

FILM EXPOSURE

Getting the hang of film exposure can feel like trying to solve a math puzzle in a foreign language, but it really comes down to one simple idea: film needs light to make a picture. Think of your film like a sponge. To get a great photo, you need to let it soak up exactly the right amount of light. If you are ever unsure, it is better to give film a little too much light rather than too little, because film is great at handling extra light but struggles in the dark.

Here is, hopefully for you, a plain-English breakdown of how to get the perfect amount of light onto your film.

1. Know Your Film's "Speed" (ISO)(ASA)

The ISO number printed on the film box (like 100, 400, 800 or 3200) that tells you how sensitive the film is to light.

Low numbers (like 100): Not very sensitive. Needs lots of bright sunlight.

Medium numbers (like 400): The perfect middle ground. Great for everyday daytime shooting.

High numbers (like 3200): Very sensitive. Best for cloudy days or shooting indoors.

Important: Always make sure your light meter or camera's ISO, if your camera has a setting for it, is set to match the number on your film box so your camera knows what it's working with! Some point and shoot cameras will set the ISO automatically.

2. Measure the Light

To take a good picture, you need to know how bright your surroundings are. You can measure this light in three ways:

Your Camera: Most old cameras have a built-in light meter. You usually just turn your dials until a little needle or light in the viewfinder sits right in the middle.

A Handheld Meter: A separate little gadget professionals use to measure light very precisely. (Sekonic, Gossen)

Your Phone: The easiest option for beginners! You can download free apps (like Lightme or My Light Meter) that use your phone's camera to tell you how to set your film camera.



3. Expose for the Shadows

This is the golden rule of film. Digital cameras are great at keeping bright skies looking blue, but film is the opposite. Film keeps bright skies looking great automatically, but it really struggles to see in the darker areas of your picture. When you use your light meter or phone app, point it at the darkest part of the scene where you still want to see details (like the shadows under a tree). Set your camera based on that dark area and the rest of the photo will take care of itself.

4. The "Sunny 16" Cheat Sheet

If you don't have a light meter or phone app you can use an old photographer's trick on a bright sunny day. Set your camera's lens opening (called the aperture) to f/16. Then, set your shutter speed (how fast the camera opens and closes the shutter) to match your film's ISO number. So, if you are using 400 ISO film, set your shutter speed to 1/400.

If the weather changes, just change your lens opening based on this guide:

Weather Condition - Lens Setting (Aperture)

Bright, sunny day - f/16

Hazy sun - f/11

Overcast/Cloudy - f/8

Heavy shade - f/4 or f/5.6



What Does Good or Bad Exposure Look Like?

We will try to paint a clear picture of what you will see when you get your film back from our film processing lab depending on how you exposed your film:

The Underexposed Picture (Not Enough Light)

The Print Look: Muddy and washed out. Grainy. Undesirable

The Details: The shadows (like dark clothing or shaded trees) will look like solid grayish-black blobs with absolutely no detail. The whole image will look very grainy and the colors will look sickly or shifted towards a green/magenta tint.

The Negative Look: If you look at the physical film strip, it will look almost completely clear or transparent because no light or not enough light hit it to create an image.



The Normal Exposed Picture (Perfect Light)

The Print Look: Punchy, realistic, and vibrant.

The Details: You can clearly see the texture in the dark shadows (like the leaves on a shadowed tree) and the details in the bright areas (like the fluffy clouds in the sky).

The Negative Look: The physical film strip will have a great balance of dark, dense spots and lighter, see-through spots.

Note: Overexposing by one stop will not cause any harm to your negative



The Overexposed Picture (Too Much Light)

The Print Look: Washed out look, slightly pastel, but surprisingly good compared to under exposure.

The Details: Because film loves extra light, an overexposed photo usually still looks good. The colors might get a bit softer and pastel-like, and the shadows will be very bright. If you overexpose it way too much, the sky might turn completely white, but you will still have a usable photo.

The Negative Look: The physical film strip will look very dark and dense. It might be hard to see through it when you hold it up to the light.



When to Use a Flash

Use a flash to brighten a nearby subject, fill in harsh shadows, or create a specific lighting effect. You can even use it during the day! Know your flash's limit. A built in flash may only reach 8 to 12 feet. External flashes can reach much further. You must also make sure the flash will sync properly with the camera. Check your flash and camera manual otherwise you may end up with improperly exposed negatives that have a properly exposed area and a improperly exposed area in the same film frame. See the example to the right. To sync your camera properly to the flash you may have to use a shutter speed of 1/60, 1/125 or 1/250. Check your camera manual. Built in or pop-up flashes will not have this problem but may produce red-eye in subjects.



When Not to Use Your Camera Flash

Distant matters like at a show or concert. Have you ever seen someone over 50 feet away from the stage try to use their flash in the dark? It won't work. Know the limit of your flash. If your subject is too far away for the flash to reach turn the flash off. Adjust your camera settings to capture the stage lights and performance. Try to adjust the shutter speed so it is fast enough to freeze the performer's movement (see below). Use a wider aperture to let in more light (1.4 or 1.8). Use a higher ISO film like 800 or 3200.

Tips for taking Sharp Pictures

To take a sharp photograph, four key factors are equally important:

1. Proper camera grip: Hold the camera steady.
2. Sufficient depth of field: Make sure your subject is in sharp focus.
3. Low ISO setting: Keep the ISO as low as possible to reduce grain.
4. Fast shutter speed: Use a fast enough speed to prevent blur.

Handheld shooting without the benefit of a Tripod

General reference for taking pictures without a Flash.

Shutter Speed	1/15	1/30	1/60	1/125	1/250	1/500	1/1000
Lens Type							
15mm	M	Y	Y	Y	Y	Y	Y
28mm	N	M	Y	Y	Y	Y	Y
50mm	N	N	M	Y	Y	Y	Y
200mm	N	N	N	N	Y	Y	Y
500mm	N	N	N	N	N	M	Y

Color Temperatures

Color negative film color temperature (Kelvin) is approximately 5500k to 5600k. If you ever wonder why your photos are a strange color it could be because the color temperature of the lighting does not match the color temperature required by the film. Color temperatures vary significantly across different light sources. As a helpful note, sunlight refers strictly to the direct light of the sun, whereas daylight is a combination of sunlight plus skylight. Warm color in your photo would be lighting below 5500k and cool would be above.

Artificial Light Sources For artificial lighting, color temperatures range from very warm to cooler tones. A match flame starts at 1,700K and a candle flame at 1,850K. Standard incandescent lamps measure 2,650K for 40-watt bulbs, 2,820K for 75-watt bulbs, and 2,900K for 100-watt bulbs. Higher artificial options include 3,200K for tungsten lamps, 3,400K for photoflood and reflector flood lamps, 5,000K for daylight blue photoflood lamps, and 6,420K for xenon arc lamps.

Natural Daylight and Sunlight Natural lighting spans a broad range depending on the time of day, weather, and shade. Sunlight begins warm at 2,000K during sunrise or sunset, rises to 3,500K one hour after sunrise and reaches 4,300K during both early morning and late afternoon. Average summer sunlight at noon measures 5,500K, while direct midsummer sunlight is 5,800K. Overcast skies measure 6,000K and average summer sunlight combined with blue skylight reaches 6,500K. Finally, shaded areas and open skylight grow progressively cooler with light summer shade at 7,100K, average summer shade at 8,000K, and pure summer skylight varying widely from 9,500K to 30,000K.