

CS Fundamentals

History of Adobe and the Creative Suite

<http://www.adobe.com/aboutadobe/history/timeline/>

Historic Milestones:

- Invention of Postscript programming language
- Development of the PDF format
- Development of Photoshop, Illustrator, & Acrobat, each become industry standards
- More recent development of InDesign
- Incorporation of products into the Creative Suite

Tips on Purchasing CS

- Adobe releases a new version of CS about every 18-24 months.
- If you need two or more Adobe software products, you will save money by buying one of the Suite packages.
- Student version is initially much less expensive but has no upgrade path and is not to be used for commercial purposes. The software itself is identical, but student version has reduced extras such as fonts, etc.
- Full version has special upgrade pricing for new versions.

vector vs. raster

(Zoom in; you'll see that the word "raster" is composed of pixels, while "vector" is composed of mathematically defined shapes.)

raster vs. vector

- Raster image is composed of a grid of pixels, and thus has resolution.
- Vector image is composed of mathematically defined lines, curves, shapes, gradients, etc, and has no resolution. Can be infinitely scaled.

Discuss:

- *What types of artwork should be created/saved in each format?*
- *How do PS, AI, and InD relate to these two basic methods of image encoding?*

Resolution vs. Image Size

&

What is a Megapixel?

resolution, pixels, and size

The resolution of an image is an indication of how its pixels are distributed.

Resolution = Pixels (Dots) per Inch

Resolution = Pixels ÷ Size (in inches)

Pixels ÷ Resolution = Size (in inches)

Size (in inches) x Resolution = Pixels

Size (in inches) ÷ Pixels = Resolution

Discuss:

What resolution is needed for high-quality print? for onscreen?

Full-Screen Image On 17" Monitor*

768 Pixels ÷ 10.7" ≈ 72ppi

1024 Pixels ÷ 14.2" ≈ 72ppi

Same Image Printed at 300 ppi



768 Pixels
2.5"

1024 Pixels
3.4"

* 72 ppi is the default resolution arbitrarily used for on-screen images. It's derived from how large an image would look when displayed on a 17" monitor at 1024x768 screen resolution. Actual size in inches will vary depending on screen size and display resolution.

$$10 \times 8 \times 300 \text{ ppi} = 3000 \times 2400 = 7.2 \text{ Mpx}$$

**Relative sizes of common images
with their respective 300ppi pixel dimensions and megapixels**

$$6 \times 4 \times 300 \text{ ppi} = 1800 \times 1200 = 2.1 \text{ Mpx}$$

$$5 \times 3 \times 300 \text{ ppi} = 1500 \times 900 \\ = 1.3 \text{ Mpx}$$

$$\text{Screen} = 1024 \times 768 \\ = 0.8 \text{ Mpx}$$

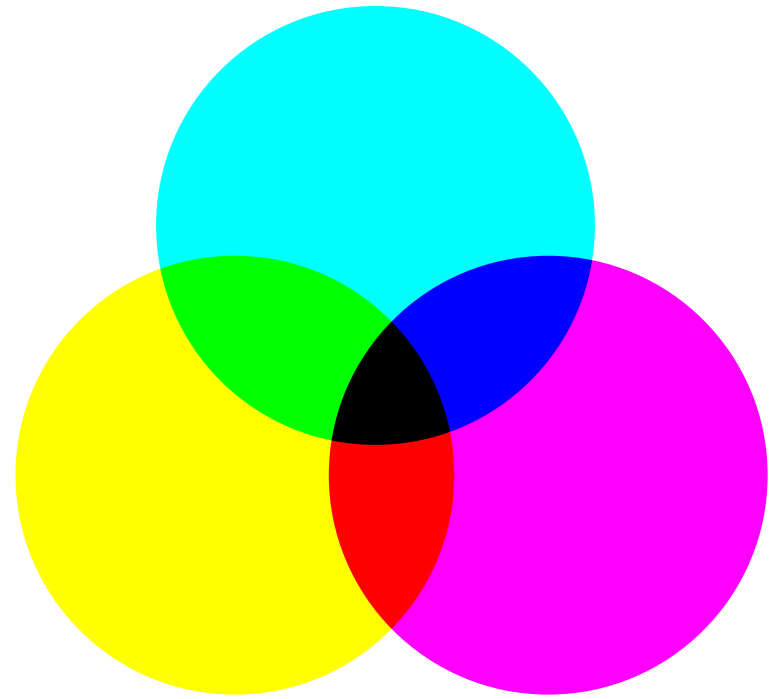
color modes & theory

Additive



RGB

Subtractive



CMY(K)

