

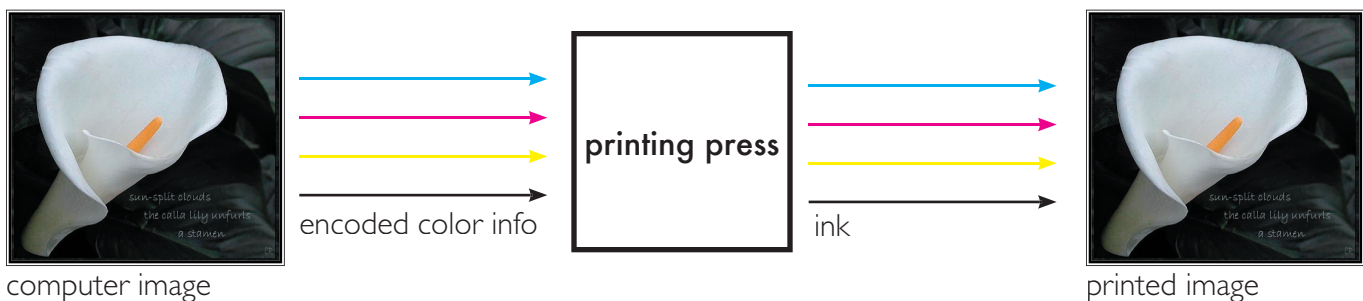
## Color in Print

Printing presses use a color model called CMYK, which stands for Cyan, Magenta, Yellow, and Black.



K is used instead of B to stand for black so the color isn't too easily confused with Blue.

These four inks are layered onto paper by a printing press and produce all of the color you see in printed material. Images intended for professional printing are converted from the RGB mode (Red Green Blue) used by computer monitors (and TVs, projectors, etc.) to display color, into CMYK mode before printing. Adobe Photoshop is a common application for performing this kind of image adjustment. (Using the Image menu, choose Mode, and then select CMYK as your color model. Then re-save the image).

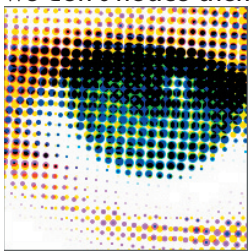


CMYK inks are expressed in programs like InDesign in percentages that represent the amount of ink to lay down on a piece of paper.

There are two ways to print using CMYK inks: the **Process and Spot method**.

**Process printing** = full color printing using a printing plate for each of the 4 colors. C, M, Y, and K are laid down in 4 separate layers of dots to represent a broad range of colors.

These dots, called "halftone patterns" are usually small enough that we don't notice them unless we look closely at a printed page or use a magnifying glass. Newspapers are the most obvious in their use of halftone patterns.



**Spot printing** uses premixed inks so you can get as few as one color used in your printing job (generally one colored ink+ black). Spot is also used to produce inks in colors that can not be made using the CMYK combination, such as neons and metallics. Many

companies use spot colors for their logos, because the logos are very specific values of C, M, Y, and K combined.

Both printing processes will look differently depending on the brand of ink used, the paper, and the printing press. The color you see on your screen is not guaranteed to be representative of what you see in print. Color management can help with that, and is highly recommended.

Some home inkjet printers claim to be "RGB" but actually convert to CMYK using an algorithm built into their hardware before printing. Check your printer's manual for specifications.

