

Production for Designers

Session Seven: October 19, 2020

What is Color Correction?

What did we learn?

A common thread!

<https://mymodernmet.com/cinema-palettes/>

Colorful Perception.

RGB and CMYK

<https://page2media.brio.viddler.com/groups/6595/media/06-04-difference-between-rgb-and-cmyk>

Communicating Color

<https://page2media.brio.viddler.com/groups/6595/media/06-10-communicating-color-effectively>

Term Project

Deliverables: A print media ready PDF of at least one item contained within your Term Project description is required!

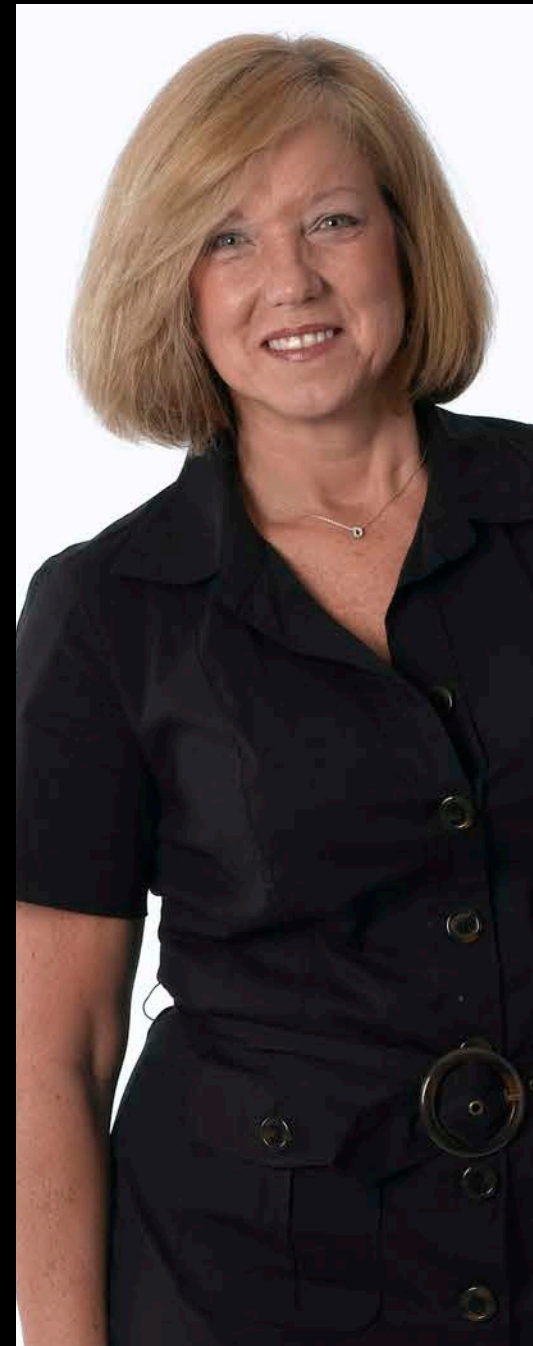
Links that provide an understanding of the standards and specifications for the other element or media-based devices in your Term Project description.

Break Time

5-minute break!

dib

© Doris Brown



Eye on Color

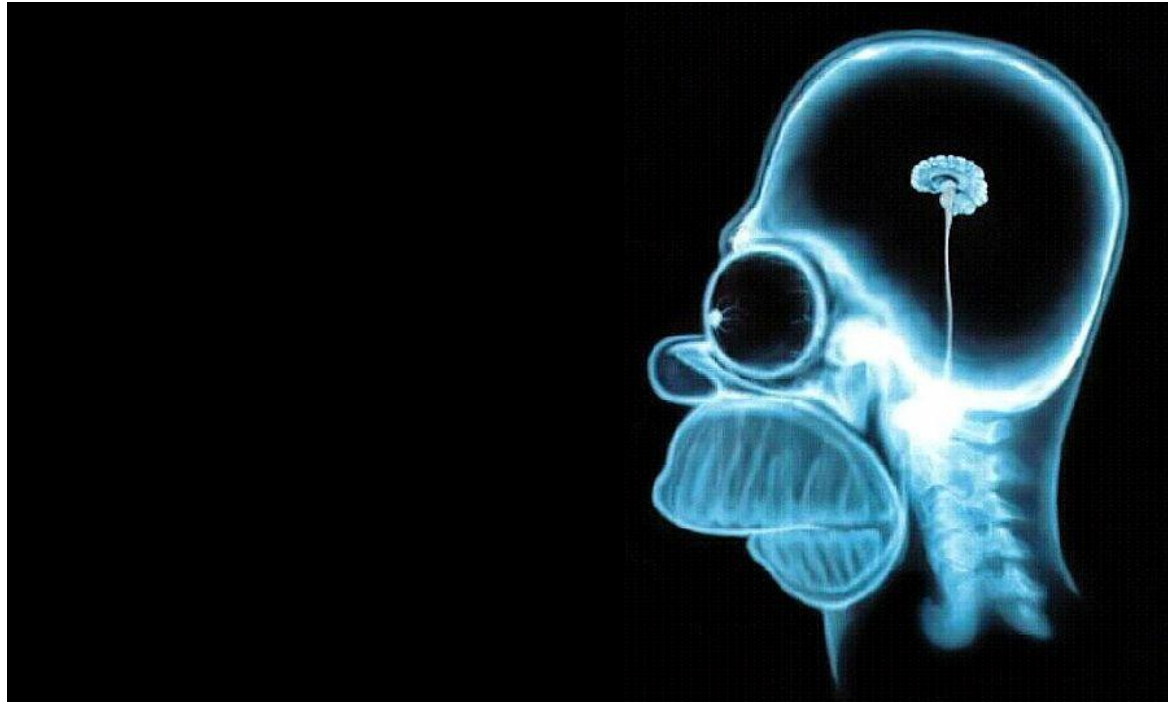




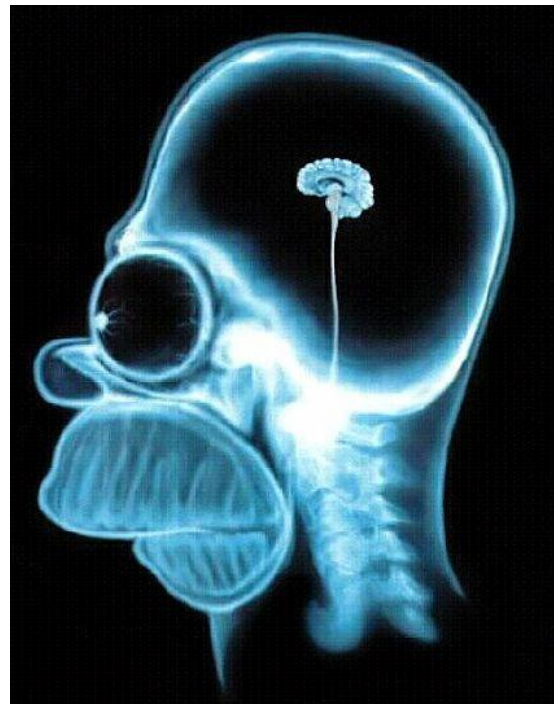
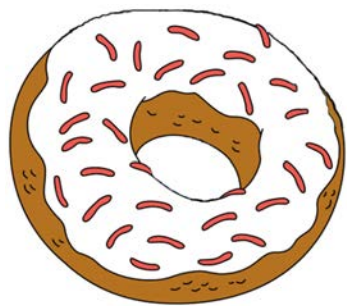
The color of Ideas

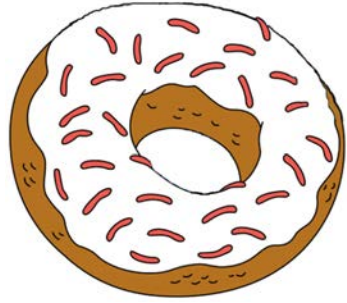
- How we see color.
- Creating & mixing colors.
- Printing colors.
 - Spot colors
 - Digital colors
- Color gamut & spaces
- About Pantone colors
- Color workflow + Communication





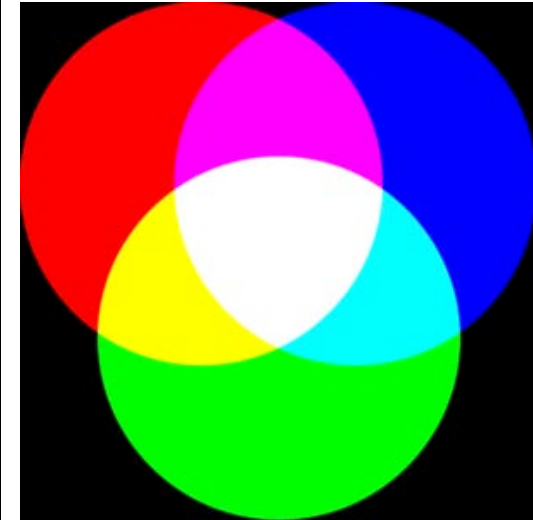
- Color is the byproduct of the spectrum of light, as it is reflected or absorbed, as received by the human eye and processed by the human brain.



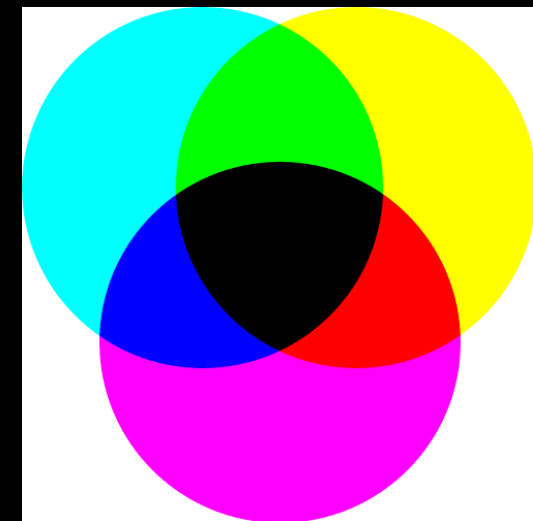


Creating Color

There are two ways to create the colors we want. One is based on light, the other on inks.



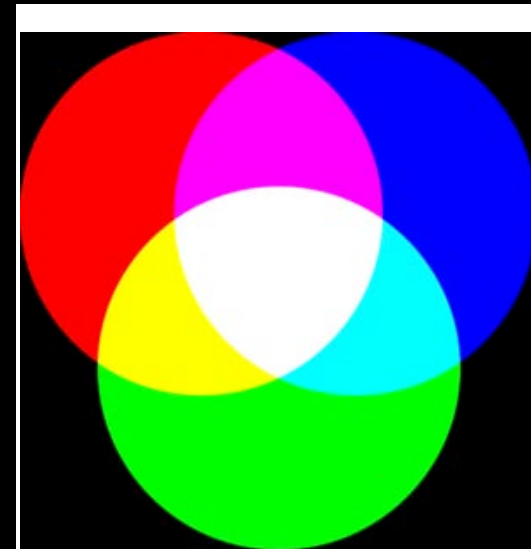
Additive



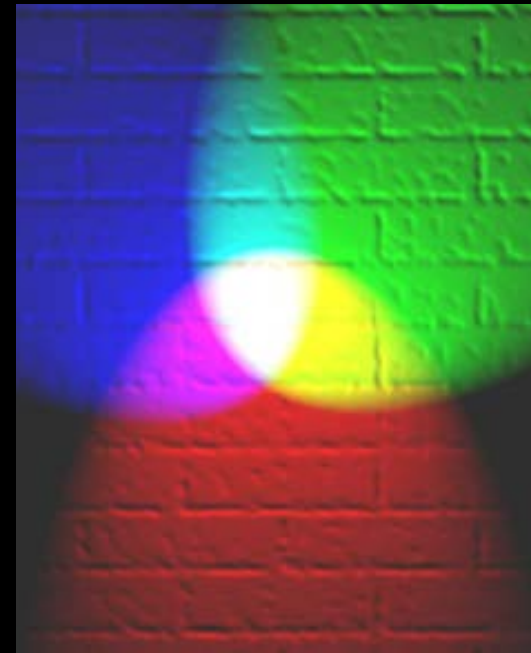
Subtractive

Additive Color

Additive color mixing system is used in computer monitors, TV sets, and to illuminate actors on stage.



