

Schematic Diagram of a Digital SLR Camera

ALL DSLR Cameras have the following 6 Features

- 1) A Removable Compound Lens Which Includes the Diaphragm
- 2) A Movable Mirror - Two positions , 45° or Horizontal
- 3) A Viewfinder Assembly which Includes a Pentaprism
- 4) A Curtain Shutter that is normally closed
- 5) An Electronic Sensor
- 6) An LCD Screen

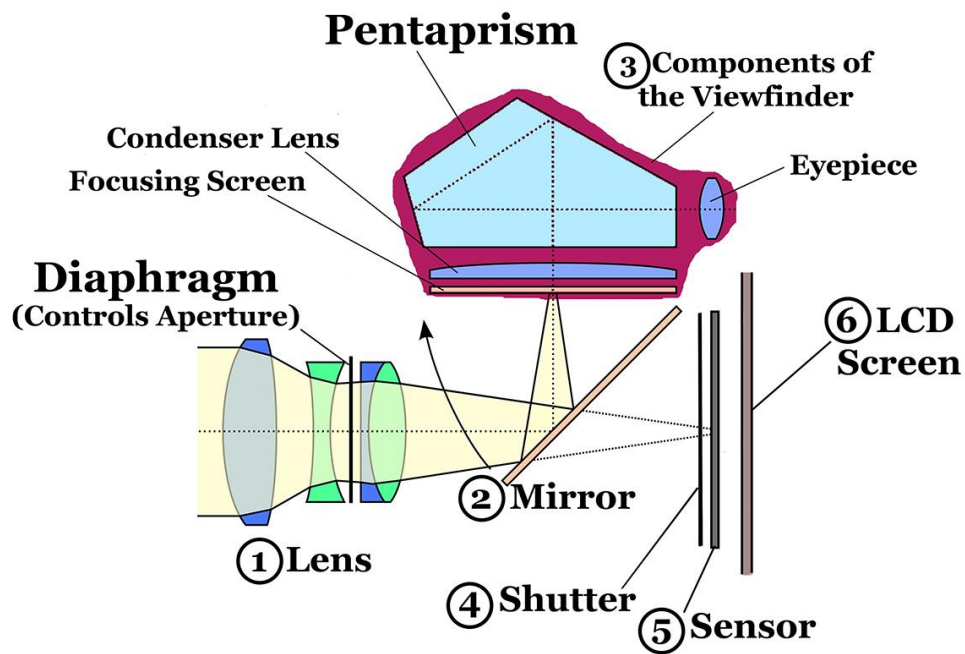
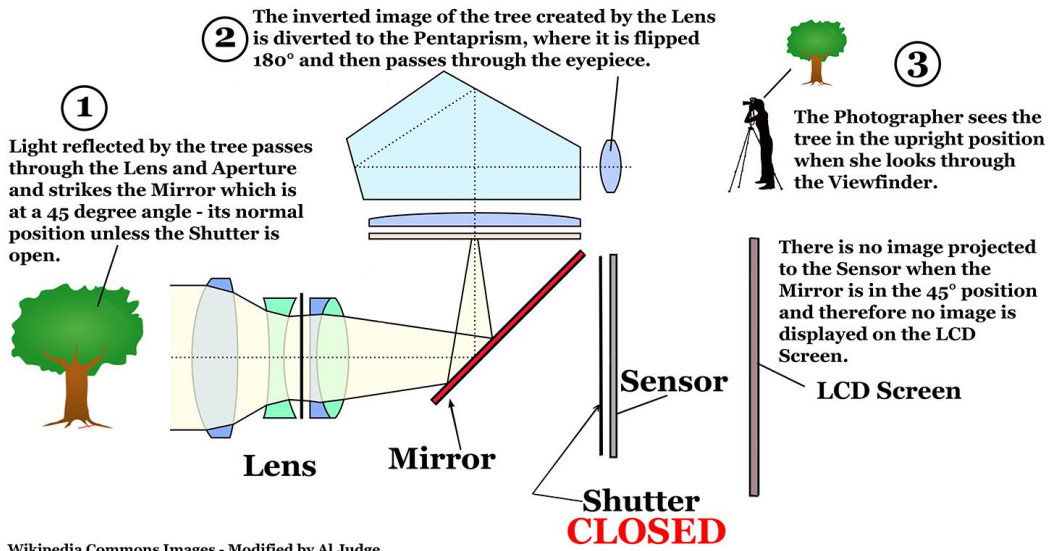