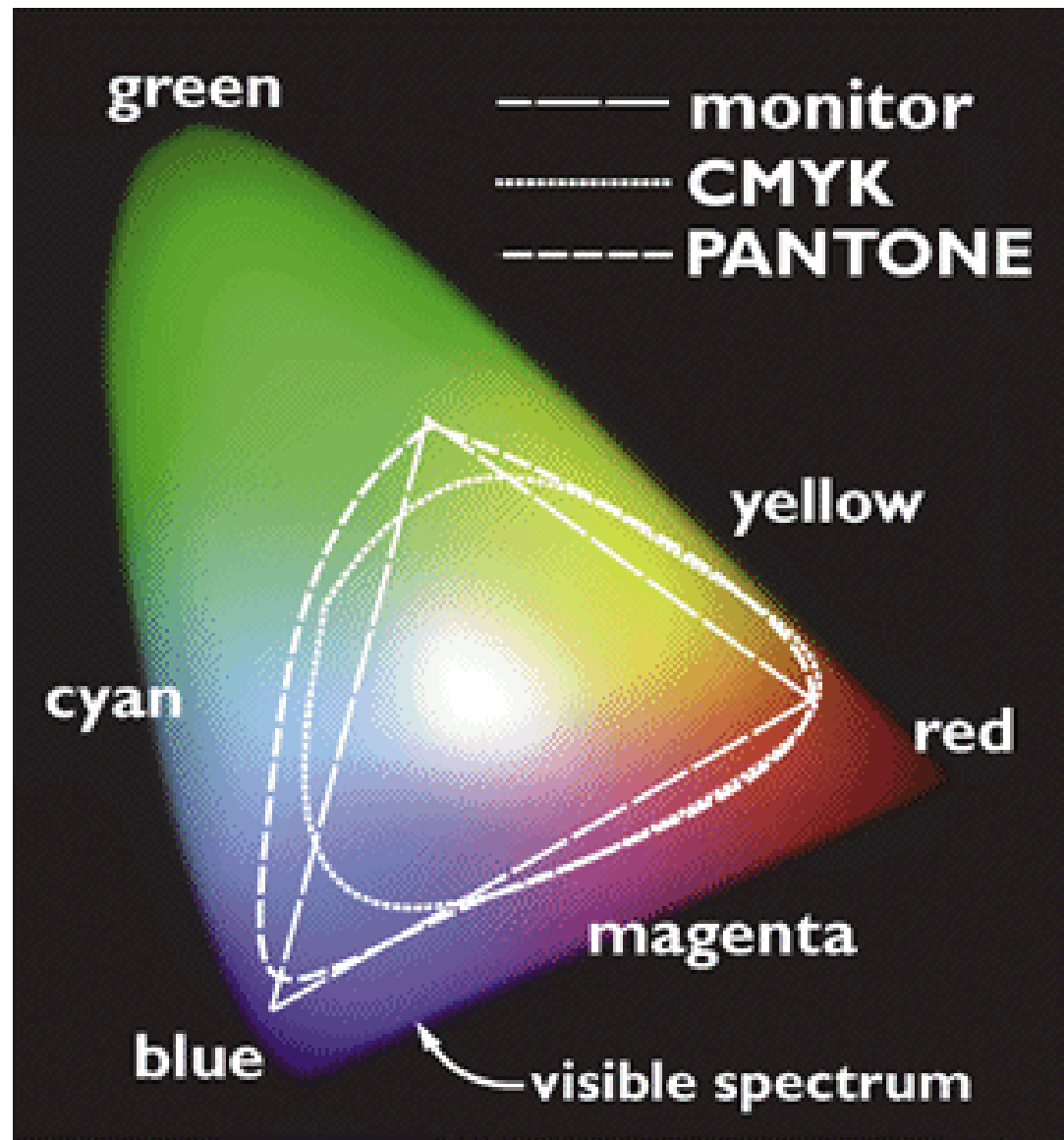
Color Modes *(refer to Photoshop Color Picker):*

- RGB
- CMYK
- HSB (It's there for humans! Based on color wheel.)
- Lab (modeled on human vision)
- Grayscale & bit map

Color in Print

- separations
- spot color

Discuss: *what happens behind the scenes when we convert an image from one color mode to another?*



http://dx.sheridan.com/advisor/cmyk_color.html

Color Management (in a tiny nutshell)

Because all CMYK/RGB devices are not created equal.

Application Color Settings: InD, PS, and AI each have their own individual color settings. For best results when working in multiple applications, these should be synchronised.

Creative Suite Color Settings: Accessible in Bridge, can be used to synchronize color settings across CS applications.

Color Profile: embedded inside the image, describes the image's *flavor* of CMYK or RGB, so that when the image is used on other devices it converts the color accurately.

Common File Types



PSD (PhotoShop Document)
TIF (Tagged Information Format)
RAW (proprietary digital camera formats)
JPG, PNG, GIF (Internet formats)



AI (Illustrator Document)
PDF (Portable Document Format)
EPS (encapsulated PostScript)
SVG (Scalable Vector Graphic)
WMF (Windows MetaFile)



indd (document), indt (template), indb (book), indl (library),
inds (snippet), inx (interchange file)