Additive



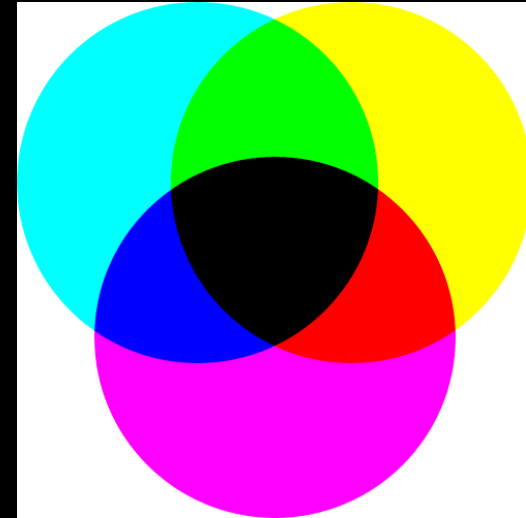
RGB Color

Each color of the spectrum has a specific frequency. Adding these colors of light together increases the number of frequencies present and the more colors you add the closer it becomes to white.



Subtractive Color

Layers of glass vividly show how semi-transparent layers of color combine on paper into spectrum of CMY colors. K (black) is added in printing because it is more-black and for economic reasons.



Subtractive



Colorful Perception.

RGB and CMYK

<https://page2media.brio.viddler.com/groups/6595/media/06-04-difference-between-rgb-and-cmyk>

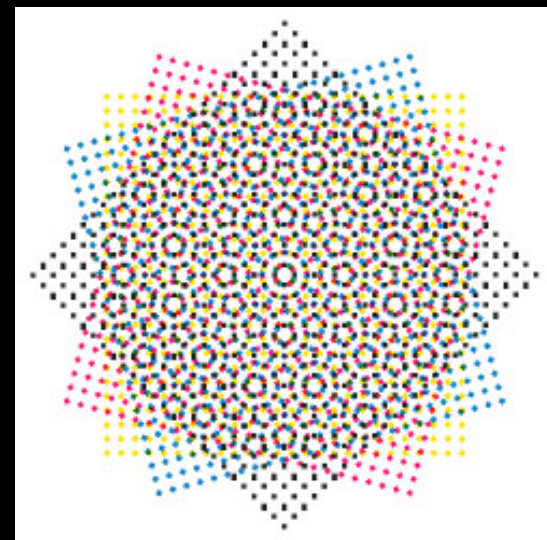
Communicating Color

<https://page2media.brio.viddler.com/groups/6595/media/06-10-communicating-color-effectively>

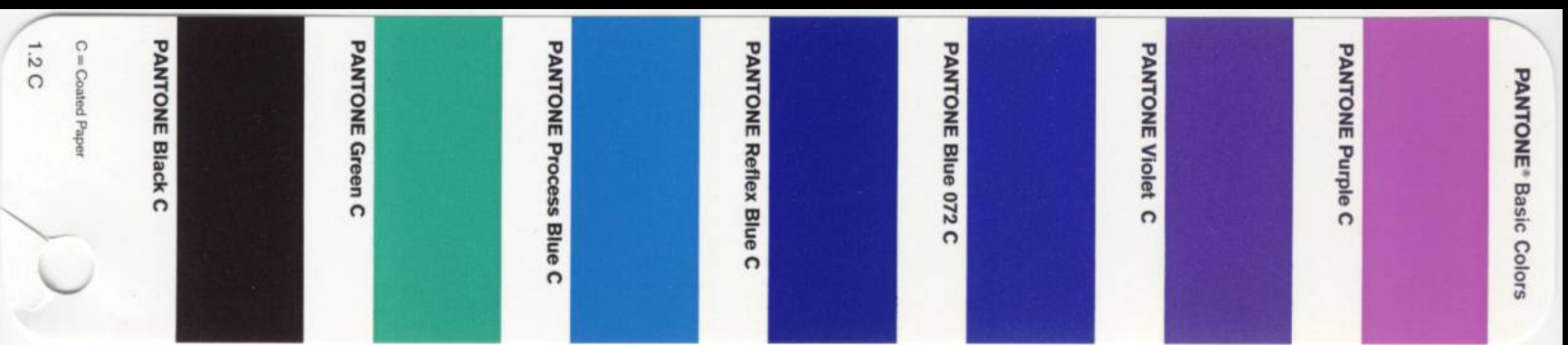
Spot Process Color



Solid Mixed



Digital Screen

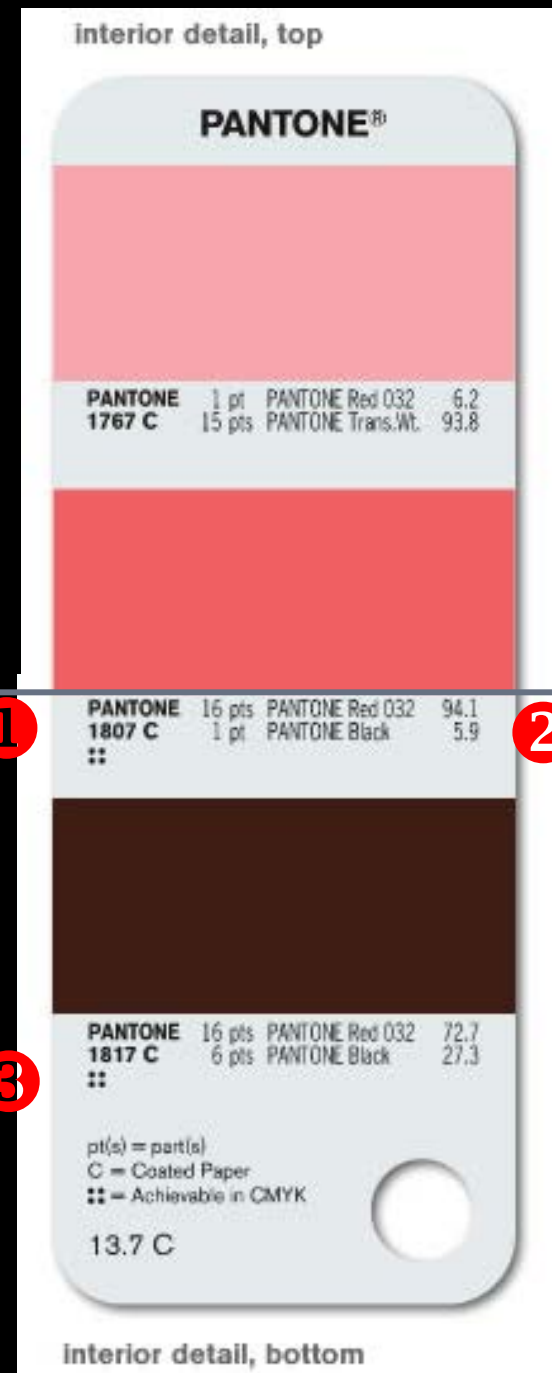


Spot Color.



• **FORMULA GUIDE**
/solid coated

- 1 Color #
- 2 Mixing formula in parts & weight
- 3 Achievable in CMYK identifier

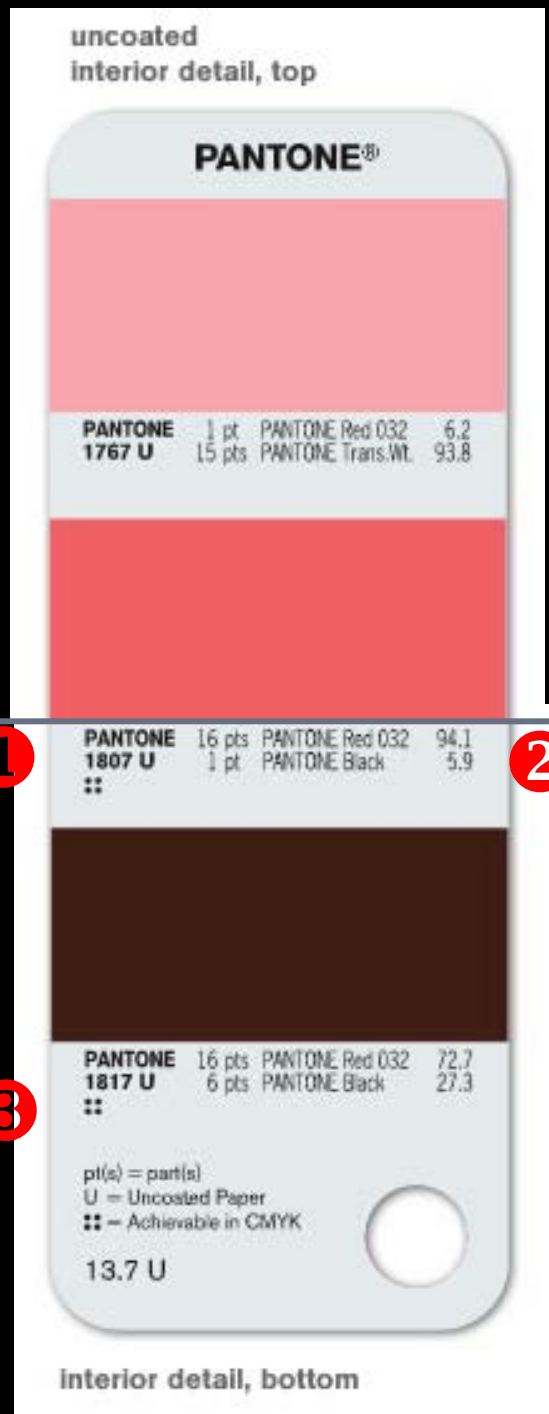


Spot Color.



• **FORMULA GUIDE**
/solid uncoated

- 1 Color #
- 2 Mixing formula in parts & weight
- 3 Achievable in CMYK identifier

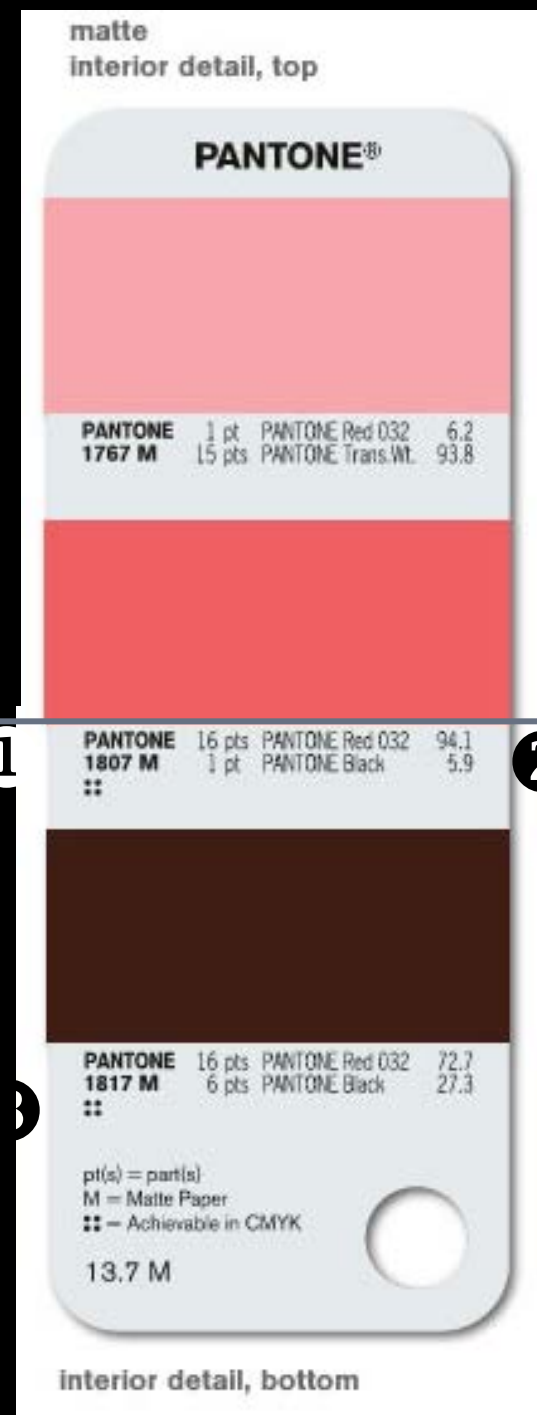


Spot Color.



