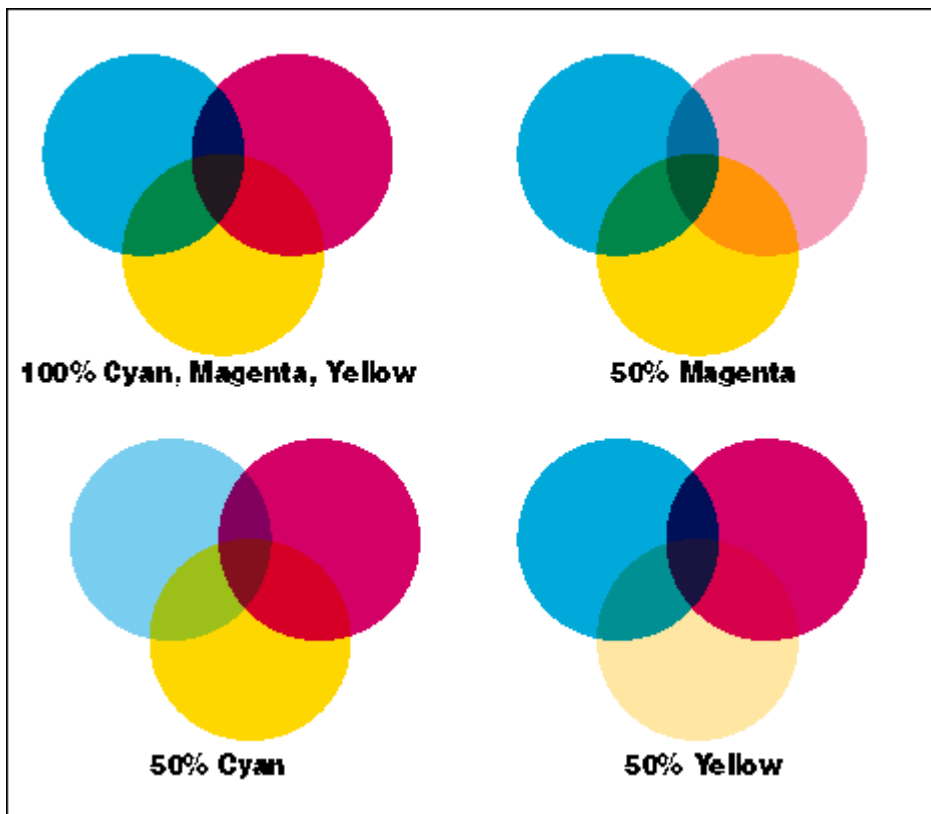


CMYK COLOR SPACE:

In full-color (process) printing, your printer uses four inks:

Cyan **Magenta** **Yellow** **Black**

When these four inks (collectively known as CMYK) are combined, they can produce millions of different colors. Below is an illustration of how changing the percentage (screen) of one ink can dramatically affect the color. Note that only Cyan, Magenta and Yellow are used below. Black, the fourth process ink, is used to darken the colors created by the other three process colors.



Of course, what you are looking at above is an RGB simulation of CMY colors. Note that the screened colors are lighter, but still shown as solid. In process printing on paper, a 50% screen of any color would be represented as a dot pattern which visually occupies 50% of the paper surface.

When screens of the four colors are combined in a proper pattern on paper, the human eye merges them into one color.

Also called REFLECTIVE or SUBTRACTIVE colors, process inks filter light as it is reflected off the paper, allowing only certain wavelengths of light to reach your eyes. By adjusting the amount of any ink on the paper, the reflected wavelength changes, changing the color you see.

If you are printing a process (CMYK) document, make sure all of your colors are made up of process inks. For example, one hue of green can be made by combining 100% cyan and 100% yellow. That hue can be changed by reducing the amount of yellow or cyan, or adding small amounts of magenta or black.

Exercise

In Adobe Photoshop 4.0 or greater, create a 2" x 2" CMYK file that is all 30% Cyan, 25% Magenta, 25% Yellow, and 25% Black. Your document should look all gray. Now, apply the Pixelate>Color Halftone filter with a radius of 6 pixels. Leave the other settings at their defaults.

The result will roughly simulate how an imagesetter would combine those colors, only the imagesetter would produce a much finer dot.

NOTE: This is not how we produce screened photos in Photoshop. Our software and printer will perform the screening. This filter only allows us to create exaggerated, coarse screens for special effects like comic-book looking images.