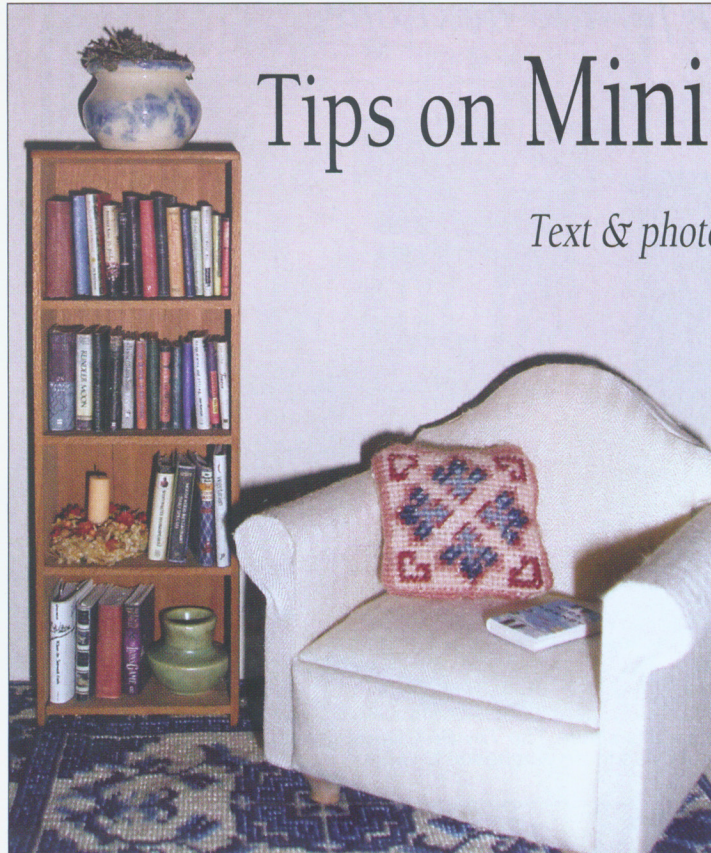# Tips on Miniaturizing Prints

*Text & photography by Emily Morganti*

## When you scan a graphic, do so at a high dpi.

At some point, you've probably clipped pictures from magazines, catalogues, or flyers to make your own miniature books, boxed goods, wall hangings, flooring, or any number of other accessories. You may have even used your scanner or searched online for images to turn into miniatures. If so, have you noticed that these "printies" never come out quite as nice as graphics cut from magazines? This is because images optimized for digital media, such as a Web page, are missing some of the information needed to print out nicely on paper. You can get a fairly high-quality printer for a decent price these days, but you still need to make a few tweaks before graphics will print out as well as your mini settings deserve. This article will teach you a couple of tricks to overcome common graphical glitches and make the most of your printies.
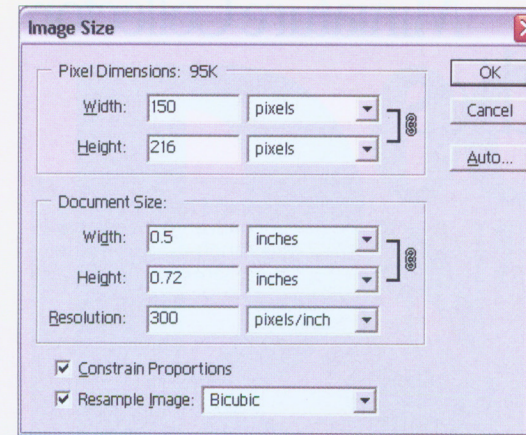
First of all, it helps to understand a few basics about computer graphics. An image displayed on a computer monitor is made up of a series of pixels (tiny spots of color). When you print a graphic, these pixels are translated into dots of ink. The more dots an image contains, the sharper and more vibrant it is. For this reason, dots per inch (dpi) is a common measurement of image quality. A graphic's dpi is also known as its resolution.

A professionally-printed graphic usually has hundreds of dots per inch, so many that they blend together and you can't distinguish one dot from the next. By comparison, most graphics created for the Web only have 72 dpi. This is because many computer monitors can't display more than 72 pixels per inch. Anything above this is ignored, so graphics meant to be viewed with a computer are often created at low resolutions. On your monitor, a 72 dpi graphic looks fine. The problem is, when these graphics are printed, there just aren't enough dots to create a sharp image.

