

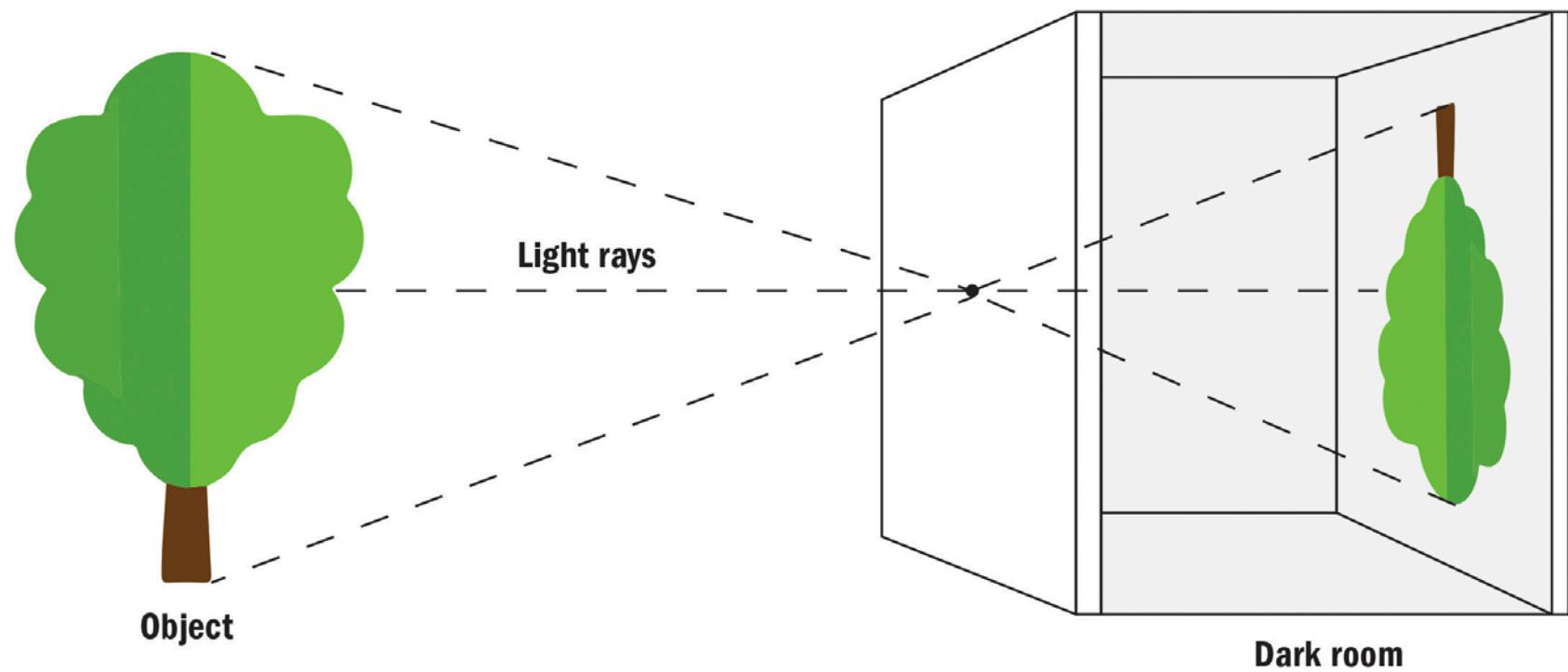


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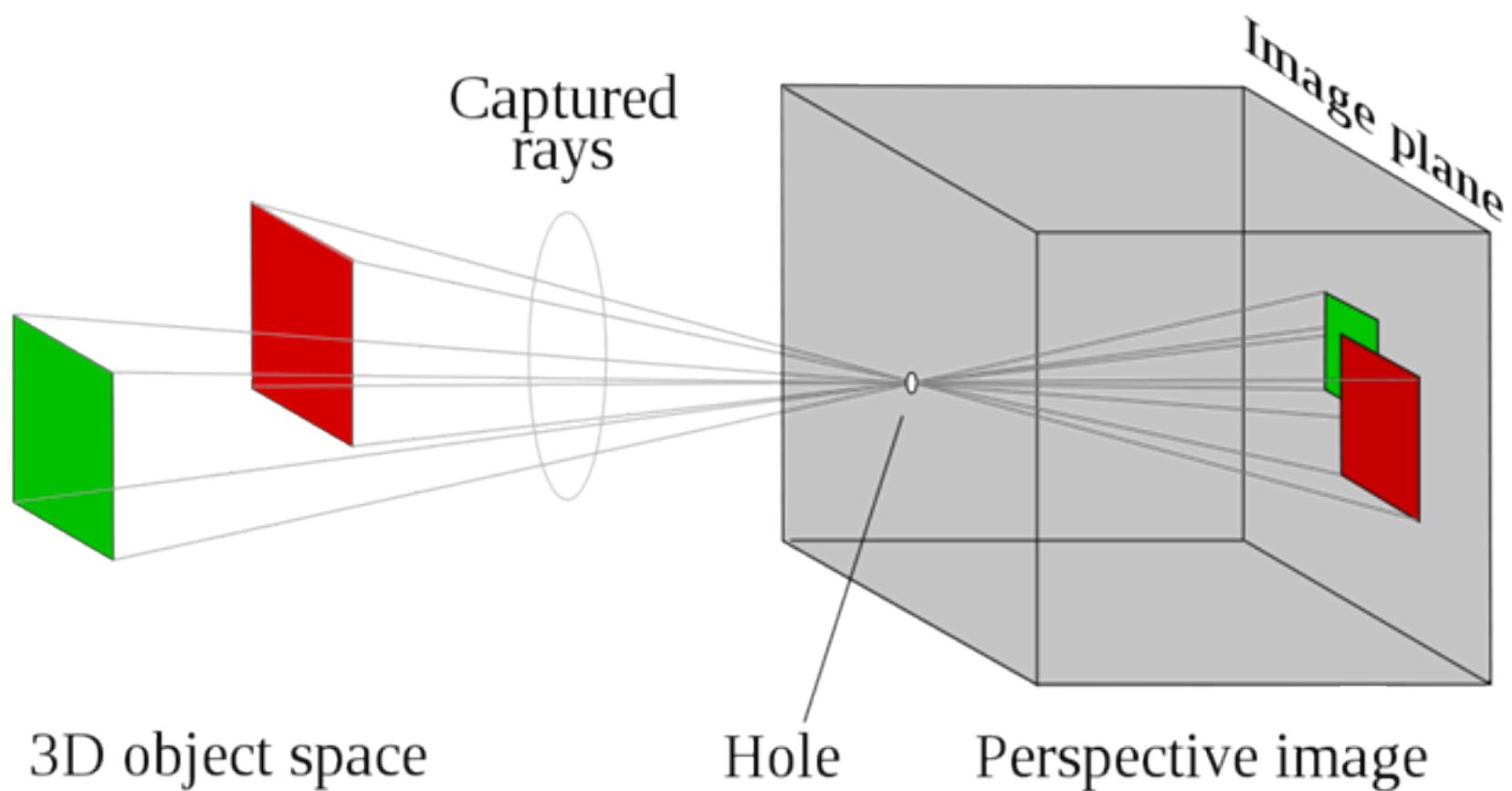
Digital photography (420-PHN-ID)

