

Camera Settings Cheat Sheet

Aperture, shutter speed and ISO for every situation · print it, keep it in your bag



Exposure Triangle Simulator

● The exposure triangle

Aperture (f-stop)

f/1.4 · 2 · 2.8 · 4 · 5.6 · 8 · 11 · 16

Lower number = bigger opening = brighter and a blurrier background. Higher = more of the scene sharp.

Shutter speed

1/1000 · 1/500 · 1/250 · 1/125 · 1/60 · 1/30

Slower = brighter, but moving things blur and handheld shots shake. Faster freezes motion.

ISO

100 · 200 · 400 · 800 · 1600 · 3200 · 6400

Higher = brighter by amplifying the signal, plus more noise. Set it last, as low as the shot allows.

Each step above is one stop: double or half the light. Give up one stop on one setting, take one on another, and brightness stays the same.

● ISO chart: what to use in every situation

SITUATION	LIGHT (EV)	APERTURE	SHUTTER	ISO
Full sun, no shade	15	f/8	1/500	100
Sunny day, subject in open shade	13	f/4	1/500	100
Overcast or cloudy day	12	f/4	1/250	100
Golden hour, sun low in the sky	10	f/2.8	1/250	200
Indoors by a big window, sunny outside	9	f/2.8	1/125	200
Indoors by a window, overcast outside	8	f/2.8	1/125	400
Blue hour, just after sunset	7	f/2.8	1/125	800
Indoor sports in a gym	7	f/2.8	1/500	3200
Concert or brightly lit stage	6	f/2.8	1/250	3200
Living room with lamps at night	5	f/2	1/100	1250
Theater or school play, from the audience	5	f/2.8	1/250	6400
Restaurant or wedding reception	4	f/1.8	1/100	2000
Night street, handheld	3	f/1.8	1/60	2500
Candlelight	2	f/1.8	1/60	5000
City at night, on a tripod	3	f/8	8"	100
Milky Way, on a tripod	-6	f/2.8	20"	3200

Starting points for full-frame and APS-C cameras. If your lens can't open as wide, raise ISO one stop per stop you're missing.

● Settings by situation

SHOT	APERTURE	SHUTTER	ISO	TIP
Portrait, soft background	f/1.8 – f/2.8	1/250+	Lowest that works	Focus on the nearest eye
Group of people	f/4 – f/5.6	1/250+	100 – 800	Everyone's face in focus
Landscape, all sharp	f/8 – f/11	Any (tripod)	100	Focus ⅓ into the scene
Sports, kids, pets	f/2.8 – f/4	1/1000+	Auto ISO	Continuous autofocus
Street, everyday	f/5.6 – f/8	1/250	Auto ISO	Zone focus at 3 m
Flowing water, silky	f/8 – f/11	1/2 – 2"	100	Tripod + ND filter
Light trails	f/8 – f/11	5 – 30"	100	Tripod + 2 s timer
Fireworks	f/8	2 – 4"	100	Tripod, manual focus at ∞
Indoor, window light	f/2.8	1/125	400 – 800	Face toward the window
Night street, handheld	f/1.4 – f/2	1/60	1600 – 6400	Brace against something

● Slowest handheld shutter

LENS	FULL FRAME	APS-C
24mm	1/25	1/40
35mm	1/40	1/50
50mm	1/50	1/80
85mm	1/100	1/125
135mm	1/160	1/200
200mm	1/200	1/320

Image stabilization adds 3–5 stops for still subjects.

● ND filters

FILTER	STOPS	DENSITY	1/125 BECOMES
ND8	3	0.9	1/15
ND64	6	1.8	1/2
ND1000	10	3.0	8"
ND32000	15	4.5	4 min 22 s

New shutter time = old time × 2^{stops}.

● Five rules worth memorizing

Sunny 16	In bright sun: f/16 at 1/ISO. ISO 100 → f/16 at 1/125.
1/focal length	Slowest safe handheld shutter. 50mm → 1/50. Crop sensor: ×1.5 first.
Choose what matters first	Motion? Set shutter. Depth? Set aperture. Then ISO last.
Protect the highlights	Blown whites are gone for good. Dark shadows can be lifted.
Sharp beats clean	Raise ISO before accepting a blurry photo.

● Reading your camera

Meter at 0 = balanced exposure. Bars to the + side mean brighter, – side darker. Snow and dark scenes fool it: use exposure compensation.

Histogram: a spike against the right edge means blown highlights. Expose so the brightest tones sit just short of the edge.