• **FORMULA GUIDE**
/solid matte

- 1 Color #
- 2 Mixing formula in parts & weight
- 3 Achievable in CMYK identifier



Spot Color.



•TINTS
/coated

- 1 Color #
- 2 Mixing formula in parts & weight
- 3 Achievable in CMYK identifier

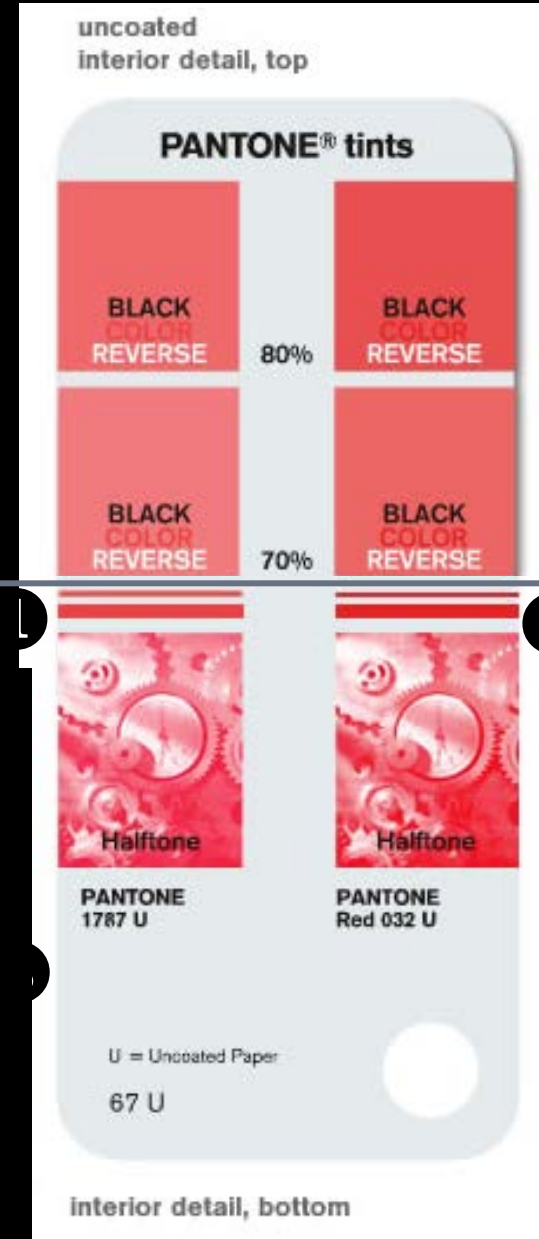


Spot Color.



•TINTS
/uncoated

- 1 Color #
- 2 Mixing formula in parts & weight
- 3 Achievable in CMYK identifier



Spot Color.



•COLOR BRIDGE
/coated

- 1 Color #
- 2 Mixing formula in parts & weight
- 3 Achievable in CMYK identifier

interior detail, top



interior detail, bottom

Spot Color.



•COLOR BRIDGE
/uncoated





PANTONE® Process Colors



PANTONE Process Yellow C



PANTONE Process Magenta C



PANTONE Process Cyan C



PANTONE Process Black C



These colors meet SWOP specifications (Specifications Web Offset Publications).

PANTONE Process Color System®

The PANTONE Process Color System offers a comprehensive palette of over 3,000 process color combinations. It is designed to provide the same degree of accuracy and assurance for the selection, specification, reproduction and control of process color that the PANTONE MATCHING SYSTEM® provides for flat/solid color. Available for SWOP and Euroscale.



C = Coated Paper

1.3 C



Process Color



- When printed, the overlapped dots of the colors reproduce the full color image.

Color separations are made of each of the color components of the image.

Cyan

Magenta

Yellow

Black

Printing plates are made from the film separations, one for each color.

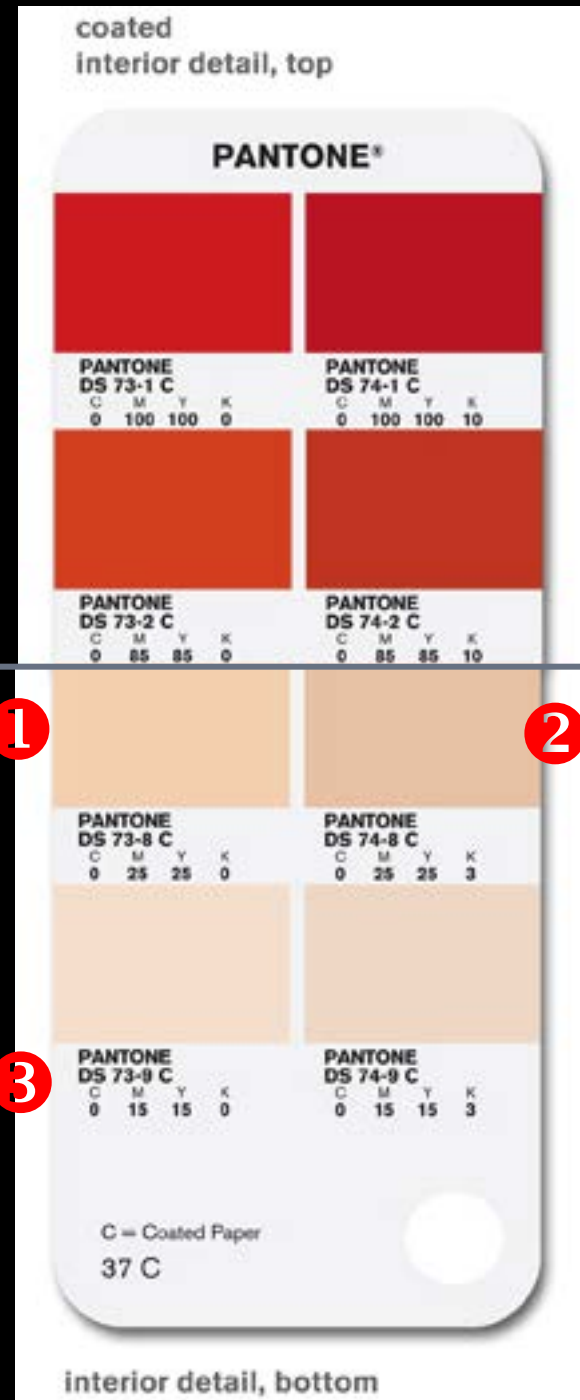


CMYK Color.



•4 COLOR
PROCESS GUIDE
/coated

- 1 Color #
- 2 Mixing formula in parts & weight
- 3 Achievable in CMYK identifier



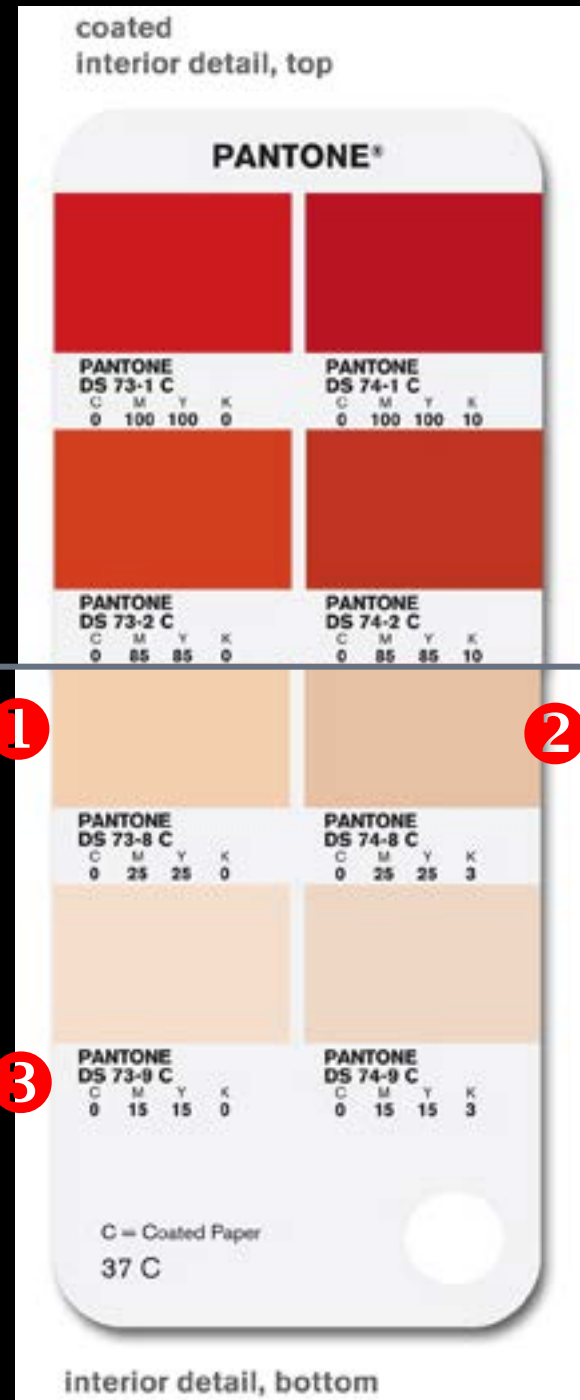
interior detail, bottom

CMYK Color.



•4 COLOR
PROCESS GUIDE
/uncoated

- 1 Color #
- 2 Mixing formula in parts & weight
- 3 Achievable in CMYK identifier

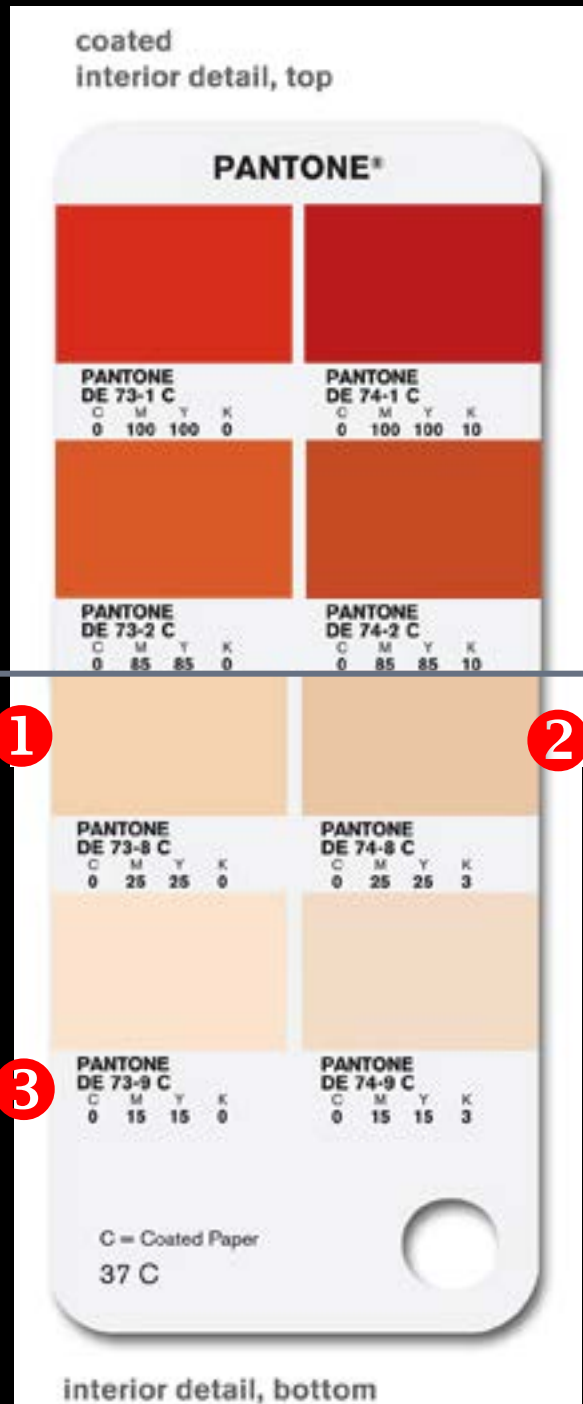


- 1 Color #
- 2 Mixing formula in parts & weight
- 3 Achievable in CMYK identifier

CMYK Color.