Class 01

Camera Obscura



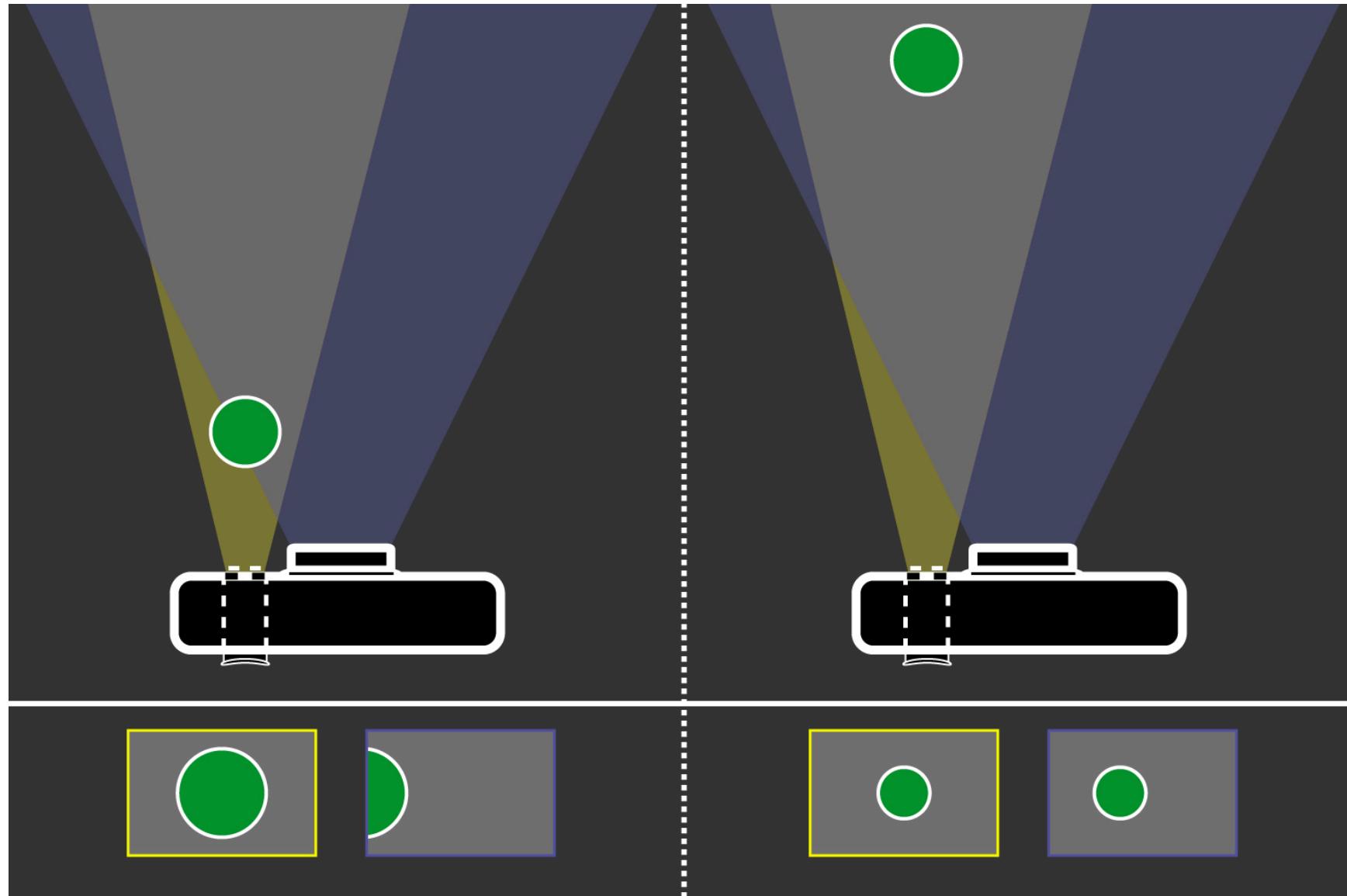
Camera Obscura



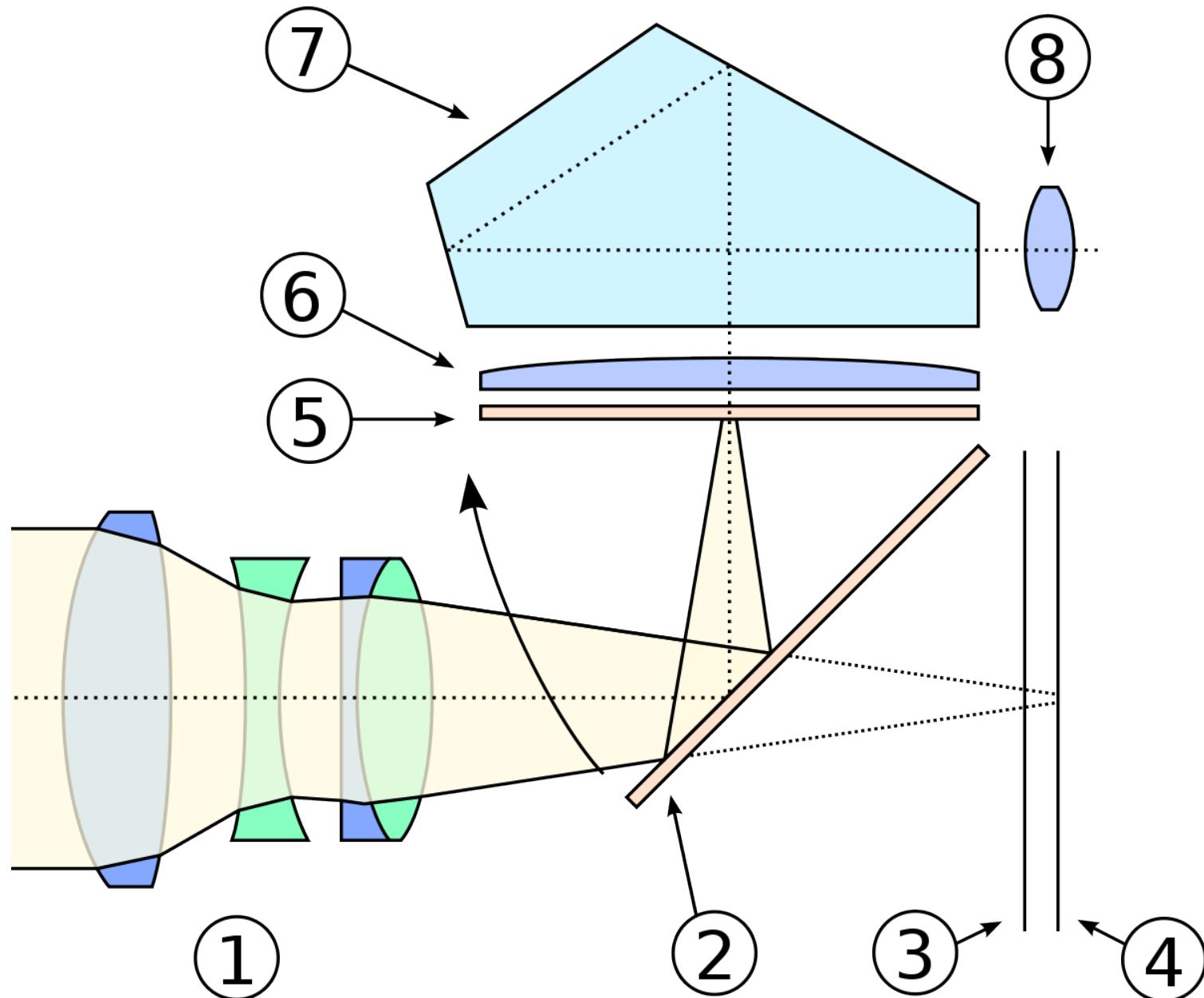
