sharpest lens in the Sigma lineup, and all the lens tests and reviews love it for both portraits and macro work. It's currently selling for $499. So with either of these, for about $500 bucks, you can start to experiment with beautiful head-and-shoulders portraiture, and then the next day you can grab your favorite insects and try some macro work. Sigma and Tamron make these for all major camera mounts, last I checked, and you can buy them at most of the big camera stores.

A Budget Wide Prime

While we're on Sigma, another real bargain in their lineup is the 28mm f/1.8, currently selling for $349. I don't have this particular lens. I have both the Sigma 20mm and 24mm, so I feel I have that range covered. According to those who do own it,

though, it's a high quality, wide and fast lens for a good price. It does have one downside: it's a big, heavy beast. There are much smaller and lighter 28mm lenses out there — but the Sigma is about a stop and a half faster, since its maximum aperture is f/1.8, and it has shown great performance in optical tests and reviews. On a DSLR, this 28mm range is very useful — it's fairly close to how your eyes see the world.
So, back to our camera bag — if we grabbed a plastic fantastic 50mm for $100, an off-brand-but-great Tamron 90mm for $450, and a Sigma 28mm for $349, that leaves us with $100. Can we get anything useful in that range?

The Lensbaby

Well, besides adding lenses for specific tasks such as light low-light work, portraiture, macro or wide-angle photography, sometimes we want to create images that stand out from the crowd. So consider adding a Lensbaby to your kit. The new Lensbaby Composer is just outside our budget at $269, but "Muse" — available for most camera mounts — goes for about $99. This tool is intended to let you explore the possibilities offered by selective focus effects — purposely throwing areas of a scene out of focus. Besides creating distinctive, eye-catching images, this is a very fun item that might offer a chance to make an otherwise boring image into something unique.

Bargain Cautions

So, we've found enough bargains to fill a camera bag. If we decide to keep bargain hunting, are there any dangers to avoid? Well, I do advise people that when they see a lens that provides a superzoom range — for example, 20mm-300mm — for only $200 they should run the other way. There are a lot of lenses that will work and make photographs, but if you look closely you'll discover that cheap superzooms often have a lot of optical problems such as distortion (changing the shape of what is photographed), chromatic aberration (often seen as purple fringing) or vignetting (darkening in the corners of the frame). If our goal is to get high-quality images, a cheap superzoom won't work.
Also, if we take a look at the used market, there are risks to buying used lenses: a lens that is stored in bad conditions can have any of a number of problems, including degraded lubricants that cause the aperture to stick open longer than it should, or other damage that you won't see until you shoot with the lens. So I generally don't lean toward Ebay.com or Craigslist.com purchases, though some people will do very well there. I do think, however, that one can find very good bargains from reputable used stores — those that know lenses, and that will stand behind their product if something does turn out to be wrong.
Also, before buying any lens, use the Web to find specific reviews of how that lens works on your specific model of camera. You'll find that every lens has its positive and negative features, and that's definitely true on bargain lenses. So read the reviews and make sure the lens will work for you.
https://www.nyip.edu/photo-articles/fun-stuff-for-photographers/inexpensive-lenses-for-your-camera

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Equipment and Camera Settings You'll Need for Better Moon Photography

By: Jeremy Flint

Super Moon, Oxford, England
As the brightest object in the night sky, the Moon has captivated people around the world for centuries. The Moon is simply fascinating, particularly with the recent 50th anniversary of the first humans landing on the Moon. It is also one of the most incredible subjects to learn to photograph. Everyone loves to observe the Moon, but have you ever looked up to the sky at night and thought, "how can I capture this magnificent phenomenon?" Well, as photographing the Moon can be a challenging undertaking, I have highlighted some information about the Moon and recommendations regarding equipment and camera settings you'll need to consider to achieve better moon photography.
It is initially worth considering what the Moon actually is. Well, in general, the term "**moon**" denotes an object that orbits something other than the star in a solar system. Earth's Moon is an astronomical body that

orbits the planet and acts as its only permanent natural satellite, orbiting the Earth every 27.3 days. It is the fifth-largest Moon in the Solar System and is an average of 384,403 kilometers (238,857 miles) from Earth.
When you look up at the night sky to view the peaceful and tranquil Moon, you might notice that the Moon looks a little different each night. This is due to our Moon's many phases and types.