A graphic design program such as Adobe Photoshop® allows you to change an image's dpi. This means you can add dots to a low-resolution graphic, but since the computer is generating dots that weren't in the picture to begin with, you may still end up with a fuzzy or imperfect printout. The good news is that shrinking a picture makes it sharper. Most graphics found online need to be reduced to fit into your mini setting. You can use this to your advantage. By increasing the dpi as well as decreasing the size of the image, you end up with a graphic that's smaller and sharper.

This explanation of resolution applies to graphics you scan, as well as to images saved from the Web. When you scan a graphic, do so at a high dpi. This may take a little longer, since the scanner has to pick up more information, but the result will be worth it.

When you're ready to print, make every dot count by using paper designed for graphics. Epson makes a photo quality ink jet paper (S041062) that holds ink very well, without smudging or running. It costs about $15 for 100 sheets. For a less expensive option, you can use paper that's designed for color printing but not specifically for photographs (around $7–$10 for 500 sheets, depending on the brand). As long as you choose paper optimized for color printing, you should notice a big improvement over graphics printed on standard paper. Results may vary depending on your printer, however, so finding the best paper for your purposes could require some trial and error.

This is the window in Photoshop that allows you to change an image's size and resolution. "Pixel Dimensions" refers to how large the graphic displays on the screen, and "Document Size" to the graphic's printed size. To reduce a graphic for your mini scene, specify the width and height you want it to print out, and give it a resolution of 300 dpi or more. The graphic will look large on your screen, but it will print at the size you specified. If you use a program other than Photoshop, check the manual or help section to learn how to manipulate a graphic's print size and resolution with that software.

*Dots per inch (dpi) is a common measurement of image quality.*

One last thing. Remember that copyright laws extend to images—even images up on the Internet. In most cases it's OK to print a graphic for personal use. If you plan to sell or distribute your printies, though, you should first clear this with the person or corporation that holds the copyright on the image. ∎

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## Making Your Own Books

I made a mini library by scanning the dust jackets of hardcover books. If you don't own a scanner, you can use a similar method to make realistic-looking books using graphics found online. Just remember to respect the copyright.

1. Remove the dust jacket from a hardcover book and put it face down on the scanner. (If the jacket is larger than the scanner, you'll need to scan it in two parts and piece it together using a graphic design program such as Photoshop.)
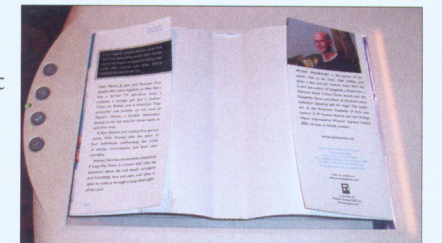
2. Scan the dust jacket at a high resolution. Your scanning software should allow you to adjust the dpi before you scan. I recommend using at least 300 dpi.

3. Using your preferred graphic design software, reduce the size of the scanned image to fit in your mini scene.

4. Print the book cover. For best results, set your printer for high quality, and use paper designed for printing graphics.

5. Cut out the book cover, leaving a little space around the edges. Using a glue stick, glue the book cover to a piece of poster board or stiff paper. When this is dry, fold at the spine. Carefully cut away the excess around the edges of the cover.
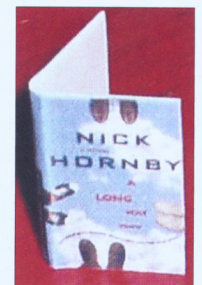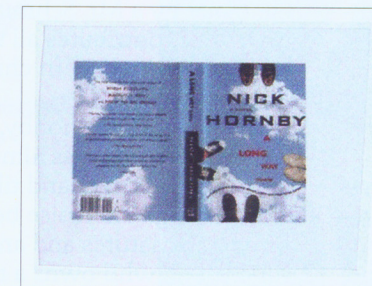
6. Cut several pieces of poster board or paper slightly smaller than the book cover. These will form the pages of your book. How many you need depends on the thickness of the book's spine. Glue the pieces of poster board or paper together to form a stack. When the stack of pages is dry, glue it inside the book cover. ∎