Point and shoot cameras



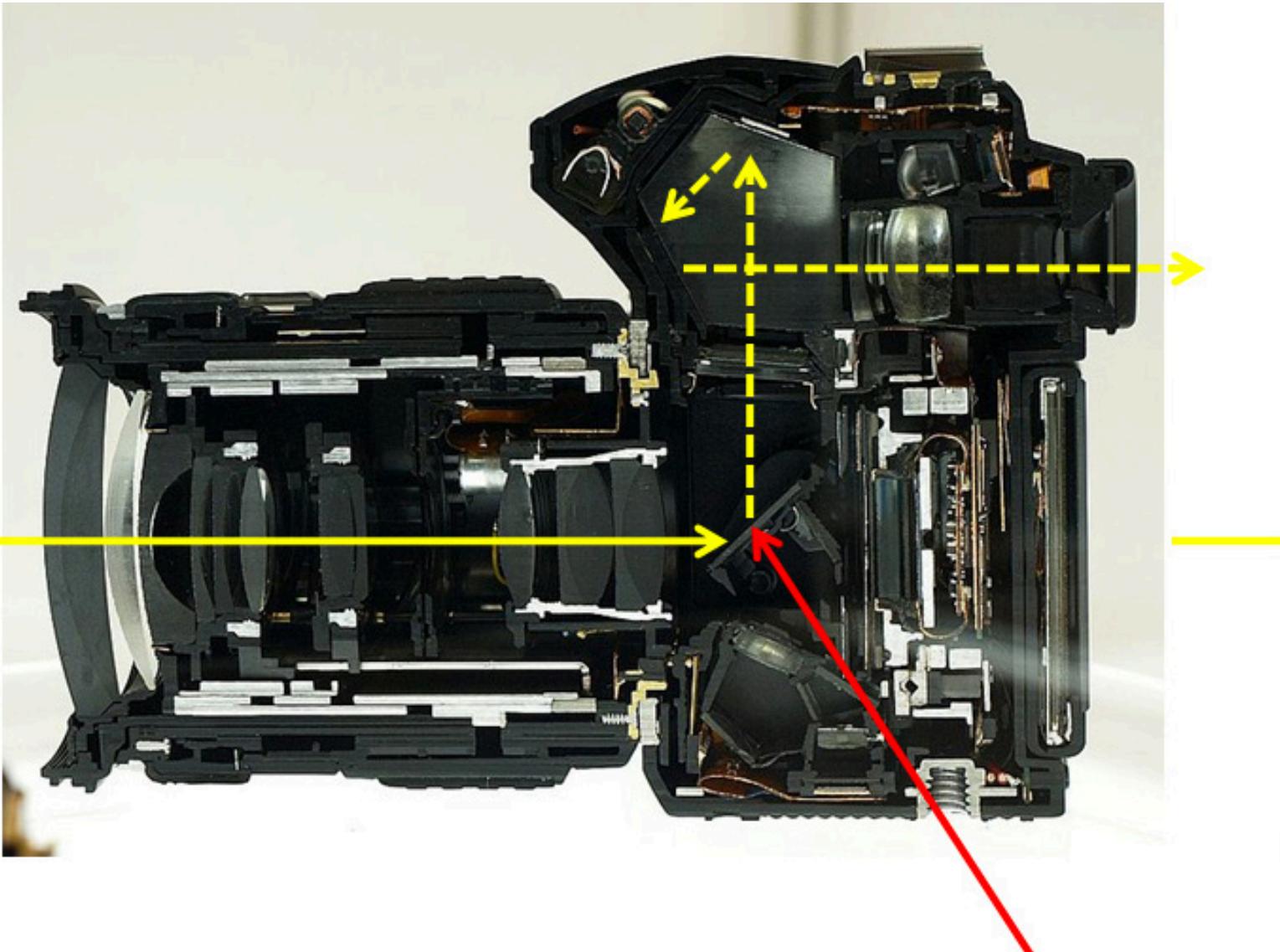
Parallax correction



Reflex (SLR / DSLR)