Figure 1.28

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SHUTTER CLOSED



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Figure 1.31

SHUTTER OPEN

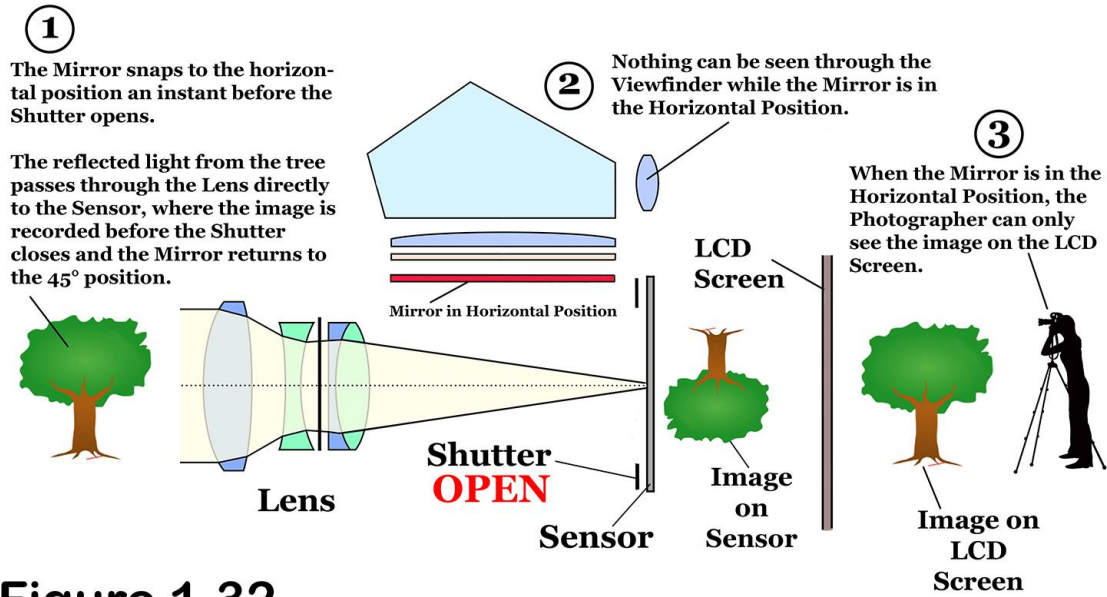


Figure 1.32

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Popular Digital Camera Sensor Sizes

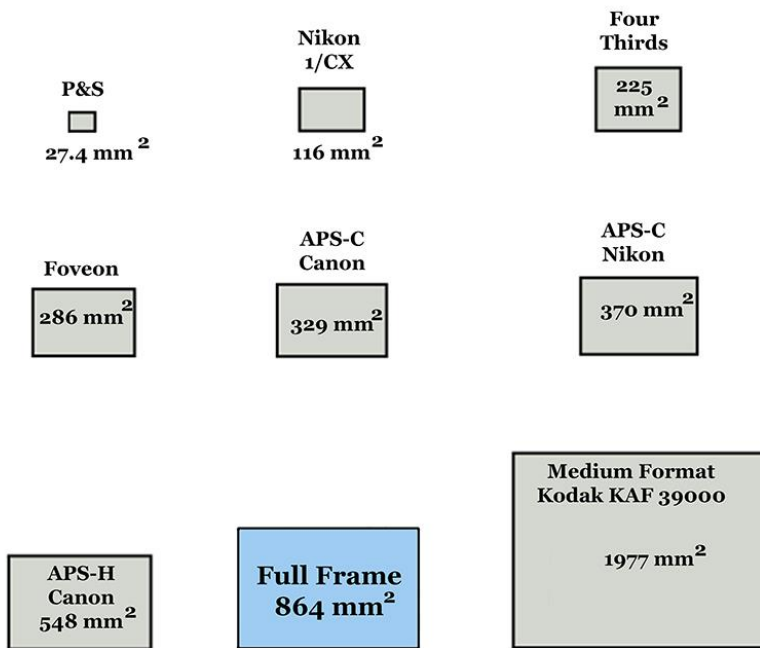


Figure 2.1

The chart below lists the Top 10 Best-Selling DSLR cameras on Amazon.com for February 16, 2013.

