

# CS Fundamentals

# History of Adobe and the Creative Suite

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

## Major Accomplishments:

- Invention of Postscript programming language
- Development of the PDF format
- Development of Photoshop, Illustrator, & Acrobat, each become industry standards.
- 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 it includes reduced extras such as fonts, etc.
- Full version has special upgrade pricing for new versions.

**vector vs. raster**

## **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  $\div$  Size (in inches)

Pixels  $\div$  Resolution = Size (in inches)

Size (in inches) x Resolution = Pixels

Size (in inches)  $\div$  Pixels = Resolution

### ***Discuss:***

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

# Full-Screen Image On Your Monitor

768 Pixels ÷ 10 = approx 72dpi

1024 Pixels ÷ 14" = approx **72dpi**

**Same Image  
Printed at 300 ppi**



1024 Pixels

768 Pixels

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

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

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

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

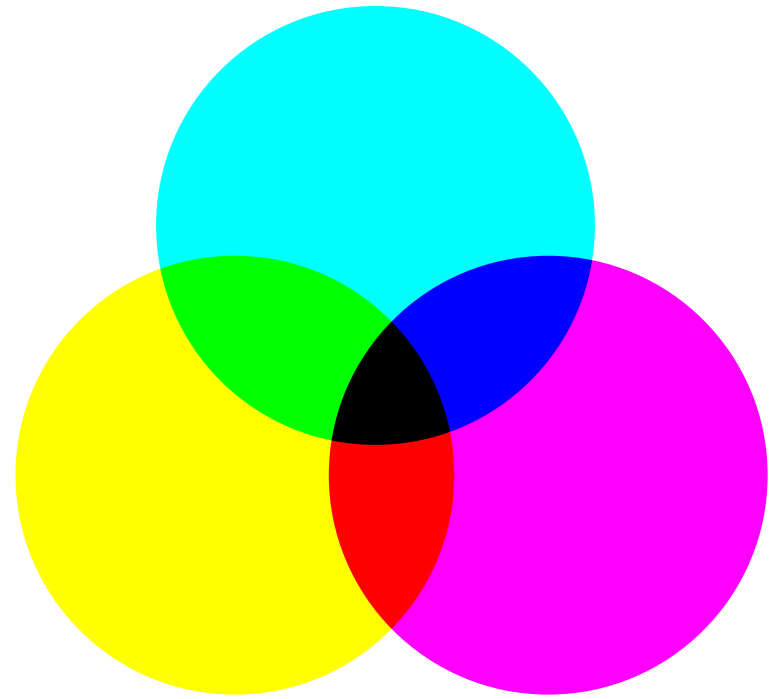
# **color modes & theory**

**Additive**



**RGB**

**Subtractive**



**CMY(K)**

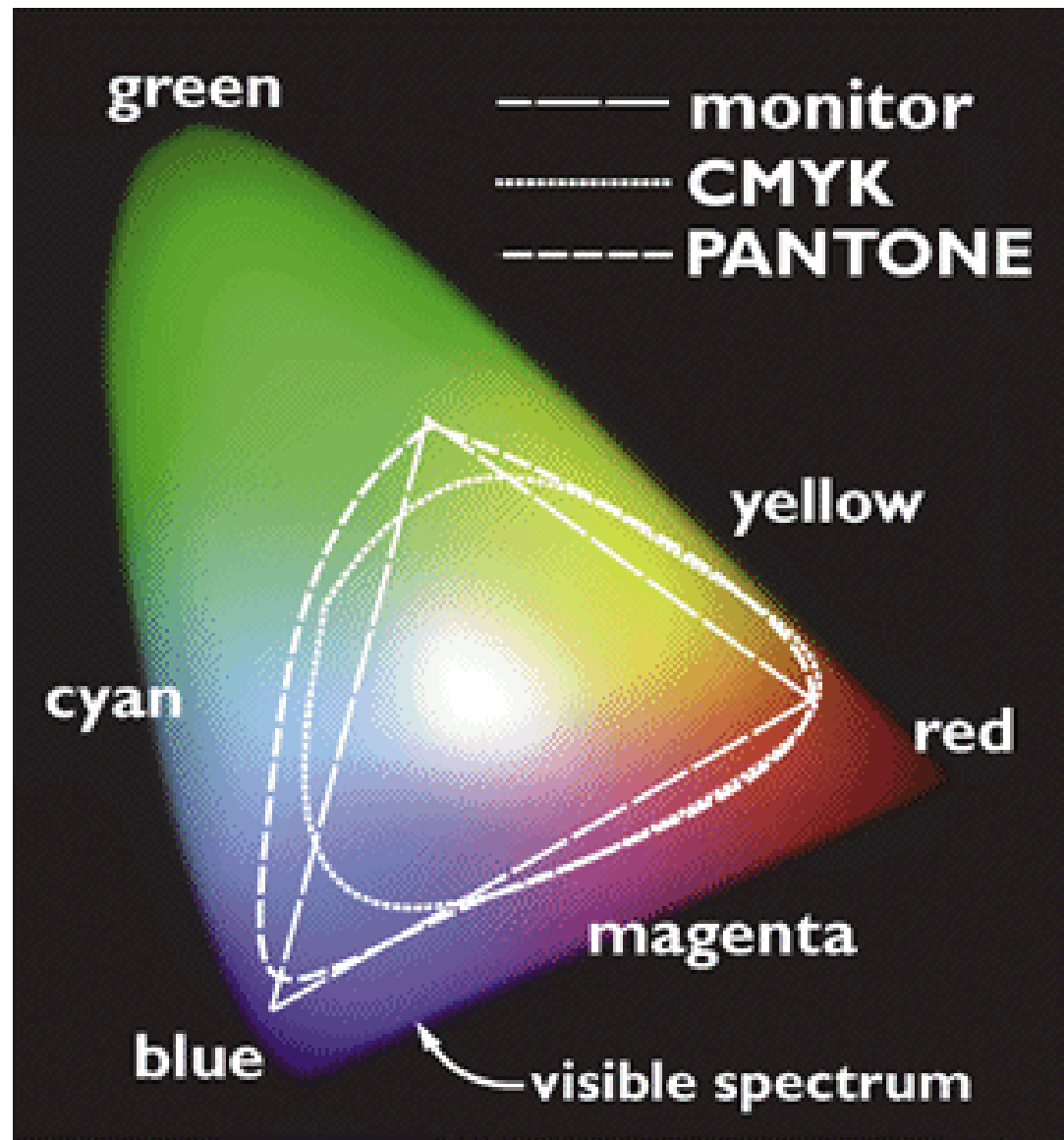
## **Color Modes** *(refer to Photoshop Color Picker):*

- RGB
- CMYK
- HSB (not an actual mode, based on color wheel)
- Lab (modeled on human vision)
- Grayscale

## **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](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.

# File Types



PSD (PhotoShop Document)  
TIF (Tagged Information Format)  
RAW (proprietary digital camera formats)  
JPG, PNG (use lossy compression)  
GIF (indexed color palette)



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)