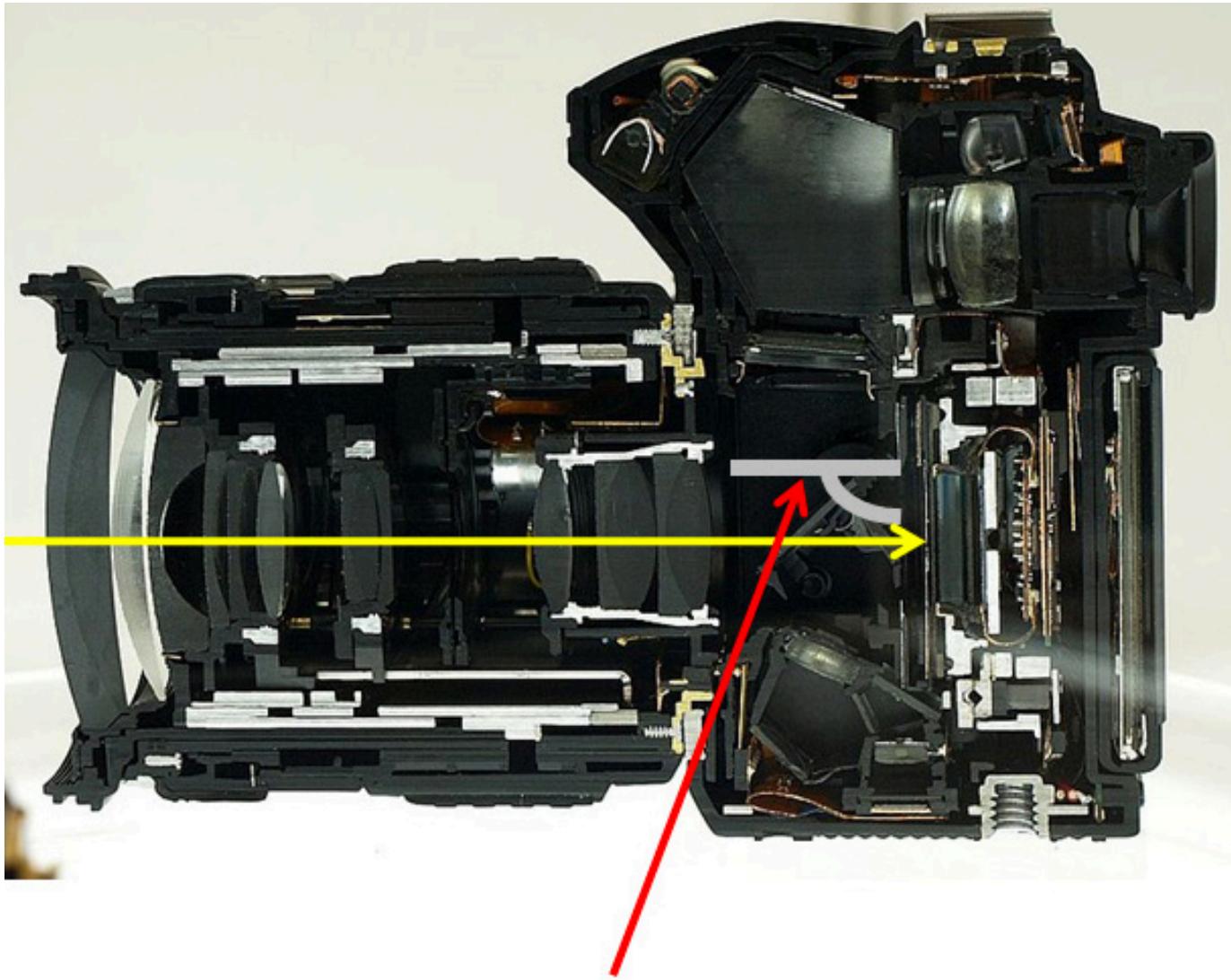


Reflex (SLR / DSLR: mirror down)



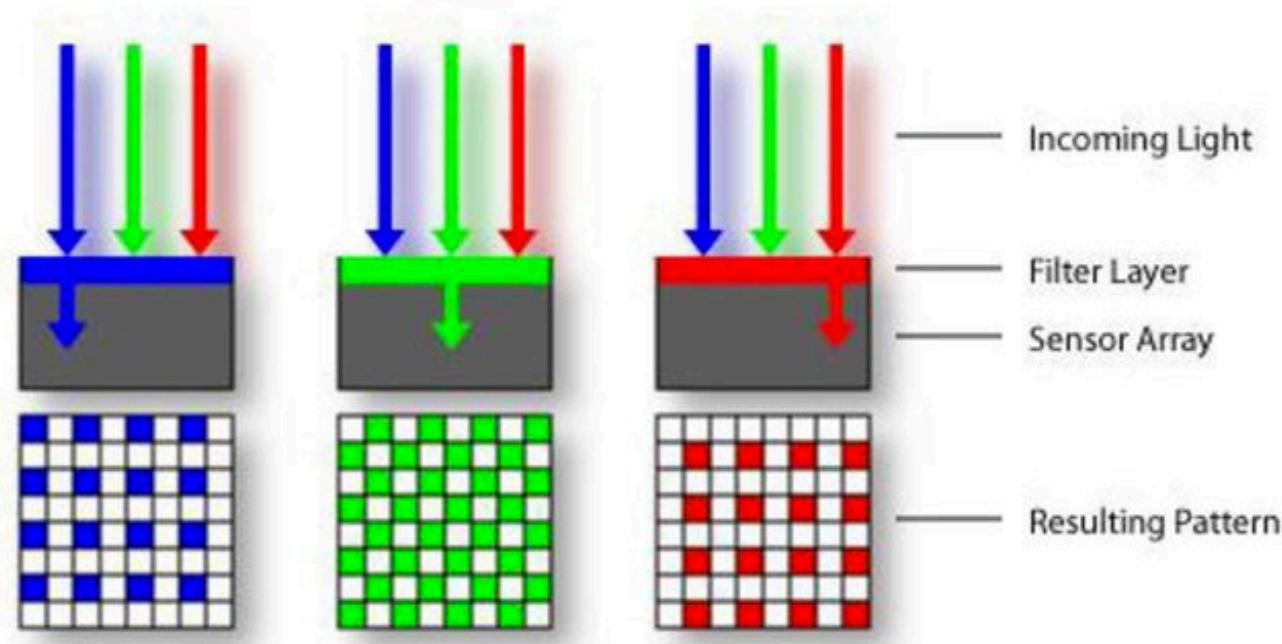
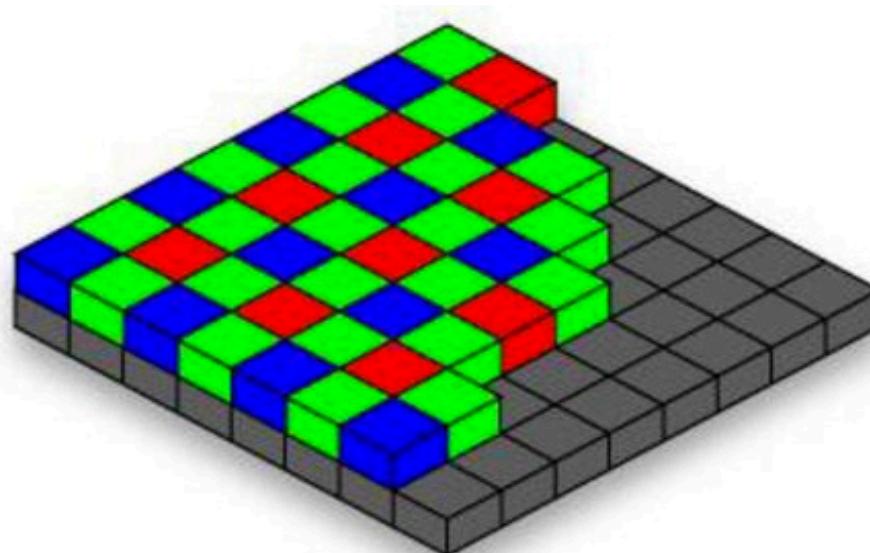
Reflex mirror is down

Reflex (SLR / DSLR: mirror up)

