

Color Construction-*Studying Color Subtraction*

When talking about light and color, the concept of color subtraction can be confusing to students. The idea of adding a color as subtraction is kind of an oxymoron. One issue that comes up is how color printers work (and color pictures in magazines). A good color printer will use four colors of ink to make color photos: magenta, cyan, yellow, and black. (Remember that these are the primary *subtractive* colors.) The black is not always necessary, but it improves the detail in darker parts of the image. To get this point across in a concrete way, you can download these four images, each with one color. Print them onto transparencies. Put them on top of each other one at a time on an overhead projector. (You may not want to use the black print.) The color photo will come to life, right in front of their eyes.

Color Printing

Both colored filters and pigments selectively absorb certain colors. Cyan, yellow, and magenta are referred to as the subtractive primaries because in the proper combinations they may be used to produce any color in the spectrum. For this reason, cyan, yellow, and magenta are used in painting and color printing.

Examine the flaps on the boxes provided. There you will see cyan, yellow, and magenta "test dots" indicating the colors used to print the box. These same colors are clearly visible on the color inkjet printing cartridge. Use a magnifying glass to view a color picture in a magazine or book or a colored image produced by a color inkjet printer.

What do you observe?





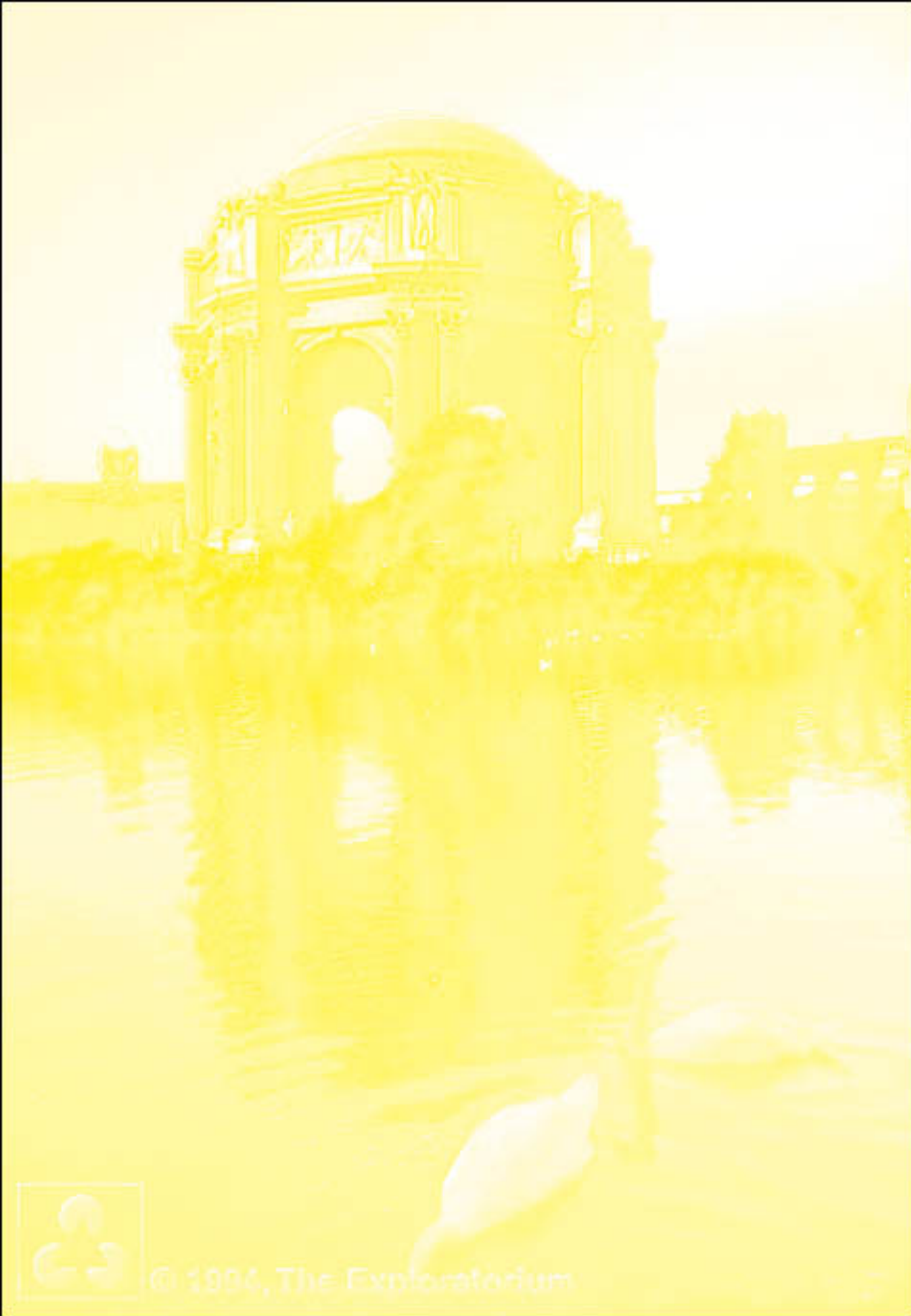
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