Rank	Mfg	Model	Lens	Sensor	MP	AF pts	Processor	Max Fps	Price
1	Canon	T3	18-55	APS-C	12.1	9	Digic 4	3	\$399
2	Canon	T3i	18-55	APS-C	18	9	Digic 4	3.7	\$599
3	Canon	T4i	18-55	APS-C	18	9	Digic 5	5	\$649
4	Canon	T4i	18-135	APS-C	18	9	Digic 5	5	\$859
5	Nikon	D5100	18-55	APS-C	16.2	11	Expeed 2	4	\$597
6	Nikon	D3100	18-55	APS-C	14.2	11	Expeed 2	3	\$447
7	Canon	5D Mk III	None	Full	22.3	61	Digic 5+	6	\$2975
8	Canon	60D	None	APS-C	18	9	Digic 4	5.3	\$700
9	Nikon	D3200	18-55	APS-C	24.2	11	Expeed 3	4	\$597
10	Canon	6D	24-105	Full	20.2	11	Digic 5+	4.5	\$1879

Understanding Canon DSLR Model Numbers

Market	Model Example	Sensor Size	Price	Numbering Scheme	AKA
Entry Level	EOS 650D	APS-C	\$648	3 or 4 Digits	Rebel / Kiss
Advanced Amateur	EOS 40D	APS-C	\$1325	2 Digits	Elan 7-Series
Prosumer	EOS 5D Mark III	Full-Frame	\$3149	1 Digit	
Professional / Flagship	EOS 1DX	Full-Frame	\$6729	1	