Phases of the moon

Partial lunar eclipse, England
The amount of sunlight that reflects on the Moon's surface that we can see from our point of view on Earth varies every day, and this is what we refer to as a Moon phase.
Moon phases change during the lunar month from a New Moon (which occurs the moment the Sun and Moon are aligned, with the Sun and Earth on opposite sides of the Moon) to a Waxing Crescent moon (when a thin sliver of the Moon becomes visible after a New Moon), First Quarter Moon (the moment the Moon has reached the first quarter of its orbit around Earth), Waxing Gibbous Moon, Full Moon, Waning Gibbous Moon, Third Quarter Moon and Waning Crescent Moon.

Different types of full moons

A **full moon** occurs when the side of the Moon facing Earth is fully lit up by the Sun. There are several types of unusual full moons that look different in color and size due to its position to the Sun and Earth. These include blood moons (that appears reddish and occur during a total lunar eclipse, when Earth lines up between the Moon and the Sun); Supermoons (a moon that appears larger because it is closer to Earth), Blue Moons (the "extra" Moon in a season with four Full Moons or the second Full Moon in a calendar month) and Harvest Moons (the full, bright Moon that occurs closest to the start of Autumn), for example.

The equipment

When photographing the full moon or different phases of the moon, you will need some essential pieces of equipment. I recommend you use a tripod for stability. Whilst you may get away with hand-holding your camera, you will get better results by mounting your camera on a tripod and avoiding camera shake. In addition, a remote shutter release cable is a useful bit of kit to help prevent camera shake. It is not essential as you can use your cameras self-timer function.

Which lens to use

The type of lens you use largely depends on whether you would like to capture the moon in the landscape, or as a detailed close-up. Wide-angle lenses are great to photograph the moon as it moves over an interesting landscape. Alternatively, a telephoto lens is a great choice for getting closer to the moon to reveal its surface details. Consider using a long focal length lens with a range of 300-400mm.

Which camera settings to use

Moonrise, England

Once you have chosen a lens and set your camera on a tripod, you will need to select your settings. Firstly, I would recommend setting your ISO to 100 to prevent noise and grain in your images. Next, select an aperture in the region of f/8 – f/16 to achieve clearer and cleaner shots. In terms of shutter speed, 1/60th to 1/125th should be a great starting point.

Focus on the moon

Moon and sky, England

When you have applied the settings, all you now need to do is set the focus of your camera. I like to use my cameras manual focus to focus on the Moon. Once the focusing distance to the Moon looks sharp using manual focus, you are ready to shoot the Moon.

In my experience, manual focus works better than autofocus as the Moon's surface is sometimes too dark to be recognized by the camera's autofocus and I find manual focus to be more reliable in obtaining sharper shots in low light. By using manual focus, if you're camera settings aren't spot-on for any reason, you will still have reasonably sharp photos that you can recover in your editing software.

If you apply all of these tips, you'll achieve better Moon photography and be equipped to photograph the Moon at the best time.

Conclusion

In summary, photographing the Moon is one of the most enjoyable subjects any photographer can learn. To achieve better photos of the different phases and types of the Moon, be sure to use a tripod. Also, consider a remote cable release, choose a wide-angle or telephoto lens, get your settings right, and focus your camera on the Moon manually.

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7 Tips for Stunning Black and White Photography.

By: Jaymes Dempsey

How do you achieve stunning black and white photography?

Black and white photography is one of the most intimidating genres out there, mostly because it's associated with lots of established names, as well as the "fine art photography" label.

But here's the thing:

Black and white photography isn't actually difficult.

In fact, it's just like any other genre of photography: There are a few tips and tricks that, once you apply them to your shooting process, will instantly improve your black and white photos.

And that's what this article is all about. I'm going to share with you seven tips for stunning black and white photography. And you'll come away with the ability to take masterful black and white photos wherever you go.

Sound good?

Let's dive right in:

1. Shoot in high-contrast light for the most impactful photos

Here is the number one thing you need to remember about black and white photography:

It's all about the contrast.

In fact, if that's *all* you take away from this article then you'll have profited enormously, because contrast is the lifeblood of black and white photography.

Now, there are a number of ways to create contrast in your photos. And I'll explore these different techniques below.
So let's start at the very beginning:
With light.
If you can't make the light work for you, your black and white photos are just going to look like a muddy mess. Instead, you need to recognize the type of light you're working with, and you need to try to use that light to achieve as much contrast as possible.
The best light for black and white photography is (no surprise!) high-contrast light. More specifically, light on sunny days.
If you've explored other genres of photography, you'll know that light on sunny days is harsh, it's unpleasant, and it just doesn't look good.
Unless you're a black and white photographer.

