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Computations and Comparisons for Home Office Printers 2021

In this report, we will elaborate on how we chose our recommended home printers. For home printers, we only chose printers that are priced \$100-499.00.

How We Computed Cost Consideration

Cost Consideration is the accumulated expenses a printer will have in its lifespan. A printer can be cheap but can be expensive to use in the long run. To know if a printer is a good investment or not, we will need to know its Cost Consideration.

The limitations of our computations consist of the following:

The Cost Consideration is a close but not an exact measurement. It is limited by page yields estimated by printer manufacturers and known average lifespans of printers.

The formula for Cost Consideration below is applicable to documents in general but not to photos or files that have a higher ink demand.

Most of the printers mentioned below can use High Yield Cartridges. But we only measured their Cost Consideration with Standard Yield Cartridges.

I. Lifespan Print Load

First, we will need to compute the Lifespan Print Load. This is the number of pages a printer will print in its lifetime. :

Lifespan Print Load = (Users Yearly Print Load x Printer Life Span) - Ink Included with Printer Purchase

For **Users Yearly Print Load**, we estimated that home office users will have a medium monthly print volume of 300 pages. Therefore, in a year, they would be printing 3,600 pages.

For **Printer Lifespan**, an inkjet printer has an average lifespan of 4 years. While a laser printer has an average lifespan of 5 years.



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For **Ink Included with Printer Purchase**, some printers include starter cartridges with estimated Page Yields. For example, if a color inkjet printer has starter cartridges with a page yield of 1,000 pages each, then it has the total page yield of 4,000 pages.

So upon computing the Lifespan Print Load with the mentioned example:

Lifespan Print Load	= (3,600 pages x 4 years) - 4,000 pages
	= 14,400 pages - 4,000 pages
Lifespan Print Load	= 10,400 pages

II. Total Cost Per Page

To find out how much an ink or toner cartridge cost per page, we calculate the following:

Cost per Page = Cartridge Price / Cartridge Page Yield

For example, an inkjet's black cartridge is \$80 and has a page yield of 1,000 pages. While its cyan, magenta and yellow (CMY) cartridges cost \$60 each and have a page yield of 1,000 pages each.

Black Cost per Page	= \$80.00 / 1,000 pages
	= \$0.08
Color Cost per Page	= \$60.00 / 1,000 pages
	= \$0.06
Total Cost per Page	= Black Cost per Page + Cyan Cost per Page + Magenta Cost per Page + Yellow Cost per Page
	= \$0.08 + \$0.06 + \$0.06 + \$0.06
Total Cost per Page	= \$0.26



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III. Cost Consideration

Now that we have our Lifespan Print Load and Total Cost per Page, we can now compute for a printer's Cost Consideration:

$$\text{Cost Consideration} = (\text{Lifespan Print Load} \times \text{Total Cost per Page}) + \text{Printer Price}$$

Using our examples above, we will compute for a printer's Cost Consideration with a Printer Price of \$199.00:

Cost Consideration	= (Lifespan Print Load x Total Cost per Page) + Printer Price
	= (10,400 pages x \$0.26) + \$199.00
	= \$2,903.00

This means that in the printer's lifespan of 4 years, you can spend \$2,903.00.



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Best Home Office Inkjet Printer

In each brand, we chose among MFP printers, priced \$99-299, with automatic duplex printing that have low Cost Considerations. Then we compare each brand to each other.

Unfortunately, we were not able to include Canon printers as they do not have official Page Yields which are important in computing the Cost Consideration.

	Epson	Brother	HP
Model	WF-3820	MFCJ5945DW	9015e
Printer Price	\$149.99	\$299.99	\$229.99
Advantages	Has the highest Printer Resolution	Has the lowest Cost Consideration	Has the fastest Print Speed in both Black and Color
	No-Heat Printing feature for less printer parts replacement	Has the lowest Cost per Page	Voice-activated printing available.
	DuraBrite fast-drying is claimed to resist fading for up to 118 years.		Instant Ink subscription available.
Disadvantages	Has the highest Cost Consideration	Not for people who doesn't want to pay a huge price upfront.	The ink included by printer purchase requires HP activation valid credit/debit card and constant internet connection. This will last 6 months. After that, there will be a monthly charge to the signed credit/debit card unless cancelled by the user.
	Has the highest Cost per Page		
Cost Consideration	\$2,829.32	\$789.23	\$1,721.59
Cost per page	Total: \$0.201	Total: \$0.0453	Total: \$0.132



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	Black: \$0.057	Black: \$0.0093	Black: \$0.033
	CMY: \$0.048 each	CMY: \$0.012 each	CMY: \$0.033 each
Ink Cartridge	822 (black): \$19.99/350 pages	LC3039BK (black) \$55.99/6,000 pages	962 (black): \$32.99/1000 pages
	822 (cmy): \$11.49/240 pages each	LC3039 (color) \$62.49/5,000 pages	962 (cmy): \$22.99/700 pages each
Ink Included upon Printer Purchase	Total: 1,070 pages	Total: 3,600 pages	Total: 3,100 pages
	DURABrite (black): 350 pages	LC3039BK (black): 6,480 pages	962 (black): 1,000 pages
	DURABrite (cmy): 240 pages each	LC3039 (cmy): 1,440 pages each	962 (cmy): 700 pages each
Max. Paper Size	8.5x14 inches	11x17 inches	8.5 x 14 inches
Black ISO-Based Max Print Speed	21 ppm	22 ppm	22 ppm
Color ISO-Based Max Print Speed	11 ppm	20 ppm	18 ppm
Print resolution	4800 x 2400 dpi	4800x1200 dpi	1200 x 1200 dpi
Recommended Monthly Print Volume	1,300 pages	2,000 pages	1,500 pages
Connectivity	Mobile, Wireless, USB, Ethernet	Mobile, Wireless, USB, Ethernet	Mobile, Wireless, USB, Ethernet
Maximum Automatic Document Feeder Capacity	35 sheets	50 sheets	35 sheets