Popular Digital Camera Sensor Sizes

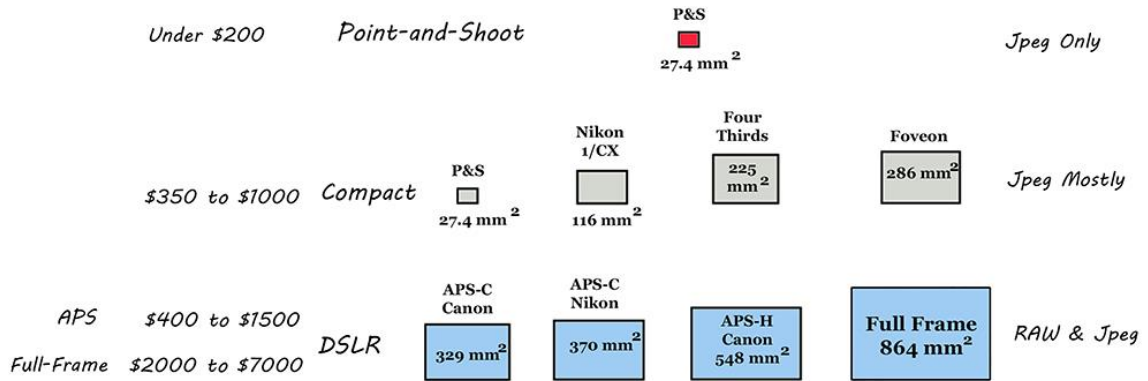


Figure 3.34

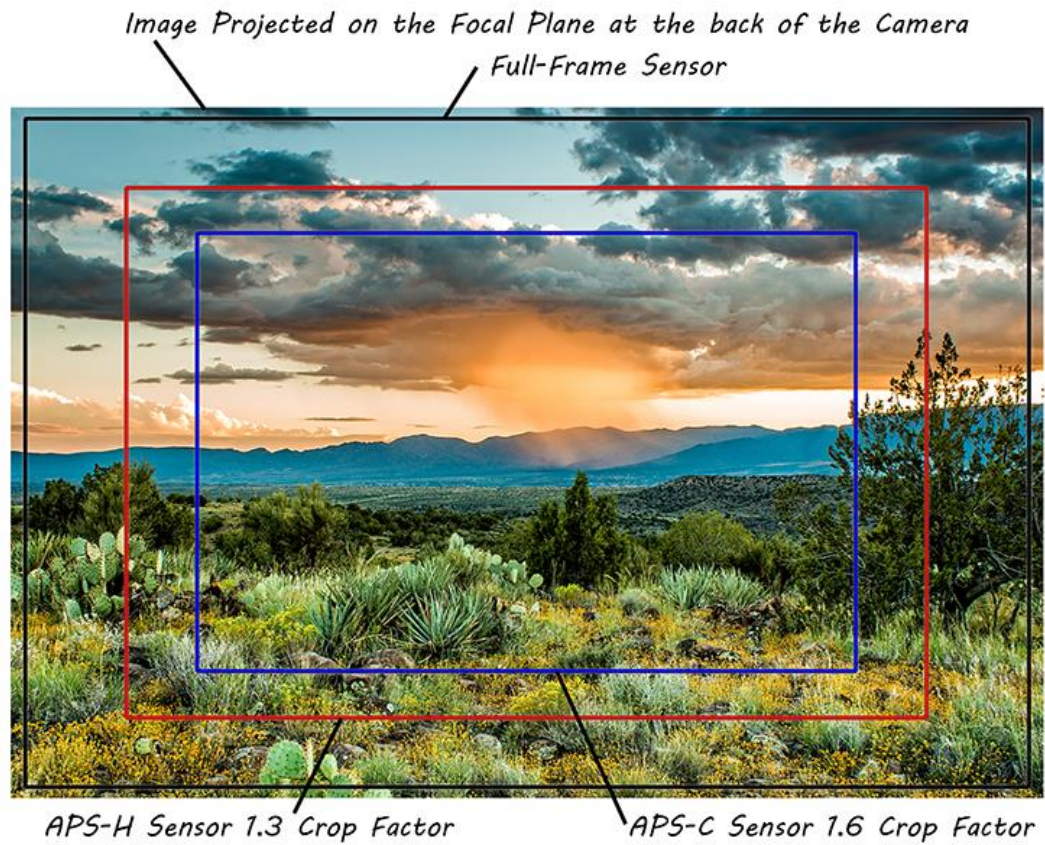


Figure 4.11

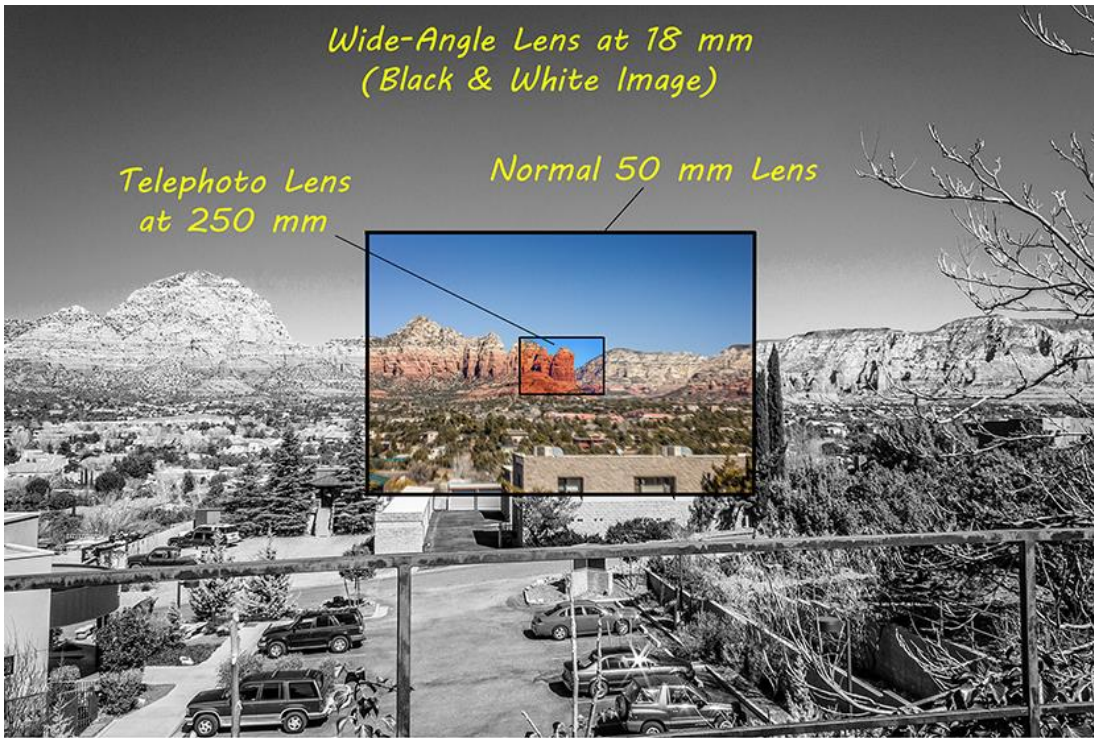


Figure 4.12

Canon Zoom Lenses											
	EF	EF-S	<i>f</i> (mm)	<i>f</i> /	L	IS	II	III	USM	Other	Price
Ultra-Wide		X	10-22	3.5-4.5					X		\$ 860
	X		8-15	4	X				X	Fisheye	\$ 1,499
	X		16-35	2.8	X		X		X		\$ 1,699
	X		17-40	4	X				X		\$ 840
Standard		X	15-85	3.5-5.6		X			X		\$ 800
		X	17-55	2.8		X			X		\$ 1,180
		X	17-85	4-5.6		X			X		\$ 600
		X	18-55	5.6		X	X				\$ 200
		X	18-135	3.5-5.6		X					\$ 500
		X	18-135	3.5-5.6		X				STM	\$ 550
		X	18-200	3.5-5.6		X					\$ 700
	X		24-70	2.8	X		X		X		\$ 2,300
		X	24-70	4	X	X			X		\$ 1,500
		X	24-105	4	X	X			X		\$ 1,150
		X	28-135	3.5-5.6		X			X		\$ 480
Telephoto	X		28-300	3.5-5.6	X	X			X		\$ 2,689
		X	55-250	4-5.6		X	X				\$ 300
	X		70-200	2.8	X	X	X		X		\$ 2,500
	X		70-200	2.8	X	X			X		\$ 2,000
	X		70-200	2.8	X				X		\$ 1,450
	X		70-200	4	X	X			X		\$ 1,350
	X		70-200	4	X				X		\$ 710
	X		70-300	4.5-5.6		X			X	DO	\$ 1,400
	X		70-300	4-5.6		X			X		\$ 650
	X		70-300	4-5.6	X	X			X		\$ 1,600
	X		75-300	4-5.6				X	X		\$ 235
	X		75-300	4-5.6				X			\$ 200
	X		100-300	4.5-5.6					X		\$ 470
	X		100-400	4.5-5.6	X	X			X		\$ 1,700

Canon Specialty Lenses											
	EF	EF-S	<i>f</i> (mm)	<i>f</i> /	L	IS	II	III	USM	Other	Price
Tilt-Shift			17	4							\$ 2,500
TS-E			24	3.5	X		X				\$ 2,200
			45	2.8							\$ 1,400
			90	2.8							\$ 1,400
EF-M			18-55	3.5-5.6		X				STM	\$ 300
			22	2						STM	\$ 250

Canon Prime Lenses											
	EF	EF-S	<i>f</i> (mm)	<i>f</i> /	L	IS	II	III	USM	Other	Price
Wide-Angle	X		14	2.8	X		X		X		\$ 2,359
	X		15	2.8						Fisheye	\$ 720