Because bright, sunny light enhances dark tones and creates intense light tones. This looks amazing in black and white photos, and it'll really take your black and white images to the next level.
If you want to do some shooting but end up with softer golden tones from later in the afternoon or early in the morning, you can try using heavy backlighting to create additional contrast.

2. Find contrast-heavy tones and put them together

You already know about the importance of contrast in black and white photography. And you know about the importance of using contrast-heavy light.

But even once you've got the best light, you still have to make sure that the tones of your photo lend themselves to the overall black and white look.
Now, the best black and white tones are very dark and very light. For instance, a great black and white might include a white sky and a dark house, or a bright character standing in front of a black building.
So when you're out and about, look for tones that contrast. Try not to think in terms of colours, because the colours will just distract you. Instead, think about the relative brightness of tones.
And look for blacks and whites that go together.
Once you've found them, however, you're going to need to follow a piece of compositional advice:

3. Simplify your black and white photos as much as possible

All photography, for the most part, benefits from a simple composition.
However, black and white images benefit from a simple composition the most. This is because black and white photography is meant to be simple. It has no complex colors. No chaotic color-contrasts.
Instead, it's just…black and white.
So whenever you go to take your black and white shots, stop and think. Consider whether there are ways to simplify the shot.
Could you remove something distracting in the background? Could you use a wide aperture to make the background blur more? Could you change your angle so as to create a more non-distracting option!
Do anything you can to make your shot simple.
Simpler is better, all else being equal.

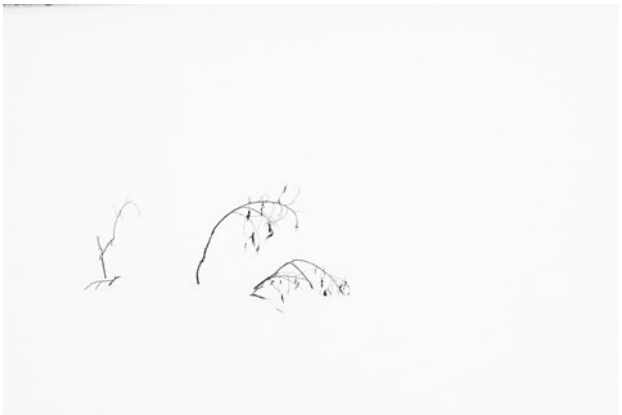
4. Try to capture raw emotion for compelling black and white photography

Here's one of the great things about black and white photography:
It's a genre that loves to capture emotion.
The smile of a person on the street. The laugh of a person crossing the road. The frown of a sad child.

These are all very photographable moments, moments that you shouldn't miss out on. And black and white is the perfect way to record it. In fact, I recommend you try to capture emotion with black and white photography. The somber look of a high-contrast black and white will take emotion and make it even more powerful in a photo. It might even give you a three-dimensional effect.

5. Use minimalism to make your compositions stand out

What is minimalism?



Minimalism is a compositional technique that emphasizes intense simplicity. And not the simplicity as I explained above, but a true, deep simplicity – one that's built into the composition.

Let me explain:

Minimalism uses lots of white space to draw attention to your main subject. White space is just empty space in a photo. (It doesn't have to be white – it can just easily be gray or black, as long as there's nothing going on in that part of the image).

This is a minimalistic photo:

Minimalistic photography uses the weight of negative space to emphasize your subject. So you don't have to be afraid of photos that are extremely minimalistic. And they're pretty easy to pull off.

To create minimalist black and white photos, I recommend you find a background that's smooth and pure, such as a white sky. Then place your main subject small in the frame, along one of the rule of thirds power points (or even just above or below the power point).

If all goes according to plan, then you should have a beautiful minimalistic photo! Don't be afraid to play with the placement of your subject.

6. Shoot against the sky to achieve a silhouetted look

In the previous tip, I mentioned that a white sky makes for a nice minimalistic background.

And it's true. A bright white sky can be used in a black and white photo to emphasize a darker subject, which is exactly what you want to do! When the sky's especially bright, you might even produce a partial silhouette, where the main subject has no detail but stands out against a white background.

So here's how it works:

Find the main subject. It can be any color, but darker tones work best.

Then get down low, so that the main subject is framed by the sky. If you're shooting on a cloudy day, you'll have plenty of bright light behind your subject (even if it doesn't seem like it). If you're shooting on a sunny day, a bright part of a blue sky should do the trick.

Experiment with different possible angles, while making sure that your main subject doesn't overlap with anything around it or behind it.