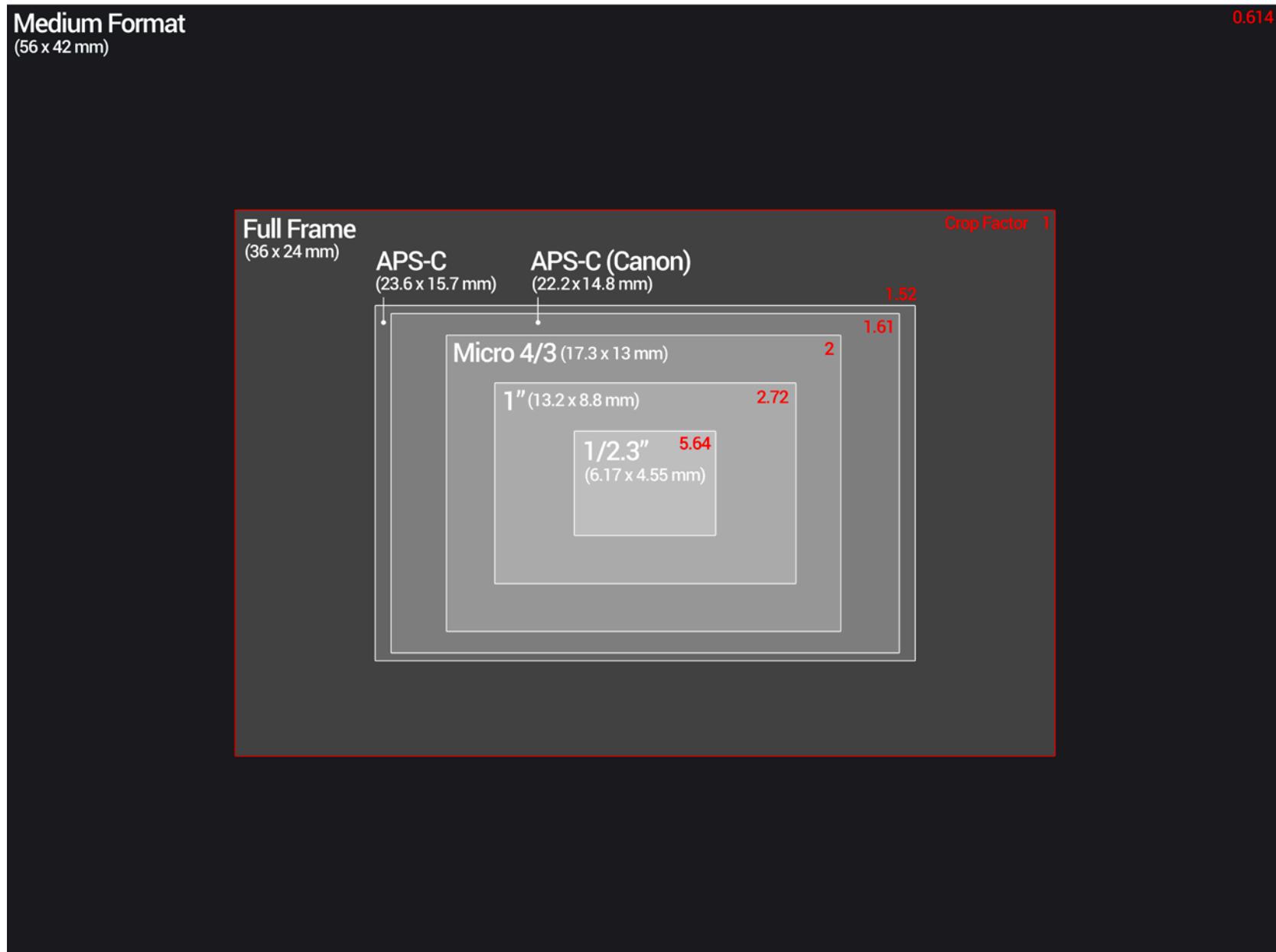


Reflex mirror is up,
exposing image sensor

Sensor



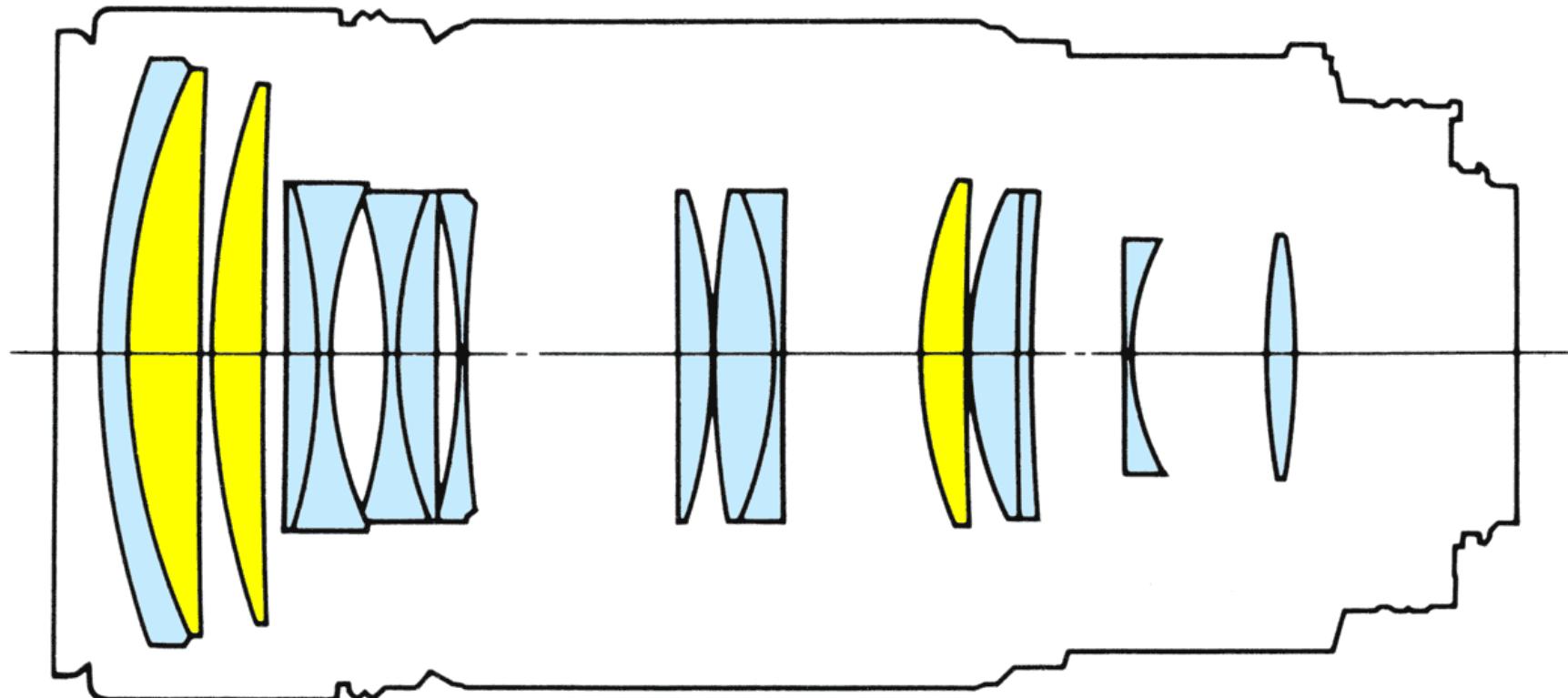
Typical sensor sizes



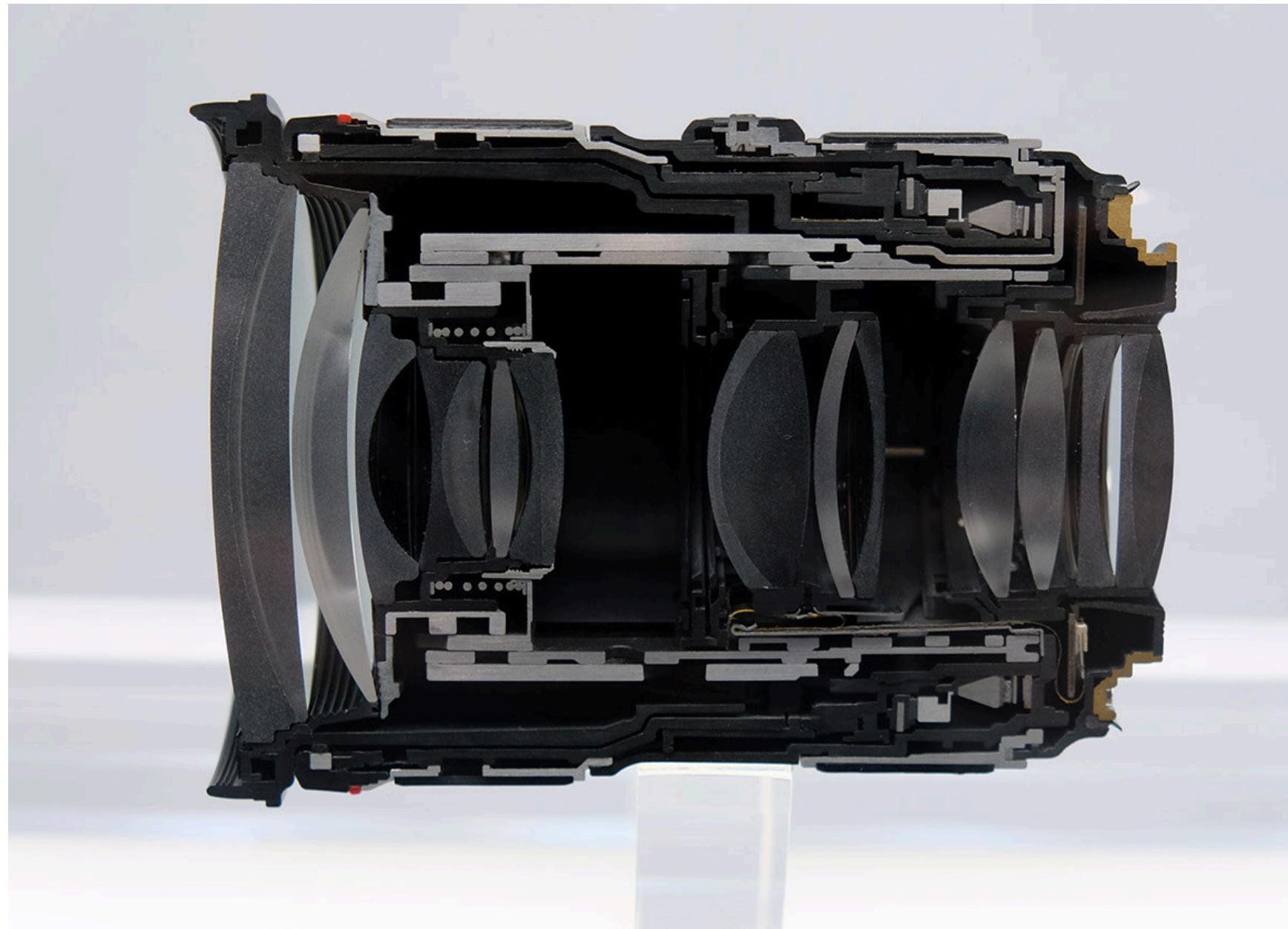
Lenses



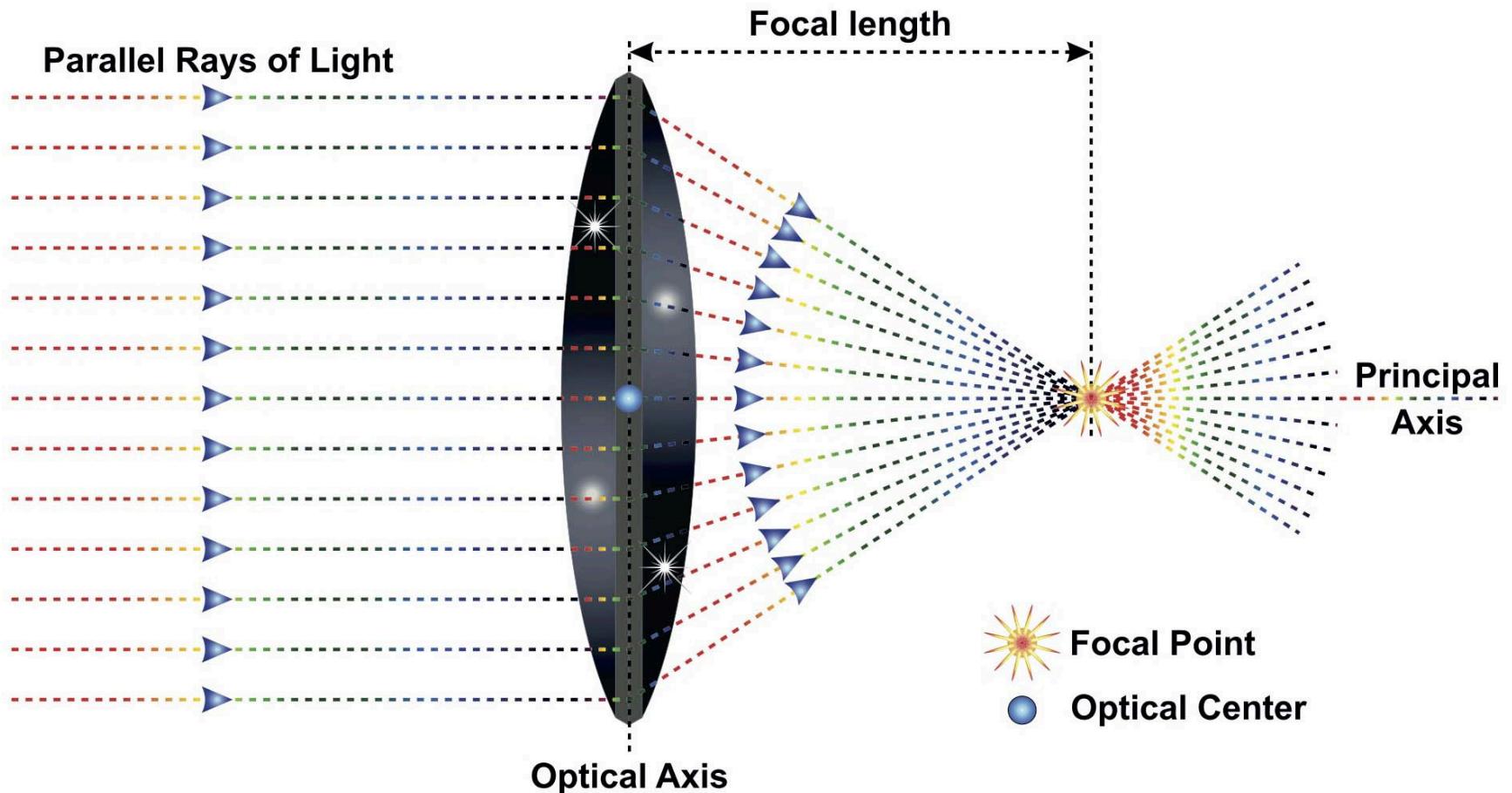
Lens: components



Lens: components



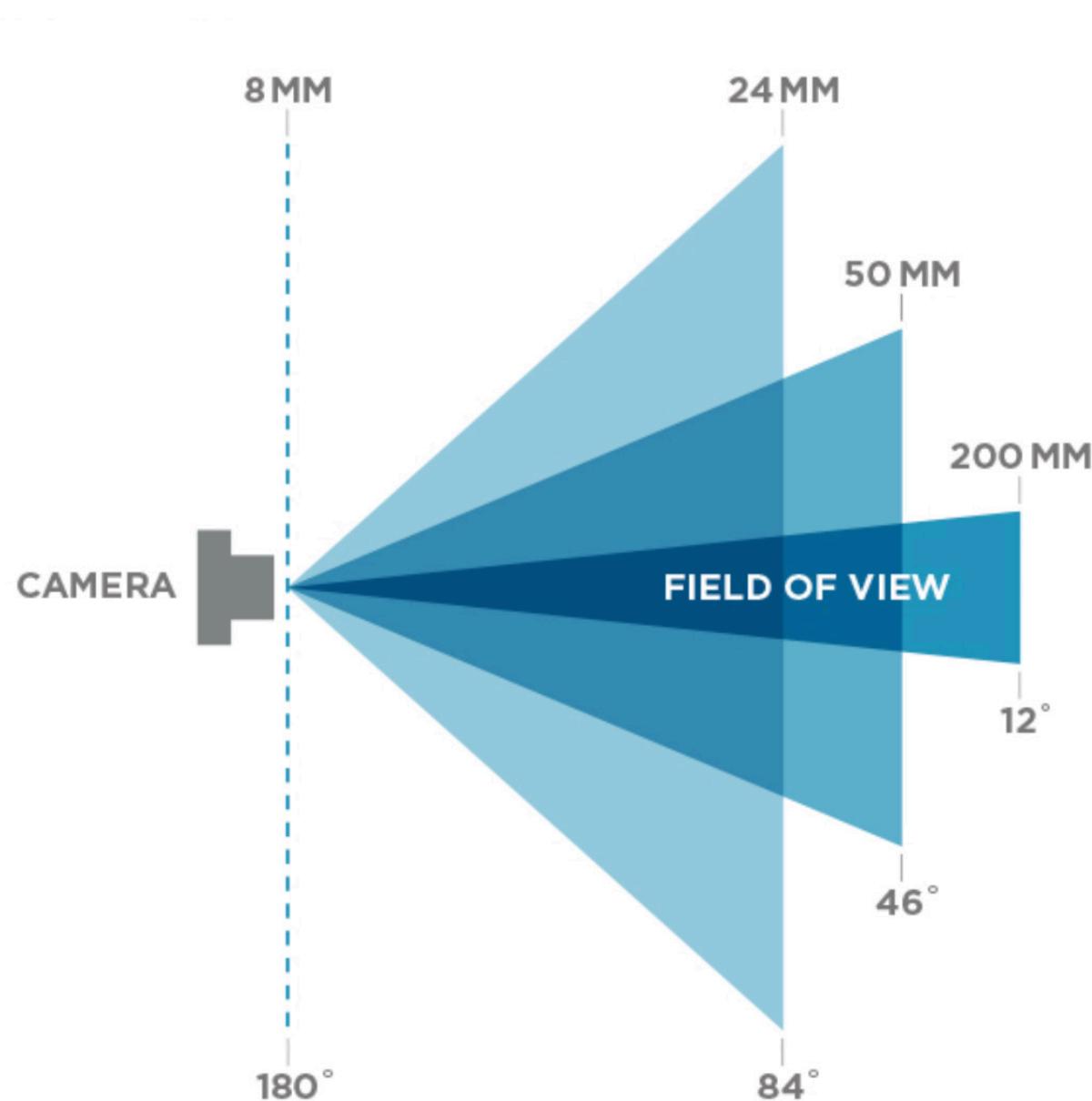
Lens: light rays' convergence



Lens: focal length