	X		20	2.8					X		\$ 540
	X		24	1.4	X		X		X		\$ 1,750
	X		24	2.8		X			X		\$ 850
	X		28	1.8					X		\$ 510
	X		28	2.8		X			X		\$ 800
	X		35	1.4	X				X		\$ 1,480
	X		35	2		X			X		\$ 850
	X		35	2					X		\$ 320
Standard	X		40	2.8						STM	\$ 200
	X		50	1.2	X				X		\$ 1,620
	X		50	1.4					X		\$ 400
	X		50	1.8		X					\$ 126
Medium Telephoto	X		85	1.2	X				X		\$ 2,200
	X		85	1.8					X		\$ 420
	X		100	2					X		\$ 500
Telephoto	X		135	2	X				X		\$ 1,090
	X		135	2.8						Soft Focus	\$ 550
	X		200	2	X	X			X		\$ 6,000
	X		200	2.8	X		X		X		\$ 820
	X		300	2.8	X	X			X		\$ 4,880
	X		300	2.8	X		X		X		\$ 7,300
	X		300	4	X	X			X		\$ 1,450
Super Telephoto	X		400	2.8	X	X			X		\$ 8,000
	X		400	2.8	X	X	X		X		\$ 11,500
	X		400	4		X			X	DO	\$ 6,470
	X		400	5.6	X				X		\$ 1,340
	X		800	5.6	X	X			X		\$ 14,000
	X		600	4	X	X	X		X		\$ 13,000
	X		500	4	X	X	X		X		\$ 10,500
Macro	X		50	2.5						Compact	\$ 300
		X	60	2.8					X		\$ 470
	X	MP-E	65	2.8						Photo	\$ 1,050
	X		100	2.8					X		\$ 600
	X		100	2.8	X	X			X		\$ 1,050
	X		180	3.5	X				X		\$ 1,580









Figure 5.9

Adjustment	Initial Value	One Stop	Two Stops	Three Stops	Four Stops
Aperture	f/5.6	f/4	f/2.8	f/2	f/1.4
Shutter Speed	1/500	1/250	1/125	1/60	1/30
ISO	100	200	400	800	1600
Exposure Compensation	-2	-1	0	+1	+2
Neutral Density Filters	ND32	ND16	ND8	ND4	ND2

Increase Exposure - More Light - Brighter Image 

 Decrease Exposure - Less Light - Darker Image

Figure 6.1

Temperature Range		Source	Color Cast	
°Kelvin			Warm	Red
1000	2000	Candle light		
2500	3500	Tungsten Bulb		
3000	4000	Sunrise / Sunset		
4000	5000	Fluorescent Bulb		
5000	5500	Electronic Flash		
5000	6500	Daylight		
6500	8000	Overcast		
9000	10000	Shade or Heavy Overcast		