Then experiment with different exposures. Take a few shots that are drastically underexposed, a few shots that are nicely exposed for the subject, and a few shots that are overexposed.

Eventually, you'll find a technique you'll like!

7. Shoot in colour, then use post-processing to convert your photos

I've been talking all about capturing amazing black and white photos in-camera.
But a big part of the black and white photography process is the post-processing. After all, this is where you should be converting your color images to black and white shots!

When you first open your photos in an editing program, they may look bland. They might even look a little bad.
But don't worry. Because here's what you do:
First, you drop the saturation all the way down, until it's completely gone. This should give you a photo that's full of grays. Then you lift the contrast so that contrast shines through, and makes the photo pop off the page. I also recommend boosting the Whites and lowering the shadows. This will add further contrast to the photo. It also ensures a greater tonal range overall, which looks quite good!

Conclusion

If you're looking to create stunning black and white photography, then you've come to the right place. You hopefully now know all about black and white photography. All that's left……is to get out and start doing some shooting of your own. Amazing photos await!

Essential Astrophotography Questions, Answered

There are many challenges with astrophotography, to be sure.
But it's a mistake to think that it's not something that the average photographer can master.
In fact, if you're armed with the right gear and have a strong understanding of the fundamentals of photography, astrophotography doesn't have to be any more difficult than taking a regular photo.
In the night sky photography tutorial below, we've answered a few questions about astrophotography camera settings and other common questions.

Astrophotography Camera Settings: What White Balance Should I Use?

The nice thing about digital photography is that if the white balance is off in your images of the night sky, you can always correct it in post-processing.
Even better, shooting in RAW enables you to make white balance adjustments before you open the file in Photoshop, Lightroom or whatever program you prefer to use.
However, getting the white balance just right in-camera will save you the time required to fix it later.
In many cases, the daylight white balance will get you the best results.
Though it seems counterintuitive to use the daylight white balance setting when taking photos of the night sky, it produces the best colors of the stars.

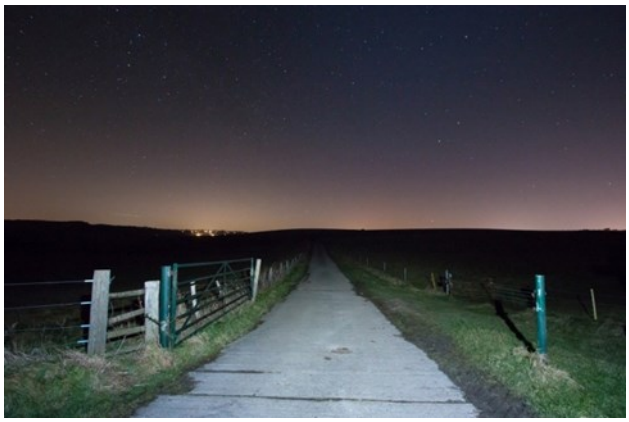
What Aperture is Best for Astrophotography?

When thinking about how to do astrophotography, a primary question people have is what aperture is the best?
Well, the answer to that question is that it depends.
That's because each situation is unique and each lens performs a little differently.
So in some situations, an aperture of f/3.2 might be the best bet while in other situations an aperture of f/8 might work better with many variations in between.

What's important to remember is this: the smaller the aperture, the lower the amount of light entering the lens.
So, if change the aperture from f/2.8 to f/5.6, you'll need to either extend the shutter speed or boost the ISO (or both) to brighten the image to account for the reduced amount of light.
But also keep in mind that while larger apertures allow more light into the lens, they also don't provide as sharp of results as shooting with an aperture closer to the lens's sweet spot.
That is, shooting at f/2.8 might be great from a light perspective, but shooting at f/8 might get you a much sharper photo.
As with many things in photography, finding the right aperture for your astrophotography will require some practice and patience.

Should I Include Foreground Interest?

As a beginner astrophotographer, you might find yourself drawn to composing images of the night sky by itself.
And while there's nothing wrong with that, you might also find that if you include foreground interest of some sort, that the photos you create have much more visual appeal.
For example, in the image above, the Milky Way is obviously what makes this photo.
However, by taking a vertical shot and including the frozen lake in the foreground, the photo has much more interest and context, making for a far better photo.



For this tip to work, though, the foreground needs to be interesting...

In the shot to the right, the foreground is both uninteresting *and* too bright. The result is a photo that isn't all that appealing.
So, adding foreground interest isn't always a given. Instead, experiment a little, and if it works, great! If not, there's nothing wrong with taking a photo of the sky by itself.