•4 COLOR
PROCESS GUIDE
/coated euro

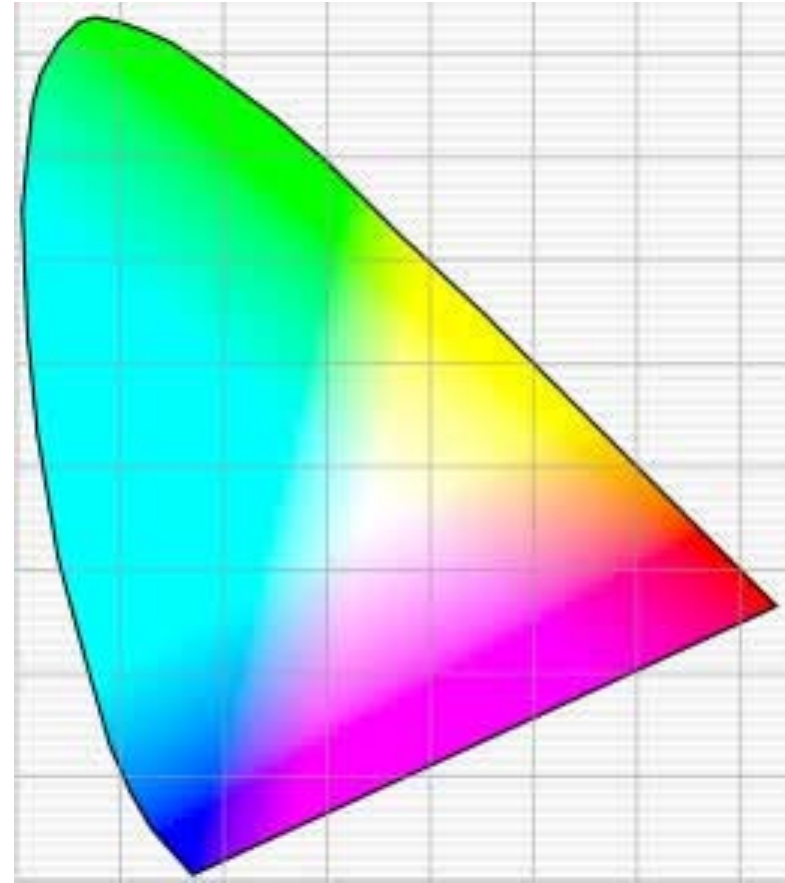


interior detail, bottom

Xerox digital chips

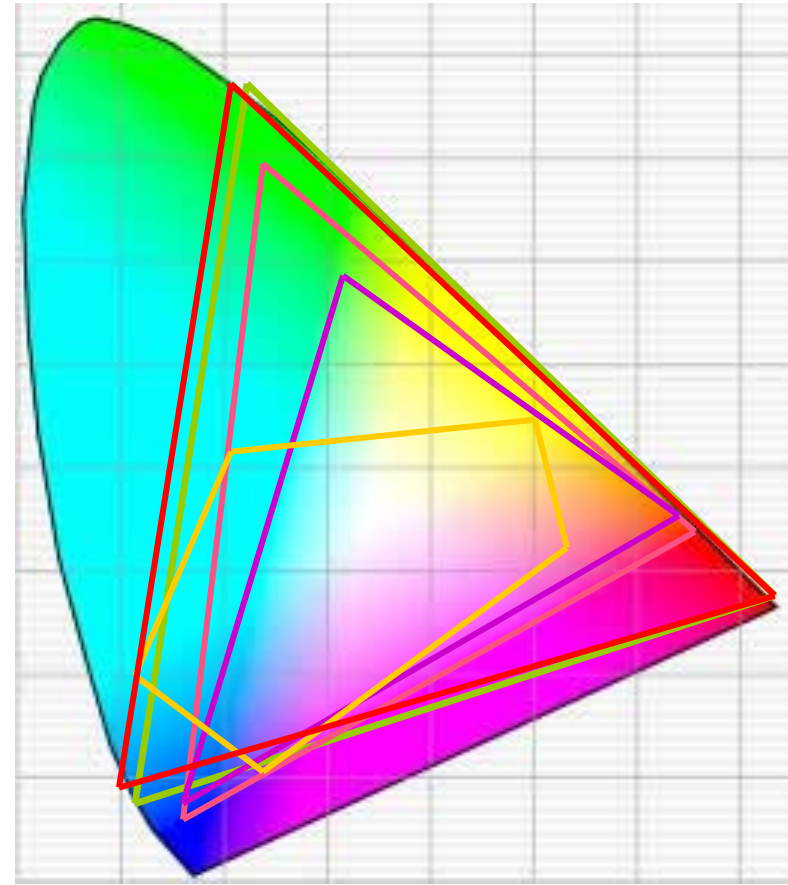


Color Gamut



When working with digital images, we use color models to describe these colors. There are a number of them and each use a different way of describing colors.

- ① rgb work space
- ② Adobe rgb
- ③ Srgb space
- CMYK ink space
- ⑤ Hexachrome[®] ink space