Did you know that you will save 44.4% more if you use [compatible cartridges](#) with Brother MFCJ775DW? Its Cost Consideration goes down to \$350.35.



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Best Laser Home Office Printer (Monochrome)

Once again, Brother came out on top of our recommendations. While it has the same price as the HP printer, its cartridge's Cost per Page is lower due to its high Page Yield.

	Brother	HP	Lexmark
Model	MFC-L2710DW	LaserJet Pro MFP M148fdw	MX321adw
Printer Price	\$199.99	\$199.99	\$399
Advantages	Has the Highest Print Resolution	Voice-activated printing	Has the fastest Print Speed
	Has the lowest Printer Price, Cost Consideration and Cost per Page		Has the highest amount of Toner Included upon Printer Purchase
Disadvantages	Has the lowest Toner Included upon Printer Purchase	Has the highest Cost per Page	Has the highest Cost Consideration
			No mobile printing.
Cost Consideration	\$693.19	\$722.59	\$744.1
Cost per page	\$0.036	\$0.039	\$0.029
Toner Cartridge	TN730 \$42.99/1,200 pages	HP 94A \$46.99/1,200 pages	Lexmark 56F0HA0 Black High Yield Toner Cartridge \$172.99/6,000
Toner Included upon Printer Purchase	700 pages	1,000 pages	2,500 pages
Max. Paper Size	8.5 x 14 inches	8.5 x 14 inches	8.5 x 14 inches



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Black ISO-Based Max Print Speed	32 ppm	30 ppm	38 ppm
Print resolution	2400 x 600 dpi	1200 x 1200 dpi	1200 x 1200 dpi
Recommended Monthly Print Volume	2,000 pages	200-2,000 pages	500-6,000 pages
Connectivity	USB, Mobile, Wireless, Ethernet	USB, Mobile, Wireless, Ethernet	USB, Wireless, Ethernet
Maximum Automatic Document Feeder Capacity	50 sheets	None	50 sheets

Get bigger investments by lowering Brother MFC-L2710DW's Cost Consideration by 26.91% with [compatible cartridges](#).



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Best Laser Home Office Printer (Color)

While the Lexmark printer cannot fax and has no USB connection, it makes it up for home office users who have a need to print up to A3 paper sizes.

	Lexmark	Brother	HP
Model	MC3224dwe	MFCL3750CDW	Color LaserJet Pro MFP M283fdw
Printer Price	\$299.00	\$369.99	\$449.99
Advantages	Has the lowest Printer Price, Cost Consideration and Cost per Page	Has the highest Toner Included upon Printer Purchase.	Easy to set up and connect to tablet, laptop, PC and mobile.
	Can print up to A3 paper size	Has an Automatic Document Feeder	Has the largest Recommended Monthly Print Volume
	Steel frame and long-life imagine components		
Disadvantages	Cannot Fax	Has the highest Cost Consideration and Cost per Page	Has the highest Printer Price
	Has no Direct USB connection		
Cost Consideration	\$2,643.95	\$3,240.39	\$3,025.99
Cost per page	Total: \$0.193	Total: \$0.276	Total: \$0.224
	Black: \$0.043	Black: \$0.054	Black: \$0.047
	CMY: \$0.050 each	CMY: \$0.074 each	CMY: \$0.059 each
Toner Cartridge	C3210K0 (black): \$64.99/1500 pages	TN223 (black): \$74.99/1,400 pages	206A (black): \$62.99/1350 pages
	C3210 (cmy): \$74.99/1500 pages each	TN223 (cmy): \$96.49/1,300 pages	206A (cmy): \$73.99/1250 pages each



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Toner Included upon Printer Purchase	Total: 2,250 pages	Total: 4,000 pages	Total: 2,900 pages
	Black: 750 pages	Black: 1,000 pages	Black: 800 pages
	CMY: 500 pages each	CMY: 1,000 pages each	CMY: 700 pages each
Max. Paper Size	11 x 17 inches	8.5 x 14 inches	8.5 x 14 inches
Black ISO-Based Max Print Speed	24 ppm	25 ppm	22 ppm
Color ISO-Based Max Print Speed	24 ppm	25 ppm	22 ppm
Print resolution	2,400 x 600 dpi	2,400 x 600 dpi	600 x 600 dpi
Recommended Monthly Print Volume	600-1,500 pages	1,500 pages	150 to 2,500 pages
Connectivity	Mobile, Wireless, Ethernet	USB, Mobile, Wireless, Ethernet	USB, Mobile, Wireless, Ethernet
Maximum Automatic Document Feeder Capacity	None	50 sheets	None

Lower down any printer's Cost Consideration through lower prices of professional [compatible cartridges](#).