

IMAGE RESOLUTION GUIDELINES

Make sure your digital images are ready to print!

WHAT IS IMAGE RESOLUTION?

An image's resolution refers to the number of pixels (*small squares of information*) contained in an image. An image with high resolution is made up of many small pixels, while an image with low resolution contains a smaller number of larger pixels. Resolution (*pixels*) cannot be added to an image once it is captured by enlarging the image, it can only be removed.

An image's resolution impacts its appearance in both digital and print form.

IMPACT OF HIGH VS. LOW RESOLUTION ON A DIGITAL IMAGE



SAMPLE OF 4x6 PRINT WITH 300 PPI
(1200x1800 PIXELS)



SAMPLE OF 4x6 PRINT WITH 180 PPI
(720x1080 PIXELS)



SAMPLE OF 4x6 PRINT WITH 72 PPI
(288x432 PIXELS)

IMPACT OF HIGH VS. LOW RESOLUTION ON A DIGITAL IMAGE



SAMPLE OF ORIGINAL IMAGE
WITH 1800x1200 PIXELS



SAMPLE OF IMAGE AFTER BEING
ENLARGED TO 9000x6000 PIXELS

HOW IS IMAGE RESOLUTION MEASURED?

PPI (Pixels Per Inch) measures the resolution of a digital image (on a computer, camera, or a mobile device). The higher the PPI, the higher the resolution of the image will be, and the clearer the image will appear when printed.

DPI (Dots Per Inch) measures the resolution of a printed image, and indicates the number of ink dots per inch within an image. We calibrate our professional printers with expert precision to ensure that high resolution images (125 PPI or higher) print beautifully.

HOW CAN I CHECK MY IMAGE'S RESOLUTION?

ON A PC:

1. Right click on your image, and select **Properties**.
2. Click the **Details** tab.
3. Locate photo dimensions under **Image**.

ON A MAC:

1. Highlight the digital file on your computer.
2. Press command+i to **Get Info**.
3. Locate Dimensions under **More Info**.

IN A WEB BROWSER:

1. Right-click (PC) or Ctrl-click (Mac) on your image.

INTERNET EXPLORER

Select **Properties**.

FIREFOX

Choose **View Image Info**.

SAFARI

Ctrl-click to save the image and view the properties on your desktop.

CHROME

Install an extension such as "Image Resolution" that will allow you to view image properties within the browser.

ON A MOBILE DEVICE:

SAMSUNG GALAXY S6:

1. Open your gallery and select your photo.
2. Click on **More**, and then select **Details**.
3. Resolution details will be listed under **Properties**.

APPLE IPHONE:

1. Download an app such as "Image Size" or upload the photos to a computer.

IN ADOBE PHOTOSHOP:

1. Click the **Image** dropdown in the menu.
2. Select **Image Size**.

IN ADOBE LIGHTROOM:

1. Click the **Window** dropdown.
2. Select the **Library** module.
3. Select your photo.
4. Resolution details will be listed under **Metadata**.

PIXEL CHART

Use the Pixel Chart below to determine the resolution requirements for your chosen print size!

PRINT SIZE	125 PPI REQUIRED FOR GREAT QUALITY PRINTS	180 PPI REQUIRED FOR EXCELLENT QUALITY PRINTS	300 PPI REQUIRED FOR BEST QUALITY PRINTS
3.5 x 5	438 x 625	630 x 900	1050 x 1500
4 x 4	500 x 500	720 x 720	1200 x 1200
4 x 5	500 x 625	720 x 900	1200 x 1500
4 x 6	500 x 750	720 x 1080	1200 x 1800
4 x 8	500 x 1000	720 x 1440	1200 x 2400
5 x 5	625 x 625	900 x 900	1500 x 1500
5 x 7	625 x 875	900 x 1260	1500 x 2100
5 x 10	625 x 1250	900 x 1800	1500 x 3000
5 x 15	625 x 1875	900 x 2700	1500 x 4500
6 x 8	750 x 1000	1080 x 1440	1800 x 2400
6 x 9	750 x 1125	1080 x 1620	1800 x 2700
7 x 10	875 x 1250	1260 x 1800	2100 x 3000
8 x 8	1000 x 1000	1440 x 1440	2400 x 2400
8 x 10	1000 x 1250	1440 x 1800	2400 x 3000
8 x 12	1000 x 1500	1440 x 2160	2400 x 3600
8 x 16	1000 x 2000	1440 x 2880	2400 x 4800
8 x 24	1000 x 3000	1440 x 4320	2400 x 7200
8.5 x 11	1063 x 1375	1530 x 1980	2550 x 3300
9 x 12	1125 x 1500	1620 x 2160	2700 x 3600
10 x 10	1250 x 1250	1800 x 1800	3000 x 3000
10 x 13	1250 x 1625	1800 x 2340	3000 x 3900
10 x 14	1250 x 1750	1800 x 2520	3000 x 4200
10 x 15	1250 x 1875	1800 x 2700	3000 x 4500
10 x 20	1250 x 2500	1800 x 3600	3000 x 6000
10 x 30	1250 x 3750	1800 x 5400	3000 x 9000

NOTE: Additional factors, including camera settings, zooming, lighting, and cropping can affect the quality of a printed image. Therefore, these resolution guidelines alone do not guarantee a high quality print.