PANTONE® Hexachrome®
PANTONE Hexachrome
Yellow C



PANTONE Hexachrome
Orange C



PANTONE Hexachrome
Magenta C



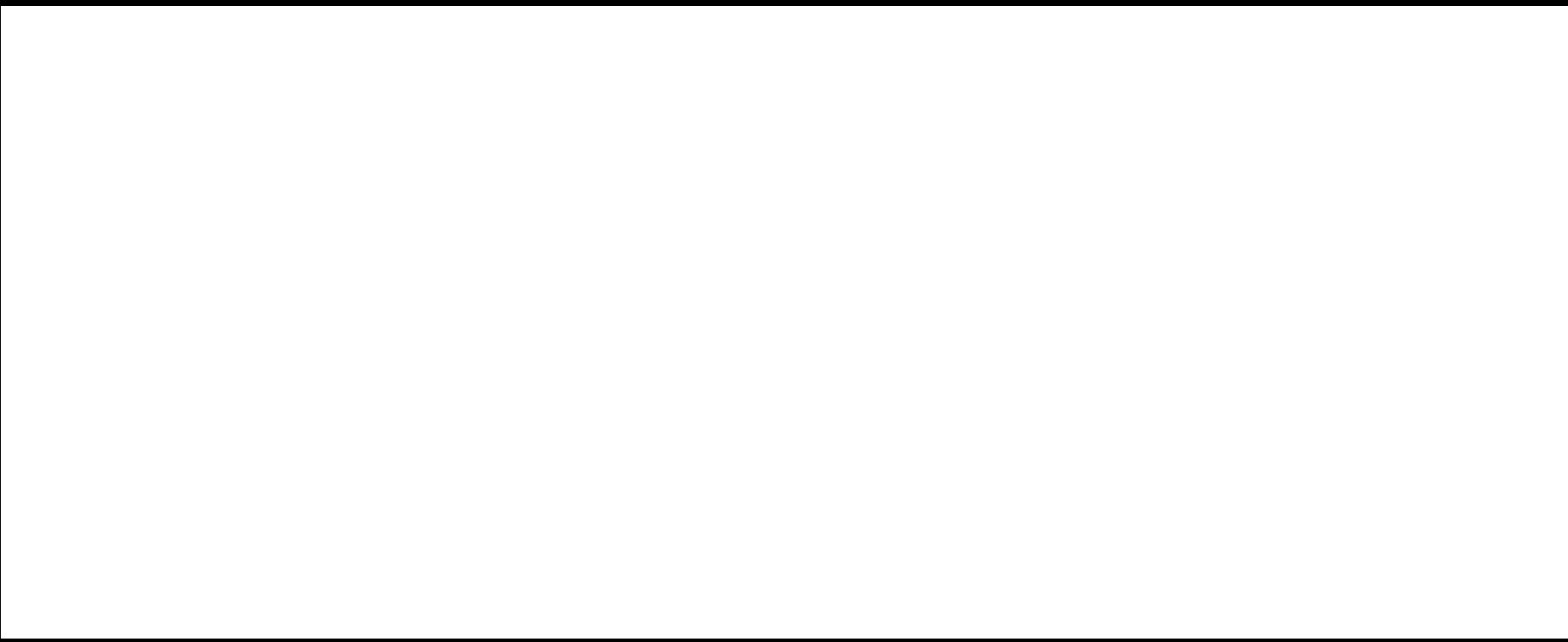
PANTONE Hexachrome
Cyan C



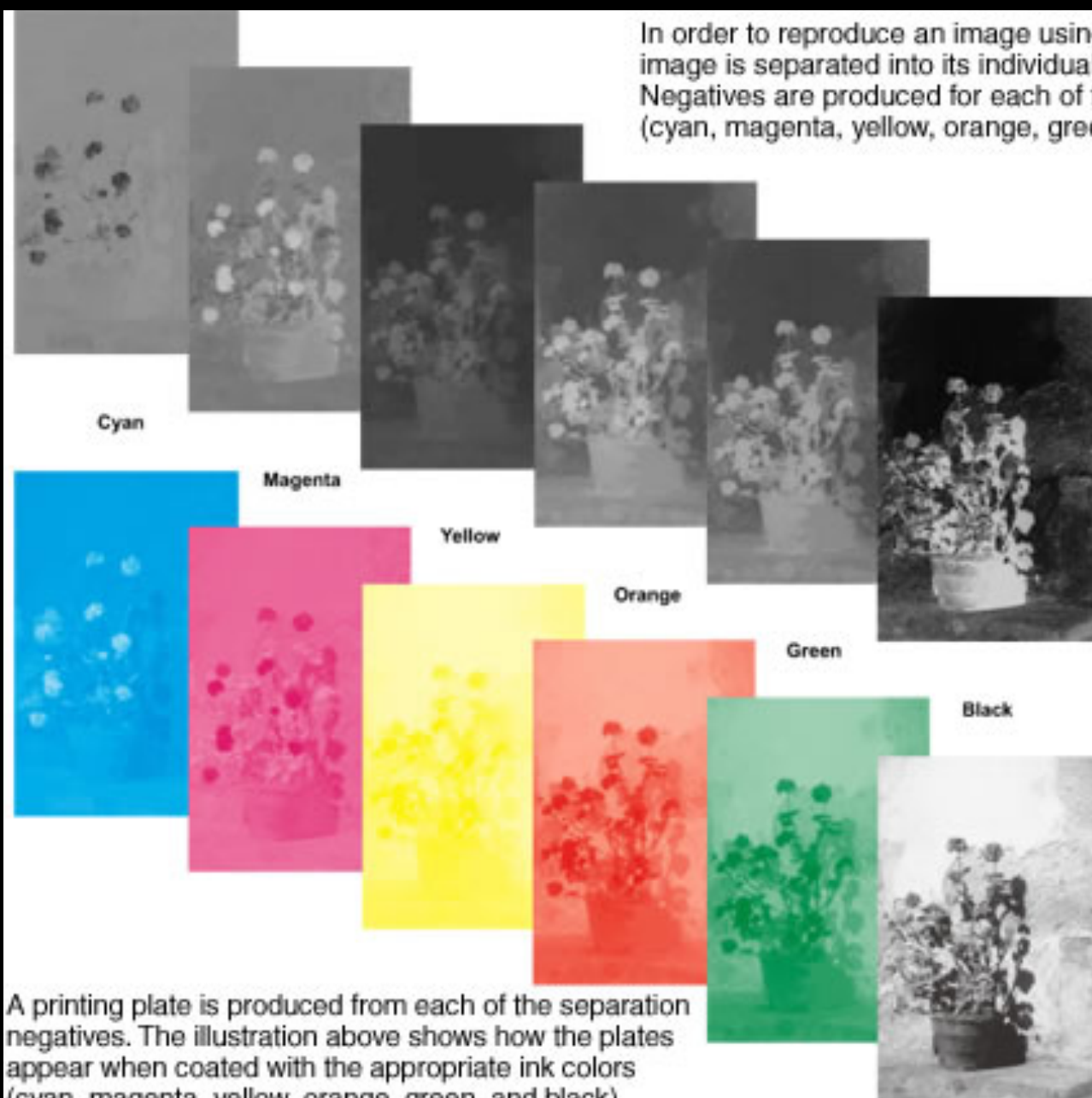
PANTONE Hexachrome
Green C



PANTONE Hexachrome
Black C



In order to reproduce an image using high-fidelity, the image is separated into its individual color components. Negatives are produced for each of the color components (cyan, magenta, yellow, orange, green, and black).



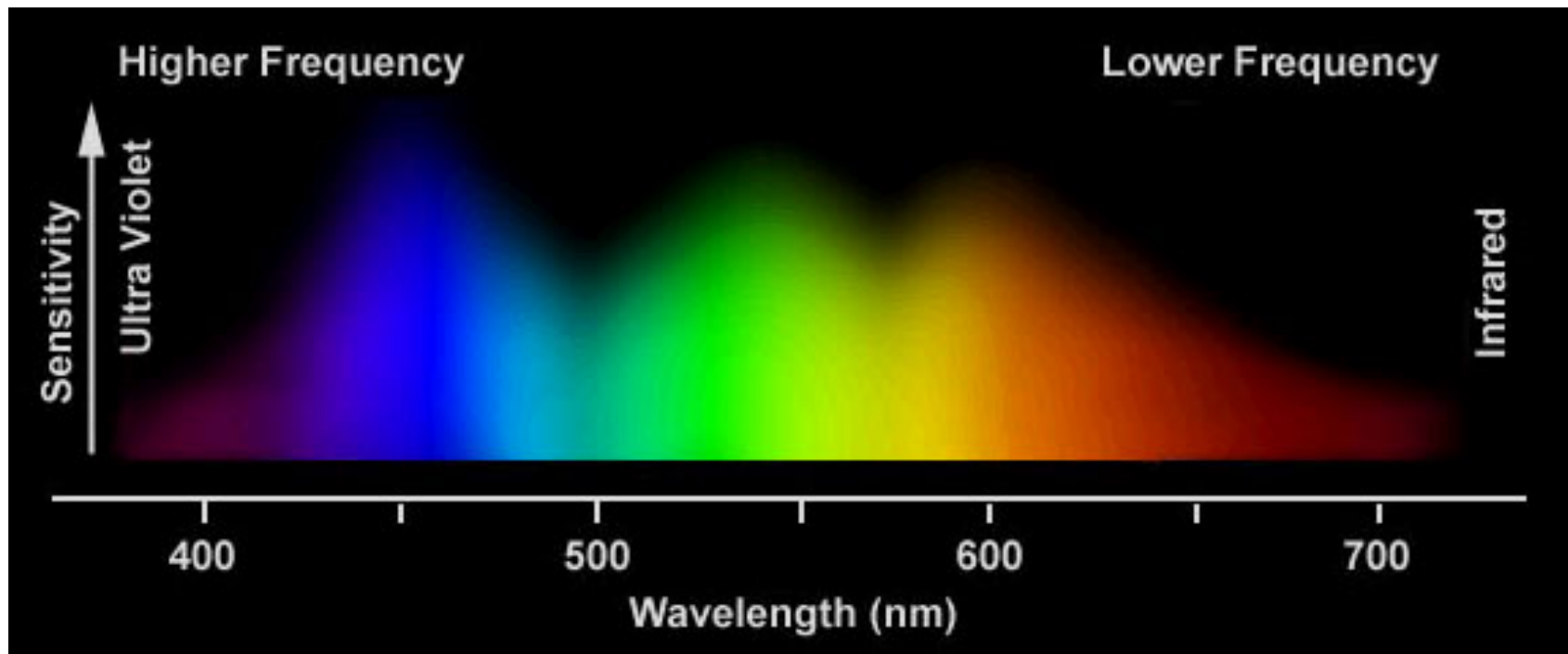
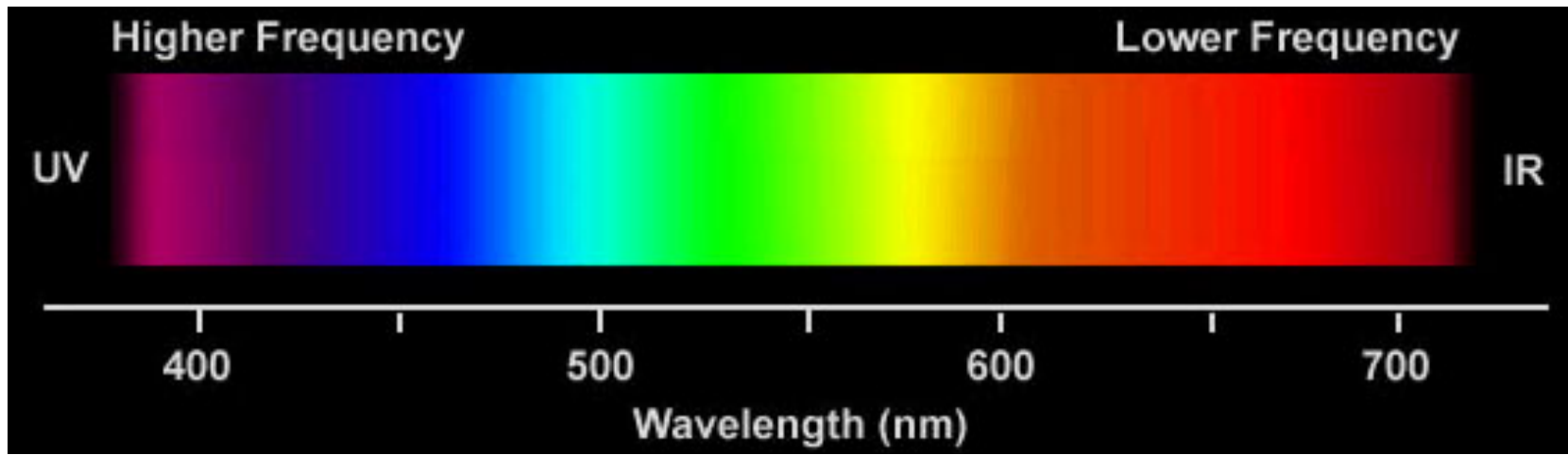
A printing plate is produced from each of the separation negatives. The illustration above shows how the plates appear when coated with the appropriate ink colors (cyan, magenta, yellow, orange, green, and black).

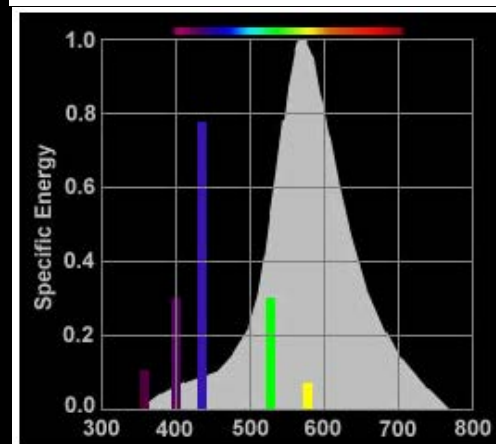
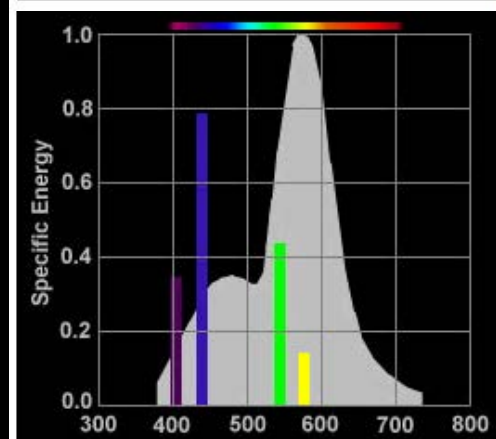
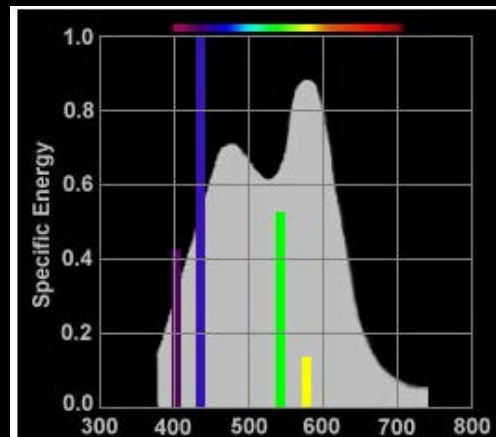
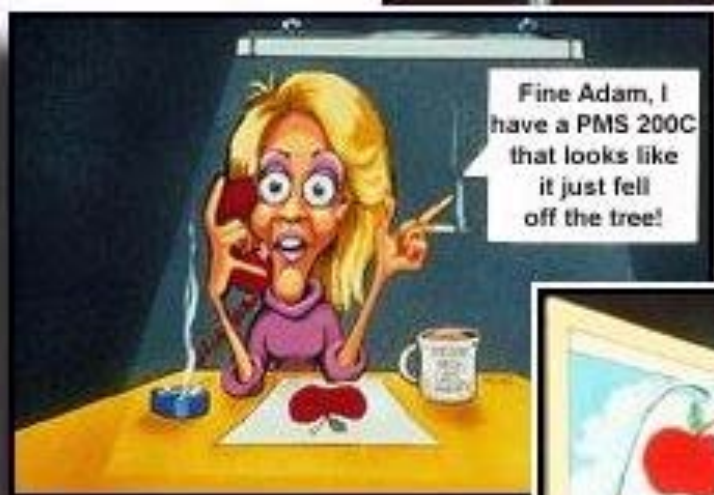


When printed, the overlapping dots of the separate colors simulate the full color image.

Viewing **Color**







Identify
Color.



•COLOR CUE 2



Calibrate
Color.



•i1 display 2



Calibrate
Color.



•ColorMunki
Design



Calibrate
Color.