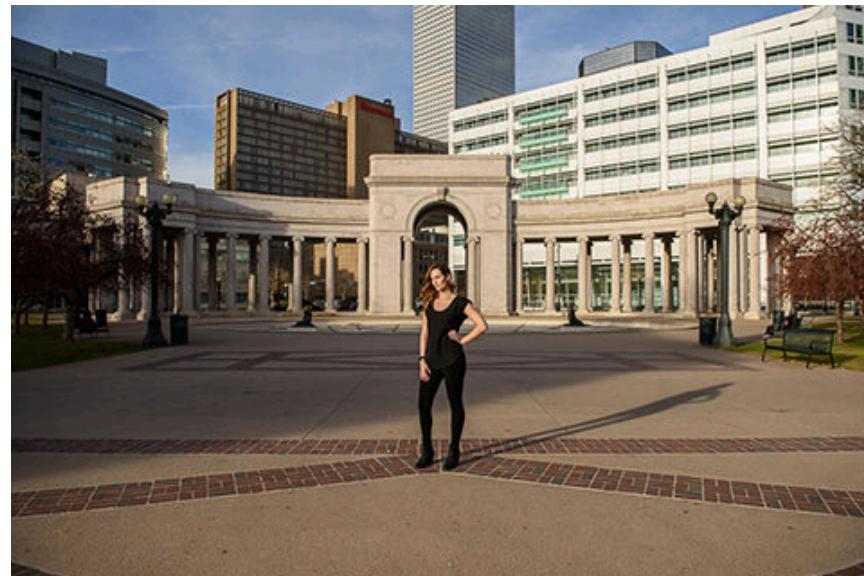
Lens: focal length / angle



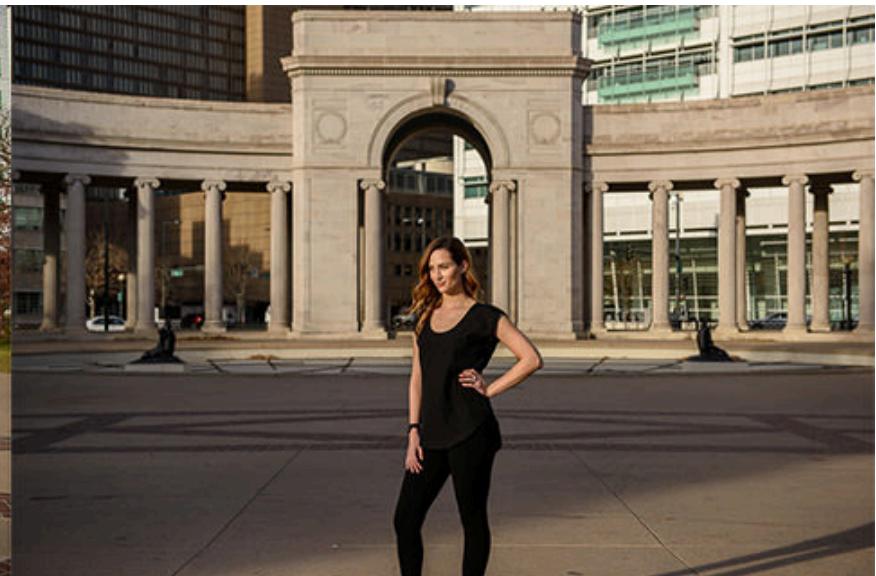
Lens: long focal (compression effect)



Lens: long focal (compression effect)



Focal Length: 24mm



Focal Length: 50mm

Lens: long focal (mirage effect)



© Joe Orman

Lens: short focal (distorted perspective)



Lens: short focal (distorted perspective)



Lens: short focal (vignetting)



