


# IMAGE RESOLUTION

Is your image high enough resolution for printing? How can you determine whether an image file is high enough resolution to use in your printed project?

 **Images for print need to be at least 300 ppi (pixels per inch) at the size they'll be printed.**

## AT A QUICK GLANCE

The chart below indicates the pixel dimensions, appropriate printed size and the approximate file size for images to be used at the effective resolution of 300 pixels per inch (dpi). Dimensions shown below are landscape, simply reverse the width and height for portrait format images.

Dimensions in pixels (W x H)	Printed size (W x H)	Approximate file size
600 x 400	2" x 1.33"	938 KB
640 x 480	2.13" x 1.6"	1.17 MB
600 x 600	2" x 2"	1.37 MB
800 x 600	2.67" x 2"	1.83 MB
1024 x 768	3.41" x 2.56"	3 MB
1280 x 960	4.27" x 3.2"	4.7 MB
1200 x 1200	4" x 4"	5.5 MB
1600 x 1200	5.33" x 4"	7.32 MB
1800 x 1200	6" x 4"	<b>8.24 MB</b>
2100 x 1500	7" x 5"	<b>12 MB</b>
2400 x 1600	8" x 5.33"	<b>14.6 MB</b>
3000 x 2400	10" x 8"	<b>27.5 MB</b>
3300 x 2550	11" x 8.5"	<b>32.1 MB</b>

**TIP: Look for large file sizes**

## Pixel-to-Print Size Calculator:

[elearningart.com/community/free/pixel-print](http://elearningart.com/community/free/pixel-print)

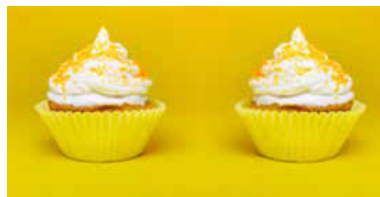
For more information contact: [creative@uwaterloo.ca](mailto:creative@uwaterloo.ca)

[uwaterloo.ca/creative-studio](http://uwaterloo.ca/creative-studio)

## USING THE NUMBERS

To find out how many pixels are in an image, select the image in Explorer (Windows) or Finder (Mac) and its dimensions will be displayed in pixels. Because images need to be printed at 300 ppi, there's a quick and easy way to determine the maximum size that an image can be printed at: **divide the number of pixels in the image by 300.**

**Here's an example:** The image below is 600 x 300 pixels in size.  $600 \times 300$  divided by  $300 = 2 \times 1$  inches, so the largest size this image can be printed (without compromising quality) is 2 x 1 inches. If the image is used any larger, the resolution will drop below 300 ppi.



## FILE FORMATS

**Images for print:** The ideal file format for print is **TIF** and **JPG**. These file types provide the best quality and resolution for images.

**Images for web:** The formats most commonly used for web images are **PNG**, **GIF** and **JPG**. **GIF** is commonly used for simple illustrations, while **JPG** is more commonly used for photographs.

**Logos** should be ideally provided as vector format to allow for scaling/resizing. File formats are **AI**, **EPS**, or **SVG**.



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