PIXEL CHART (CONTINUED)

PRINT SIZE	125 PPI REQUIRED FOR GREAT QUALITY PRINTS	180 PPI REQUIRED FOR EXCELLENT QUALITY PRINTS	300 PPI REQUIRED FOR BEST QUALITY PRINTS
11 x 11	1375 x 1375	1980 x 1980	3300 x 3300
11 x 14	1375 x 1750	1980 x 2520	3300 x 4200
11 x 17	1375 x 2125	1980 x 3060	3300 x 5100
11 x 22	1375 x 2750	1980 x 3960	3300 x 6600
11 x 28	1375 x 3500	1980 x 5040	3300 x 8400
12 x 12	1500 x 1500	2160 x 2160	3600 x 3600
12 x 18	1500 x 2250	2160 x 3240	3600 x 5400
12 x 24	1500 x 3000	2160 x 4320	3600 x 7200
12 x 36	1500 x 4500	2160 x 6480	3600 x 10800
15 x 30	1875 x 3750	2700 x 5400	4500 x 9000
15 x 40	1875 x 5000	2700 x 7200	4500 x 12000
16 x 16	2000 x 2000	2880 x 2880	4800 x 4800
16 x 20	2000 x 2500	2880 x 3600	4800 x 6000
16 x 24	2000 x 3000	2880 x 4320	4800 x 7200
18 x 24	2250 x 3000	3240 x 4320	5400 x 7200
20 x 20	2500 x 2500	3600 x 3600	6000 x 6000
20 x 24	2500 x 3000	3600 x 4320	6000 x 7200
20 x 30	2500 x 3750	3600 x 5400	6000 x 9000
20 x 40	2500 x 5000	3600 x 7200	6000 x 12000
22 x 28	2750 x 3500	3960 x 5040	6600 x 8400
24 x 24	3000 x 3000	4320 x 4320	7200 x 7200
24 x 30	3000 x 3750	4320 x 5400	7200 x 9000
24 x 36	3000 x 4500	4320 x 6480	7200 x 10800
30 x 30	3750 x 3750	5400 x 5400	9000 x 9000
30 x 40	3750 x 5000	5400 x 7200	9000 x 12000
30 x 45	3750 x 5625	5400 x 8100	9000 x 13500

NOTE: Additional factors, including camera settings, zooming, lighting, and cropping can affect the quality of a printed image. Therefore, these resolution guidelines alone do not guarantee a high quality print.

PIXEL CHART FOR PRINTING MOBILE DEVICE IMAGES

Printing photos taken on a mobile device? Use this guide to order the right size print for your smartphone photos.

IPHONE

REAR CAMERA			FRONT FACING CAMERA "SELFIE MODE"		
VERSION	MEGAPIXEL	PRINT UP TO (FOR BEST QUALITY)	VERSION	MEGAPIXEL	PRINT UP TO (FOR BEST QUALITY)
4/ 4s	8	8 x 10	4/ 4s	1.4	Standard Wallet
5/ 5s	8	8 x 10	5/ 5s	1.2	Standard Wallet
5/ 5s Plus	8	8 x 10	5/ 5s Plus	1.2	Standard Wallet
6/ 6s	12	11 x 14	6/ 6s	5	6 x 9
6/ 6s Plus	12	11 x 14	6/ 6s Plus	5	6 x 9
7	12	11 x 14	7	7	8 x 10
7 Plus	12	11 x 14	7 Plus	7	8 x 10

SAMSUNG

REAR CAMERA			FRONT FACING CAMERA "SELFIE MODE"		
VERSION	MEGAPIXEL	PRINT UP TO (FOR BEST QUALITY)	VERSION	MEGAPIXEL	PRINT UP TO (FOR BEST QUALITY)
S5	16	11 x 14	S5	2.1	4 x 6
S6	16	11 x 14	S6	5	6 x 9
S7	12	11 x 14	S7	5	6 x 9
Note4	16	11 x 14	Note 4	3.7	5 x 7
Note 5	16	11 x 14	Note 5	5	6 x 9
Note 7	12	11 x 14	Note 7	5	6 x 9

NOTE: Additional factors, including camera settings, zooming, lighting, and cropping can affect the quality of a printed image. These recommendations apply to photos taken with the camera application of a mobile device. Screenshots from other applications are typically of a lower quality when printed. Therefore, these resolution guidelines alone do not guarantee a high quality print.

WHAT ELSE AFFECTS MY IMAGE'S RESOLUTION?

It's important to note that your printed image's appearance in print may be affected by more than the number of pixels in the image:

LIGHTING

Well-lit images will contain more visual detail than darker images (especially when taken on a phone).

DIGITAL ZOOM

Using a digital zoom feature will crop a portion of the image, and then enlarge it back to size. Image quality will be reduced relative to the original photo.

ENLARGED PHOTOS

Increasing the size of an image will not increase its resolution accordingly. For instance, increasing the size of a photo 200% will cause the pixels within the image to become twice as large, resulting in a larger, but lower quality image.

IS IT POSSIBLE TO CREATE A LARGE FORMAT PRINT FROM A SMARTPHONE PHOTO?



This photo was taken using the rear-facing camera of a Samsung Galaxy S6 in natural sunlight. Once taken, this photo was not enlarged or cropped. It looks vibrant and sharp, even printed at 24x36"!

DO I HAVE ANY OPTIONS TO PRINT A LOW RESOLUTION IMAGE?

Select a small Photo Print size. The smaller the number of pixels, the smaller the space within which they should be printed.

Choose a Photo Print or product with a textured surface. Products such as Canvas Prints and Linen Textured Prints have a unique surface that can hide imperfections better than Prints and products with a smooth surface.

Increase the viewing distance of the final product. If the product is intended to be viewed from far away, resolution imperfections will be harder to detect.