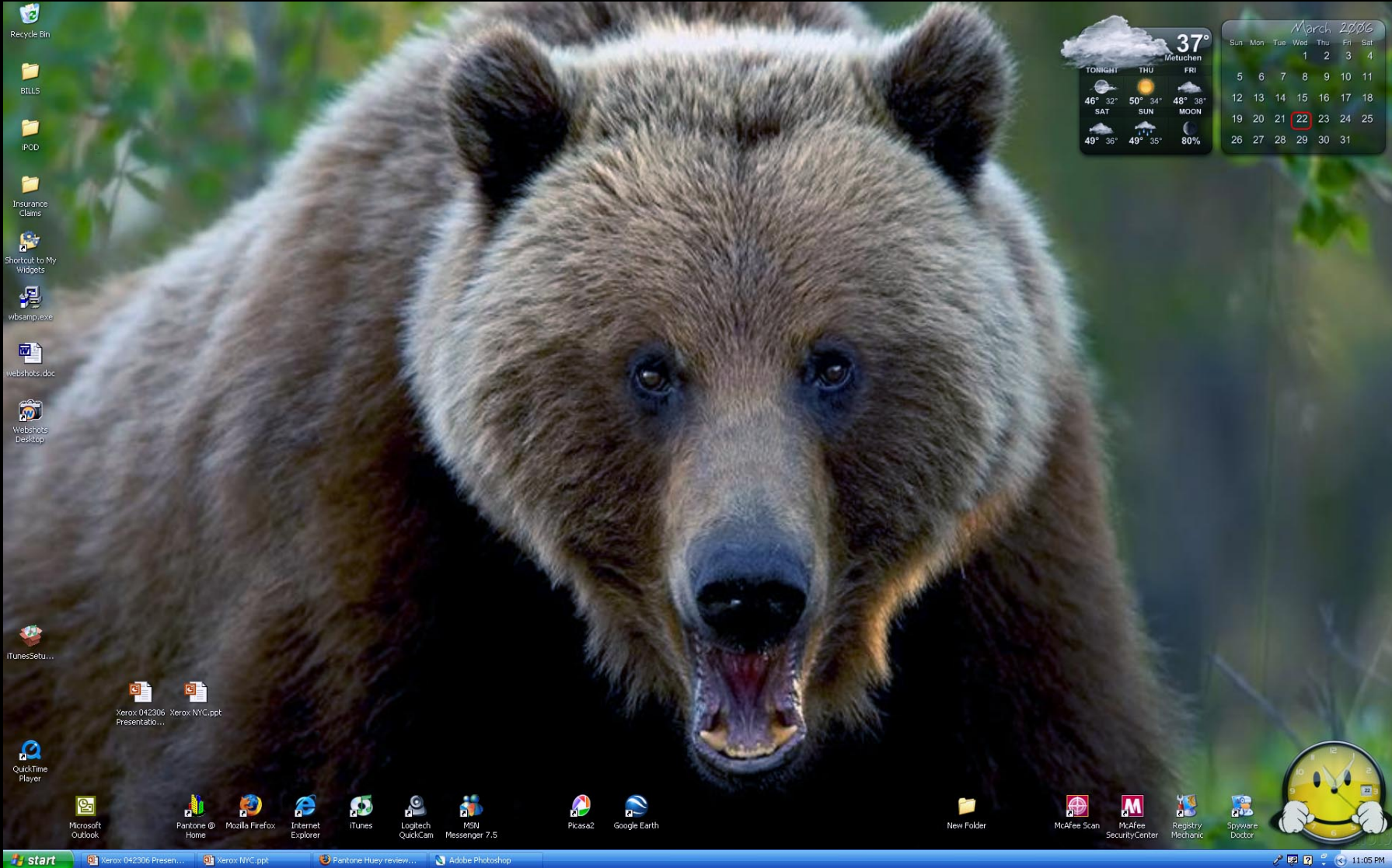


•huey



©2006 Keith Cooper





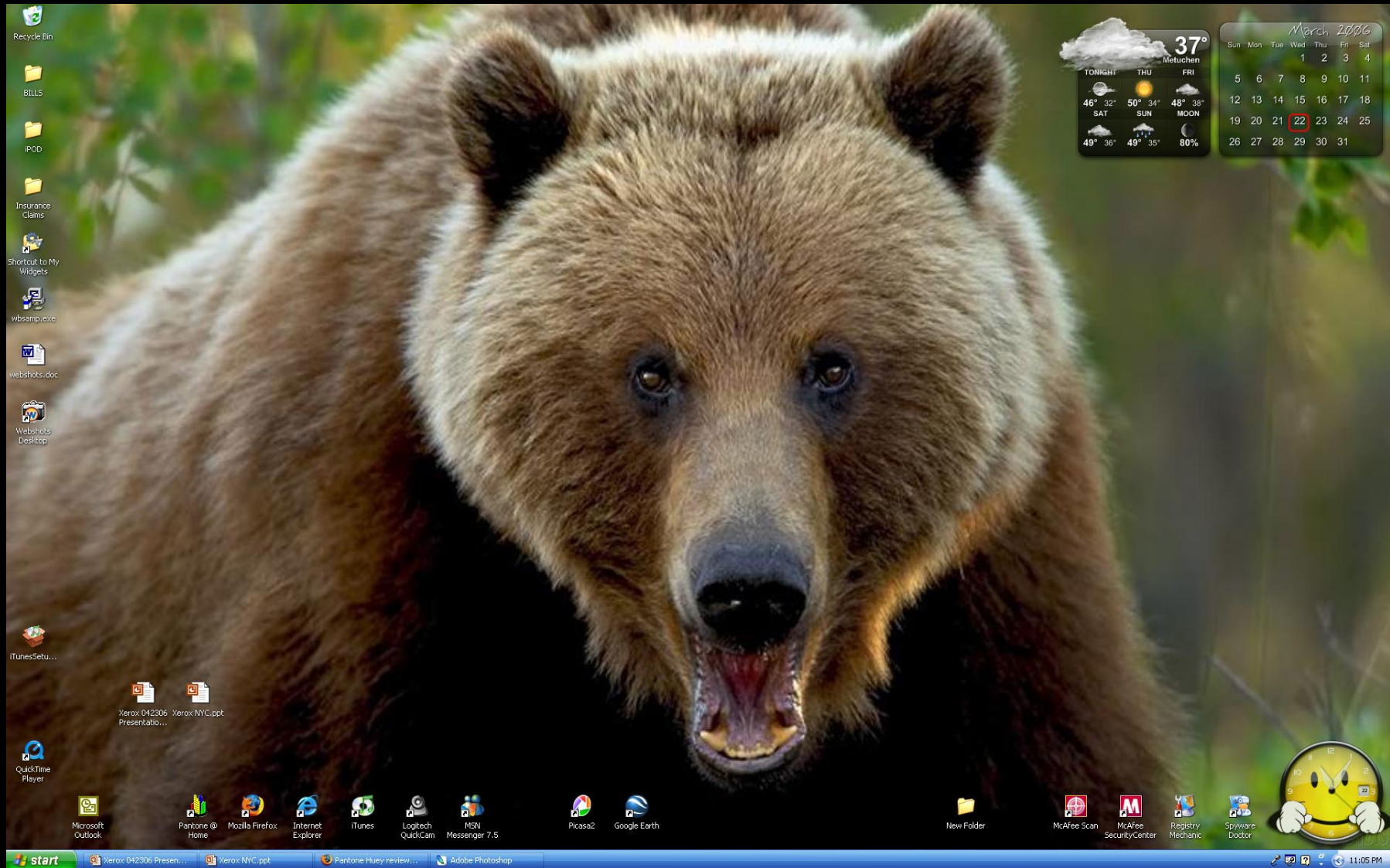
37° Metuchen

TONIGHT	THU	FRI
46° 32°	50° 34°	48° 38°
SAT	SUN	MOON
49° 36°	49° 35°	80%

March 2006

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

start Xerox 042306 Presentatio... Xerox NYC.ppt Pantone Huey review... Adobe Photoshop 11:05 PM

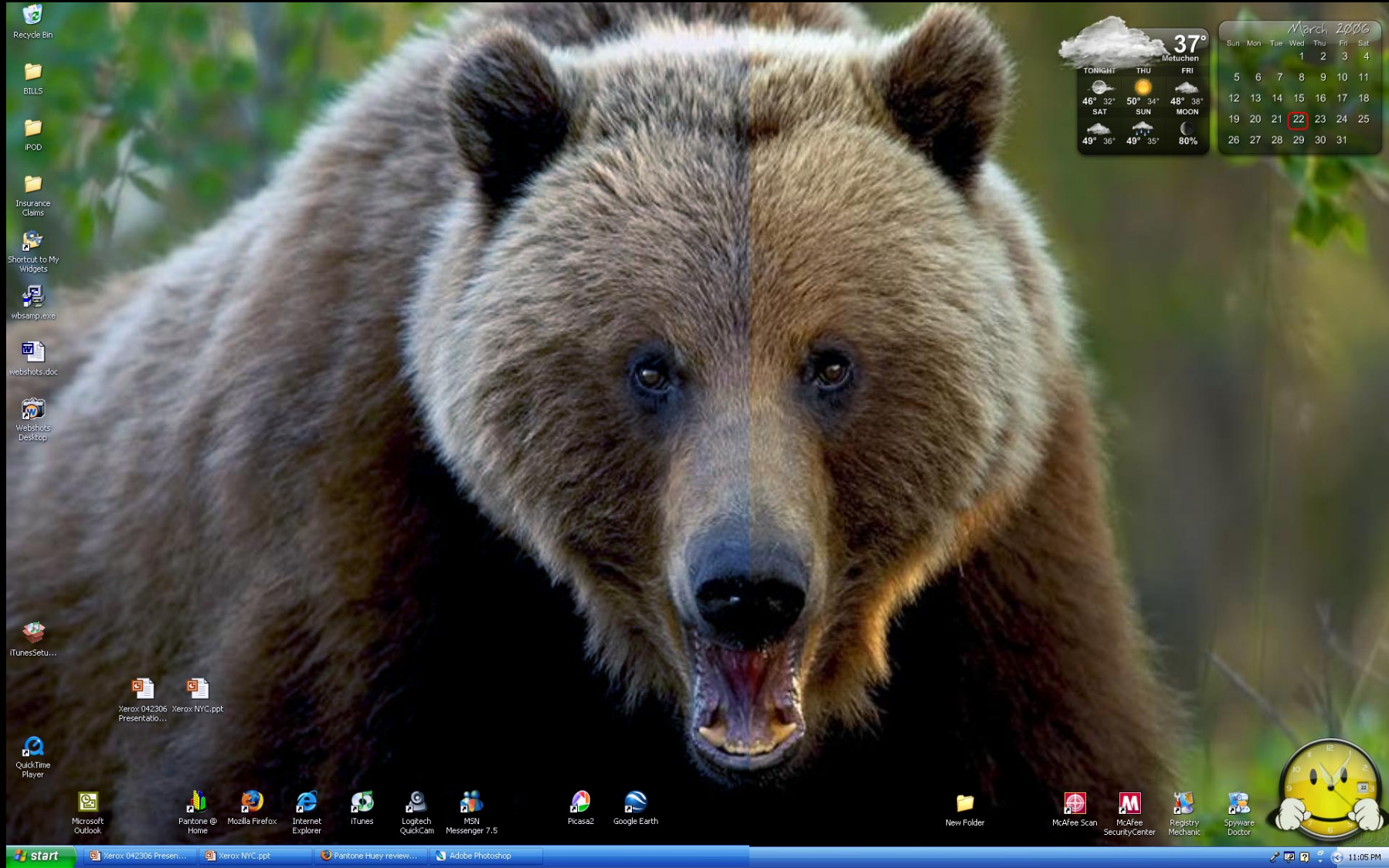


37°
Metuchen

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March, 2006

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37°
Metuchen

TONIGHT	THU	FRI
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March 2006

Sun	Mon	Tue	Wed	Thu	Fri	Sat
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5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	



Textile Color.



• FASHION + HOME
/guide



Plastics Color.



