Cheatography

Photography Basics Cheat Sheet

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ISO

ISO controls the amount of light that your camera lets in, and refers to the sensitivity of film (or digital sensors today).

ISO 100	Outdoors and sunny
ISO 400	Indoors and well lit, or outdoors and cloudy
ISO 800	Indoors without flash
ISO 1600	Dark, or fast movement

Shutter Speed

Shutter speed controls how long the camera's shutter is open for. The longer it is open, the more light it lets in.

1/2000s	Super-fast subject, like a bird in flight
1/1000s	Fast subject, like a sports car moving
1/500s	Fast subject, like a normal car moving
1/250s	People moving, dancing, jumping
1/125s	People walking
1/60s	Slow-moving or stationary subject indoors
1/20s	Moving water
1/10s	Low-light, low-motion landscape, like a sunset
1-3s	Deliberate blur, like you might use for falling water or a crowd moving
21-30s	Dark skies, Milky Way
10 minutes	Star trails

Anything from 1/60s down, you should consider using a tripod.

Aperture (F-stop numbers)

Aperture controls how open your lens is to receive light, and is measured with an F-stop number. The smaller the aperture, the larger the F-stop number and the less light is allowed into the lens.

F/1.4, F/2, F/2.8	Low-light photos, very shallow depth of field, portraits with bokeh blur, astrophotography
F/4, F/5.6, F/8	Good general use, greater depth of field, more objects in focus at different distances
F/11, F/16, F/22	Landscapes, very well-lit photos, very deep depth of field

Each lens has its own "sweet spot", and this is typically two to three F-stop values from the maximum aperture of that lens.

The Exposure Triangle

The exposure triangle is three settings: ISO, shutter speed, and aperture. Here are some examples of how to use it.

Sunny Day, Outdoors F/2.8, 1/1000, ISO 400

Wide aperture for lots of light, fast shutter to reduce blur, low ISO to reduce noise. A bright, cheerful image with plenty of detail.

Low-Light Night F/4, 1/20, ISO 1600

Moderate aperture to balance light and depth, slight blur, high ISO for low light. A cozy, warm image with a dreamy atmosphere.

Creative Portraiture F/1.8, 1/125, ISO 200

Background blur highlighting subject, reduced subject blur, moderate ISO. A beautiful, shallow-focused portrait with a creamy bokeh.

Exposure Issues

Overexposure	An image might be faded, be too bright, and have low detail in bright areas. Decrease aperture, faster shutter speed, or decrease ISO.
Underexposure	An image is dark, and hard to see properly. Increase aperture, slower shutter speed, or increase ISO.
Blown Highlights	Bright areas of the image appear pure white (lost all detail). Use exposure compensation (-1/3 or -2/3 stop), decrease ISO, or faster shutter speed.
Clipped Shadows	Dark areas of the image appear pure black (lost all detail). Increase aperture, slower shutter speed, or increase ISO.
Noise	Image appears grainy. Decrease ISO, increase aperture, or slower shutter speed.
Motion Blur	Image appears blurry (e.g., with fast-moving subject). Faster shutter speed, decrease aperture, or increase ISO.

Focal Length

The focal length of a lens is the distance, in millimeters, between the "nodal point" of the lens and the camera's sensor.

A higher focal length lens has a smaller field of view, like it's zoomed in further. Good for photographing something small or far away.

A lower focal length lens is good for wider photos, like landscapes.

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