How Do I Avoid Star Trails?

Photos like the one to the left show the movement of the stars in the sky are beautiful.
But sometimes you want to capture the scene like you see it - with sharp, pinpoint stars.
There are a variety of ways to go about doing this - some easy and some more complicated.
On the complicated end is to calculate the longest shutter speed you can use and still avoid capturing the movement of the stars.
This is called the 500 Rule, which states that dividing 500 by the focal length of your lens generates the longest shutter speed you can use.
So, if you're shooting with a 50mm lens, you'd have the following formula: 500/50 = 10 seconds.
It's simple math, so it isn't overly complicated.

Caring for photographs

About photographs

Photographs include traditional black-and-white and colour prints and negatives, colour transparencies and historic photographic images captured with a range of processes on glass, paper, plastic, leather and metal. Each photographic process is unique but general guidelines may be given about their care, storage and use. Digital prints are a relatively new type of photograph and will be discussed separately.

Processing for permanence

Imperfect and incomplete processing may accelerate photographic deterioration. Photographs will last longer if they are processed with permanence in mind. The following recommendations for long- lasting photographs may be made:

- For long-lasting black-and-white prints use silver- halide processes on archival fibre-based paper and remove all residual processing chemicals.
- For long-lasting black-and-white negatives use silver-halide processes on polyester film base and remove all residual processing chemicals.

All colour processes are short-lived relative to black-and-white. The best photographic paper to use for chromogenic prints according to Wilhelm Research is Fujicolor Crystal Archive paper which produces prints that last up to 40 years.
Slow-speed, fine-grain films last longer than high- speed, coarse grain films.

Display

- Display photographs in cool, low light, dry environments, with stable conditions of humidity and temperature.
- Avoid strong light sources and direct sunlight as these will accelerate deterioration and fading. Use low ultraviolet light emitting light tubes. Colour photographs are more vulnerable and will fade faster than black-and-white.
- Avoid contact with bathroom, kitchen, laundry and external walls as humidity in these areas fluctuates greatly and can cause physical distortions. High humidity causes mould growth so keep display are-

as well ventilated.

- Keep photographs away from heaters, fireplaces and other sources of heat. Heat can speed up the degradation of the paper.
- Display copies rather than originals; this applies especially to historic photographic processes such as albumen prints and those produced on salted paper as they are extremely light sensitive.

Do not laminate photographic prints as this can permanently damage the emulsion layer.

Mounting

- Use archival lignin-free board with high alpha cellulose content which has passed the Photographic Activity Test (PAT). The PAT was developed by the Image Permanence Institute of USA to test the quality of photographic storage materials.
- Do not use glues, spray adhesives, or adhesive sticky tapes on your photographs. These degrade over time and are detrimental to your photographs. These materials become yellow and tacky and often cannot be removed. Archival quality corner mounts are the best methods of attaching your prints. Conservators use Japanese paper hinges attached with reversible wheat starch paste.
- Avoid using metal paper clips or staples.

Dry mounting (use of a pressure sensitive or heat release adhesive on a flat backing sheet) is not a preservation mounting technique and should be avoided for your valuable photographs.

Framing

- Framing objects provides protection against dust, dirt, pollution and climatic changes.
- Use ultraviolet filtering acrylic as glazing to reduce the impact of light damage.

Ensure the surface of the photograph never touches the glazing of a frame. Heat and humidity can cause the photograph to become irreversibly stuck to the glazing.

Storage

- Photographs should be stored in cool, dark and dry conditions with stable humidity and temperature. Locations where environmental conditions fluctuate such as sheds, garages, roof spaces and basements are unsuitable, whereas the centre of houses where conditions are generally more stable are preferable.
- Store photographs in paper or plastic sleeves within acid-free folders. The folders can then be stored either vertically in flip-top archival boxes or flat in shallow print boxes.
- Use storage material which is archival, lignin-free and has passed the PAT. The National Archives of Australia has a list of products which have passed the PAT standards.
- Photographs can also be stored in plastic sleeves in archival ring binders.
- Store larger photographs flat to prevent sagging.
- Store cased photographs (daguerreotypes, ambrotypes, etc.) in their cases. Wrap the case in archival material such as acid-free paper to create a dust cover.
- Prints and negatives should be separated from each other with pH neutral material such as paper to prevent abrasion. Alkaline buffered paper should not be placed in direct contact with the silver images of prints and negatives.
- When choosing storage albums or boxes, be sure to use inert, pH neutral paper materials and plastics (e.g. polyethylene, polypropylene). Do not use PVC plastics and cellophane.
- Do not over-pack albums, as crushing may damage the emulsion.
- Do not use ‘magnetic’ photograph albums where the photographs are kept in place with a slightly tacky adhesive. In time, this adhesive may turn brown, be absorbed into your photographs and stain them.