•Opaque + transparent



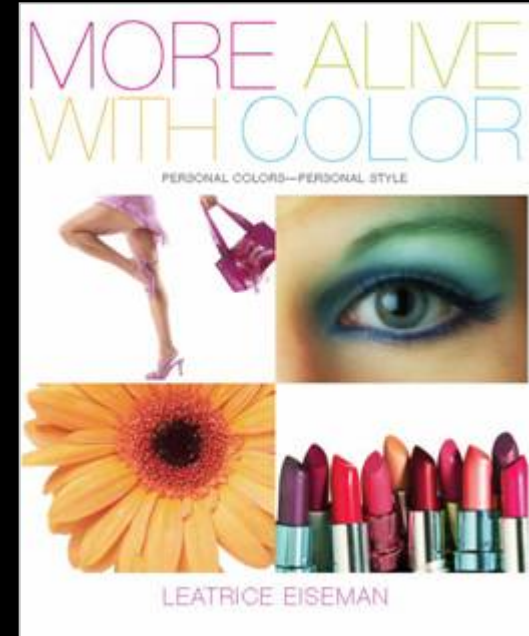
Color Forecasting.

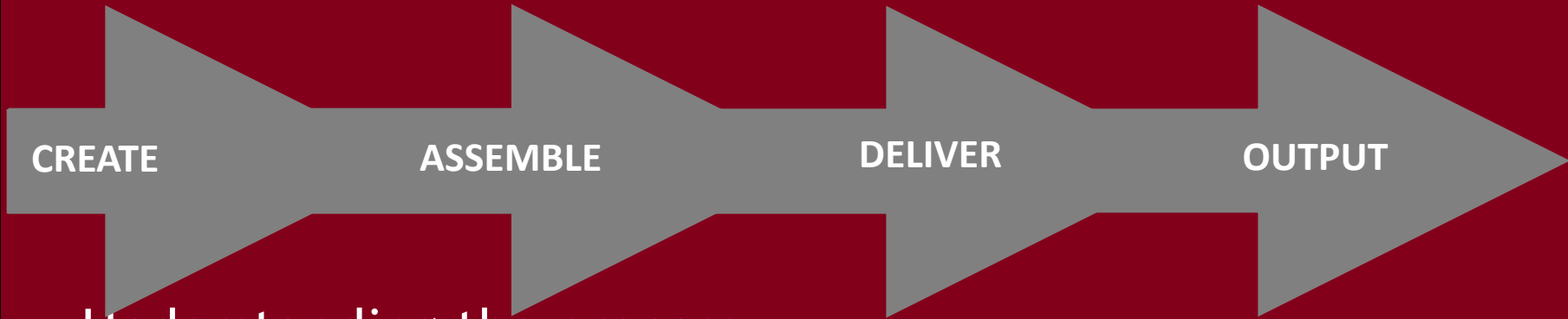
Design direction updated every season,
color palettes, signature prints, and
trends



Color Knowledge.

Books on color psychology, usage, color palettes and trends.





- Understanding the process.

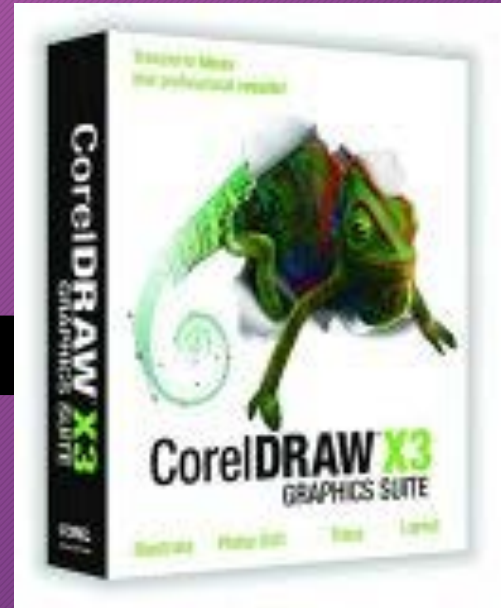
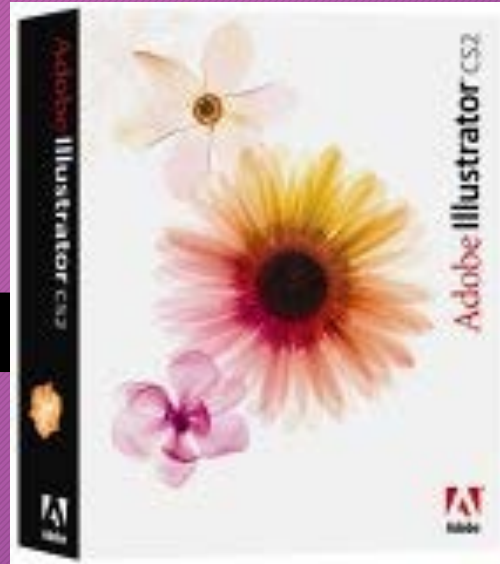
Color

Workflow.

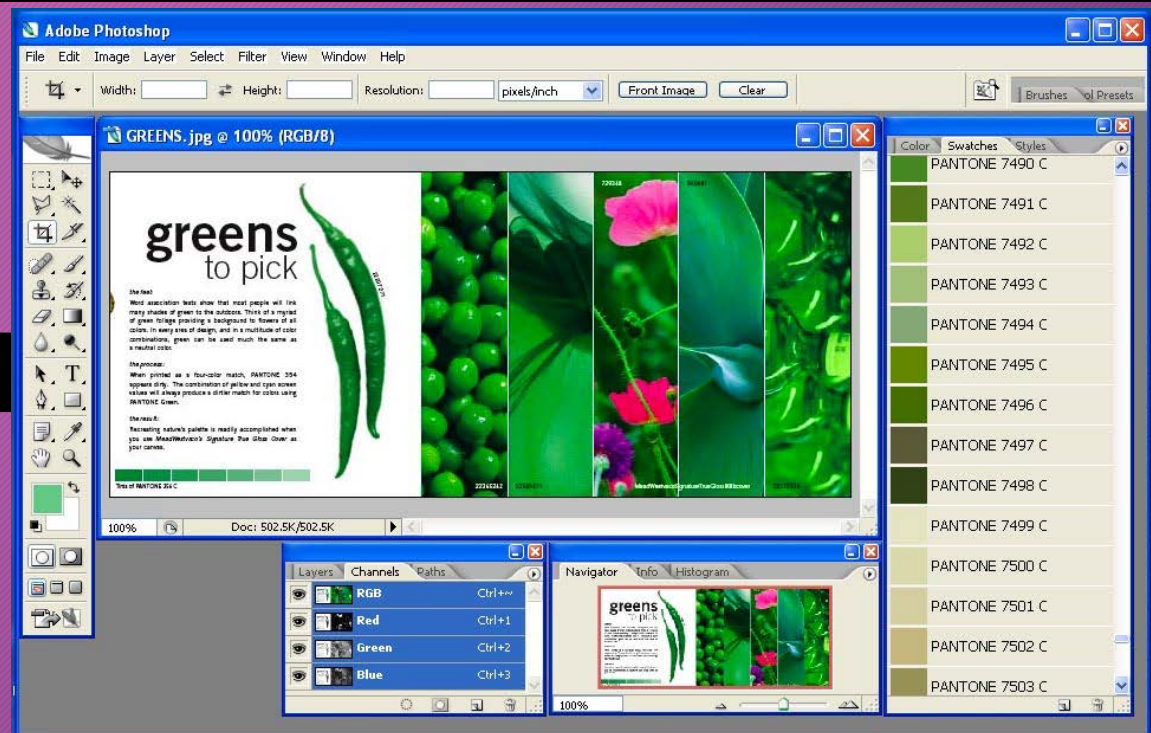
CREATE



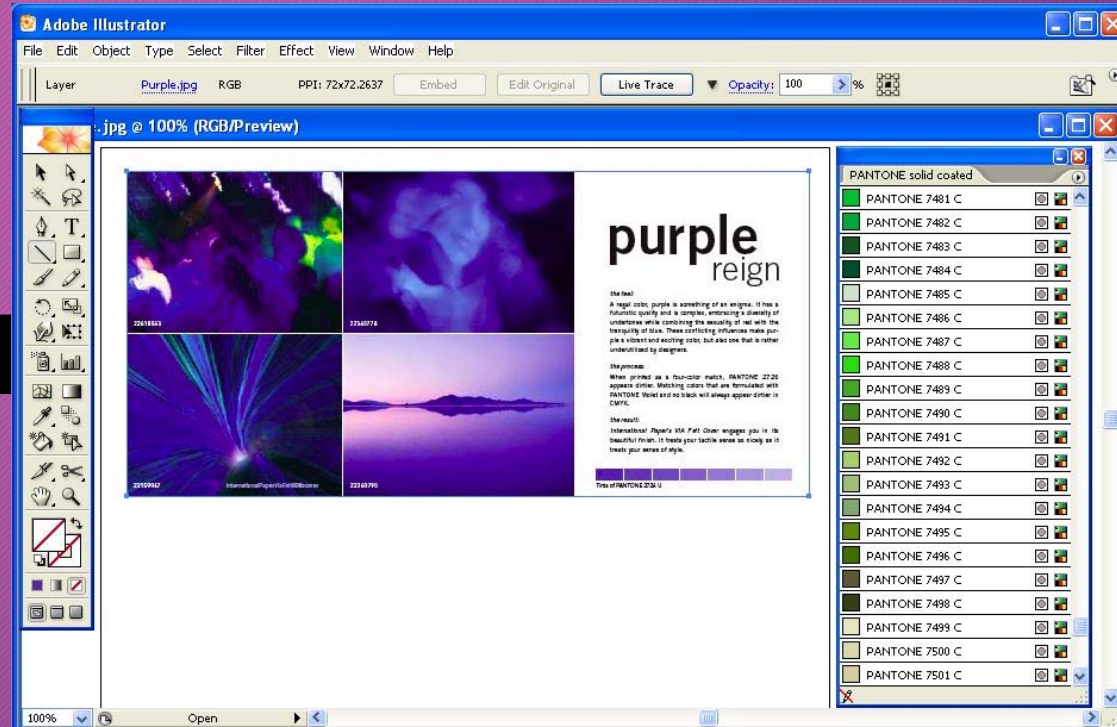
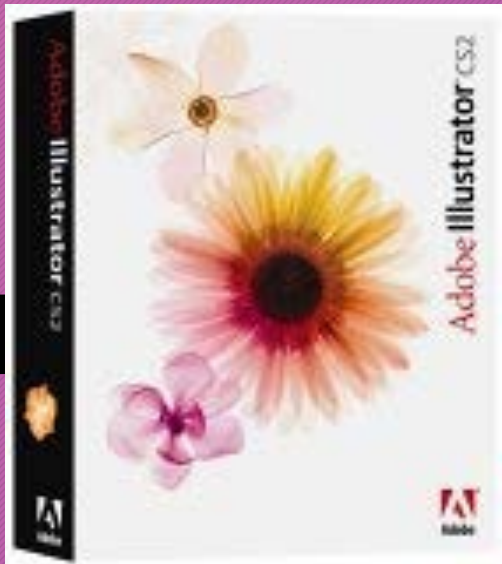
CREATE