Lens: aperture



Shutter speed

Range of Shutter Speeds

(and their uses)

1/8000 second

1/4000 second

1/2000 second

1/1000 second

1/500 second

1/250 second

1/125 second

1/60 second

1/30 second

1/15 second

1/8 second

1/4 second

1/2 second

1 second

2 seconds

4 seconds

8 seconds

15 seconds

30 seconds



Fast Speeds

For stopping action

Moderate Speeds

Handholding Generally Ok

Slow Speeds

Use a Tripod

Very Slow Speeds

For Creating Blur or Trails

Shutter speed



1/500



1/250



1/125



1/60



1/30



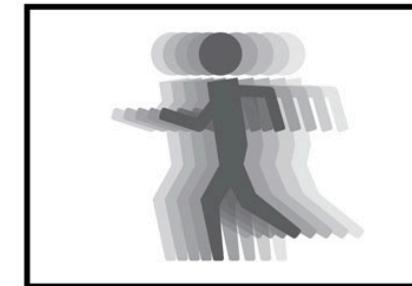
1/15



1/8

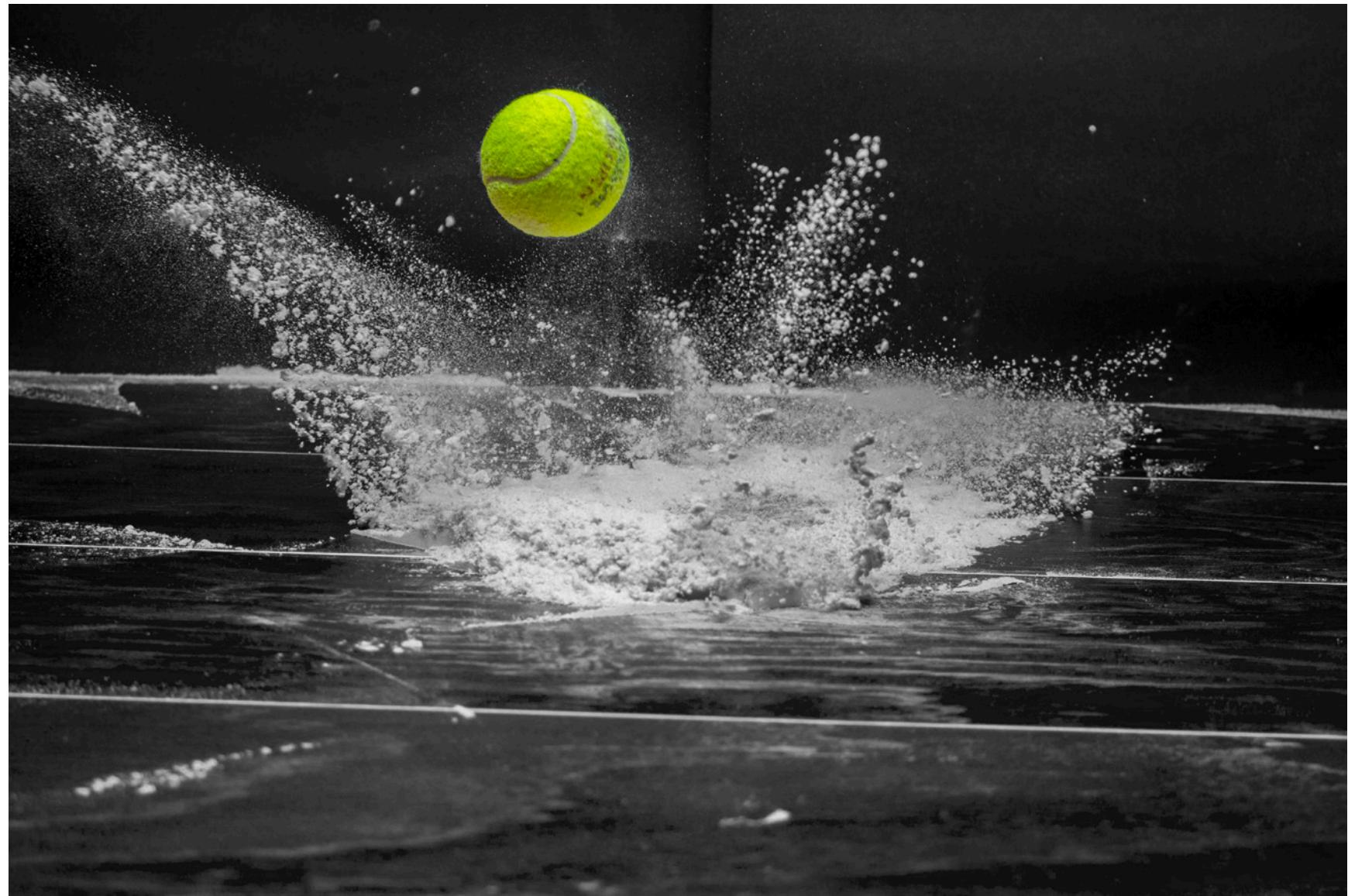


1/4



1/2

Fast shutter speed



Slow shutter speed



Slow shutter speed



Slow shutter speed



Interrelation between ISO, aperture and shutter