For suppliers of archival storage materials see the fact sheet ‘List of suppliers’.

- Do not use metal staples and clips, as these materials are likely to rust. If your album has metal fittings, ensure that these are not in contact with the photographs.

Enamelled steel filing cabinets are suitable for storage of prints and negatives. If using secondhand cabinets check for rust and treat before use. Wooden cabinets and enclosures must be coated with paint, lacquer or wax to prevent the discharge of vapours that are harmful to the silver content of prints and negatives.

Handling

- Handle items with clean dry hands or wear nitrile or latex gloves. Handle the edges only.
- Protect surfaces of items from dust and fingerprints, as these will damage the emulsion and shorten the life span of items.

Do not write on the back of photographs. Instead, label the packaging and use a soft pencil (B grade).

Inks and pens can penetrate the surface and damage the item. Label negatives with permanent pigment ink on the outside edge of the negative on the dull side. Slides may be labelled on the edge of the white border mount also with a pigment ink pen.

Insects

Chemicals used to control insect pests may damage photographs. Ensure that insect control sprays do not come in contact with photographic materials of any kind.

Digital prints

With the widespread use of digital cameras and scanners has come the production of photographic prints from digital colour printers. This technology is different from the traditional developing process which uses chemicals, light and specially prepared papers.

Some digital print processes are more stable than others. Storage, handling and display recommendations are the same as for traditional photographs, however, there are a few additional points that may be helpful:

- Inkjet prints have been known to blur in high humidity, so it is important to keep storage and display environments stable, cool and dry.
- Inkjet prints are also prone to surface damage and abrasion. Avoid touching the surface of the print.
- As with traditional prints, exposure to light will cause the colours in digital prints to fade.
- Prevent exposure of digital prints to harmful air pollutants by sealing your item in a picture frame behind glass.
- Stacking digital prints may cause the ink to offset onto adjacent material.
- Ensure your prints have dried fully before storing to avoid smudging and offsetting.

The stability of digital prints can vary greatly depending on the composition of the colourant and the paper. For long-term preservation use acid-free, buffered, lignin-free paper and pigment-based, rather than dye-based inks. Ensure that your inks and paper are compatible with your printer (see Wilhelm Imaging Research).

Recent research shows that certain prints can last up to 100 years before noticeable fading occurs, so long as they are framed, glazed and under controlled lighting.

Conservation

If your photographs require repair consult a trained professional conservator. A list of member conservators working in private practice can be obtained from the Australian Institute for the Conservation of Cultural Materials (AICCM)

We are on the web !!

www.daptocameraclub.org.au

www.facebook.com/groups/560318574135732/

aclub.org.au

www.facebook.com/

Backups and Storage of your Photos.

The Problem

Since I changed over to digital photography I have had many a sleepless night worrying about how to ensure the safety of all my files. I have a fairly lowly DSLR with 'only' 10 megapixels, nevertheless that means that each picture, in RAW format, produces a file of approximately 10 megabytes. So, CD or DVD storage just doesn't have the capacity that I need. Also I'm not convinced by the longevity of CDs or DVDs. External drives are a good solution now they are cheaper, I can store them at a separate location so as not to be wiped out by fire or burglary, they are not constantly working like an internal hard drive so they should last longer. Also I am continually renewing the backup so deterioration of the data image should not be too much of a problem.
External drives are very much part of my solution but the problem is that I have to remember, and then take the time, to do the backup. Much as I try to discipline myself, I am not the world's best at taking the time out to do backups.

The Answer

So what's the answer? Well, as I said, part of the answer is an external hard drive but, let's face it, if thieves broke in to My Home, they'd probably leave my desktop and steal my USB drive.
A service that has recently reached maturity and is now very useful, instead of just being a bit of a gimmick, is online backup. I decided to do some research on the subject, prices and so forth, and realized that this could be the answer to my problem.

Have a search of the net and you will find many homes to hold your photos on, I have found that Microsoft OneDrive is very good, They start at free with 5gb of space, 10 gb at au$3.00 a month plus dearer plans for more space.

https://www.microsoft.com/en-au/microsoft-365/onedrive/online-cloud-storage

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