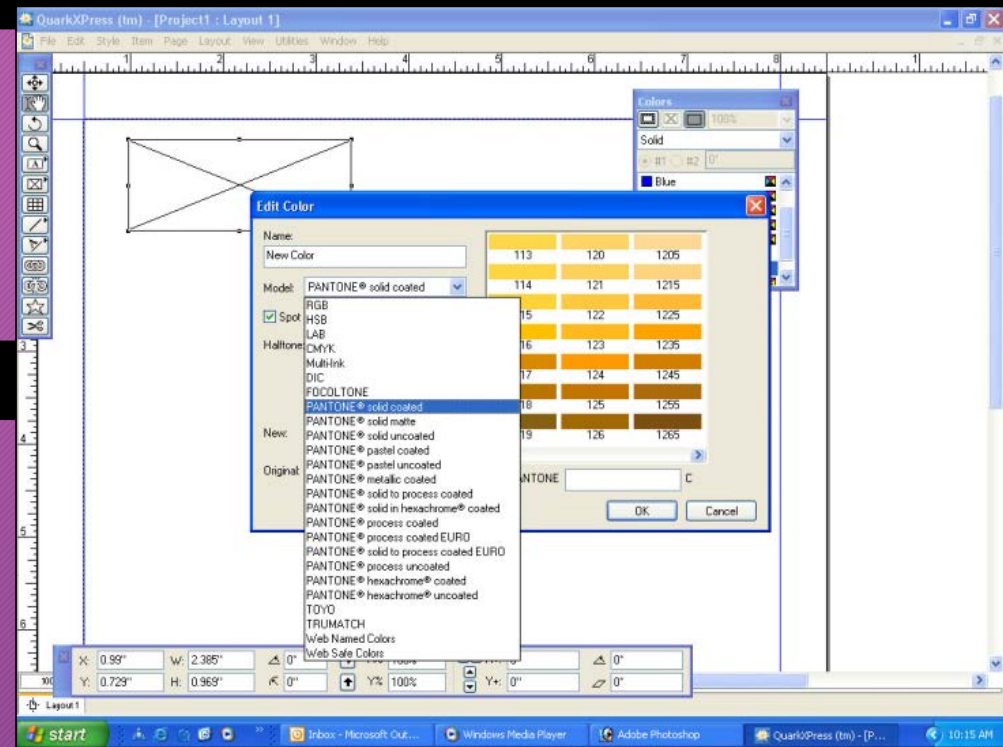
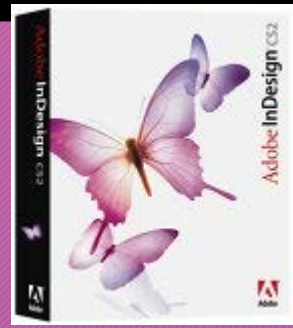
CREATE



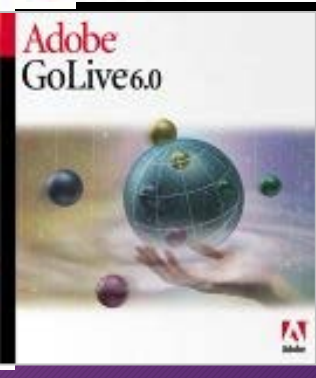
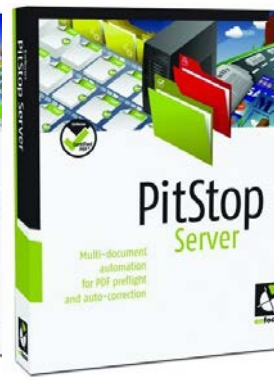
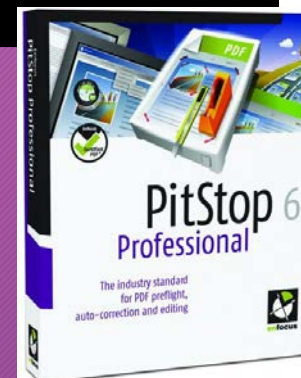
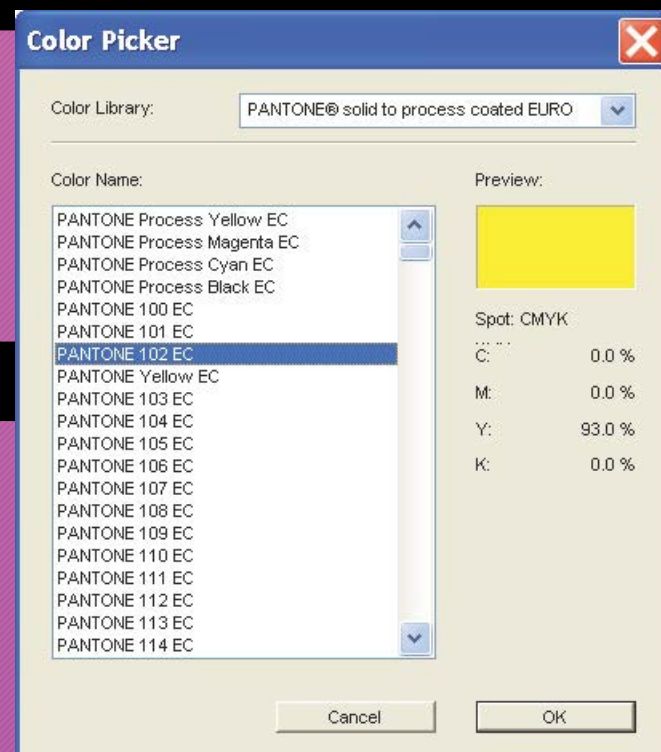
CREATE



ASSEMBLE



DELIVER



OUTPUT

- Understanding the process.



Xerox – Color Printers



Epson – Wide format Printers

Agfa – Imagesellers



OUTPUT

- Understanding the process.





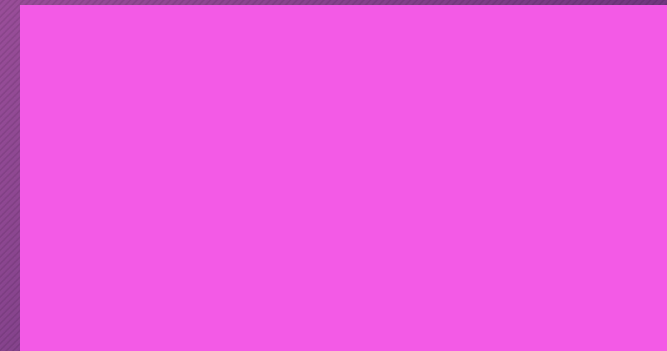
dorisbrown.info



Break Time

10-minute break!

Printed Color - Is it Magical?



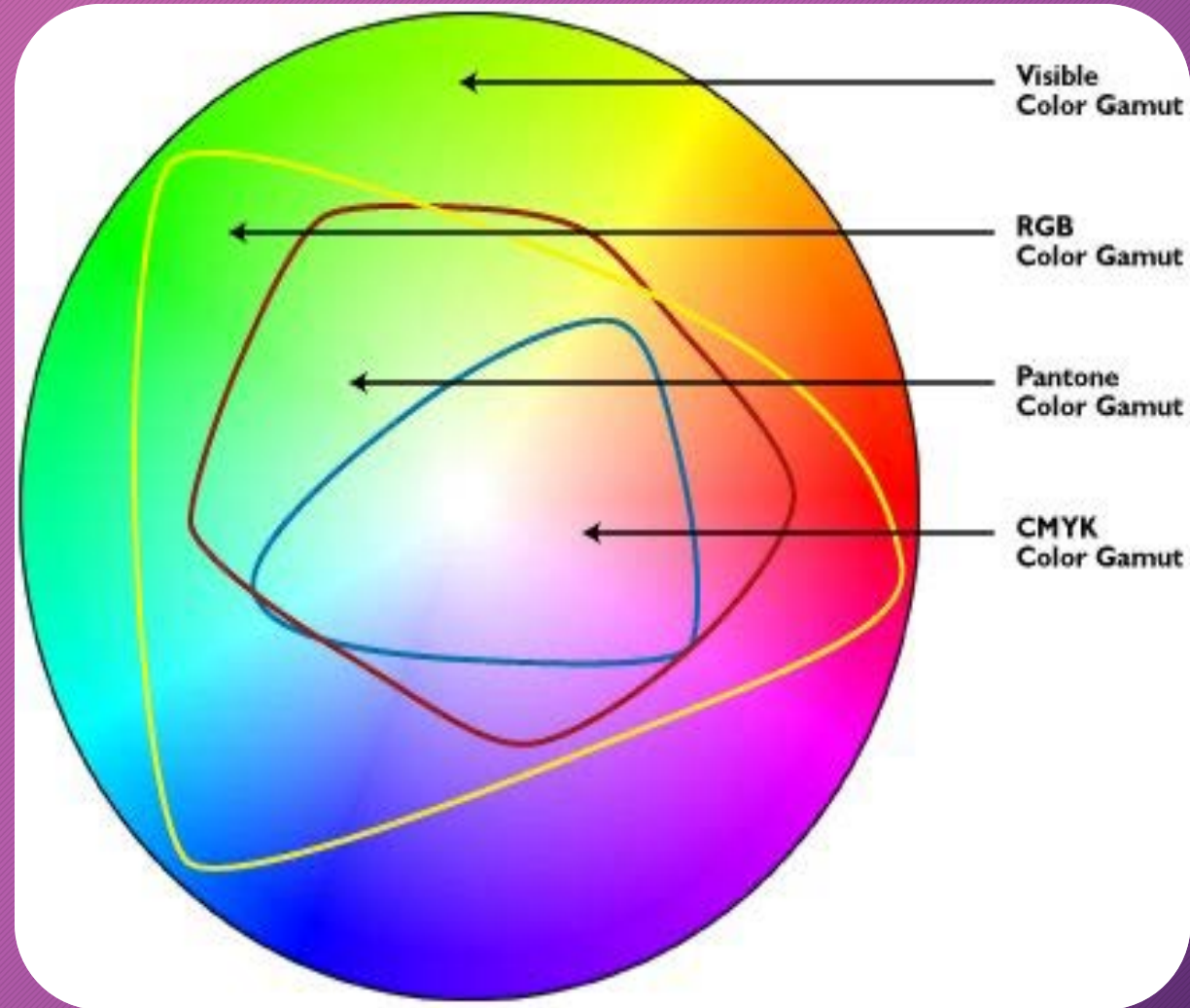
Printed Color - Is it Magical?

No, It is all an optical Illusion!

COLOR SPACES

Gradation
of the Color
Spaces:

1. Visible Space
2. Screen
3. PANTONE®
4. Print



Printed Color?

How it works.

An ideal red filter transmits only red light and absorbs all other colors. In this ideal case, a picture containing red, green, and blue would appear red and black when viewed through a red filter. A red filter blocks green light and blue light: Only red light can get through to your eyes.



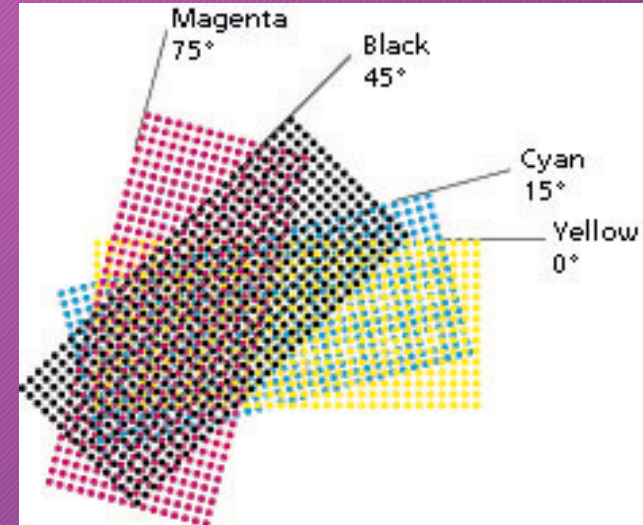
Printed Color?

How it works.

https://blog.grainedephoto.com/rendez-vous-avec-un-photographe-clement-darrasse/?fbclid=IwAR29IFKS0_iEyHppXzkOWdBdb9yoMUFw76wFfinTP6AEZ_geZwH5Y8g_ZM8
https://blog.grainedephoto.com/rendez-vous-avec-un-photographe-clement-darrasse/?fbclid=IwAR29IFKS0_iEyHppXzkOWdBdb9yoMUFw76wFfinTP6AEZ_geZwH5Y8g_ZM8

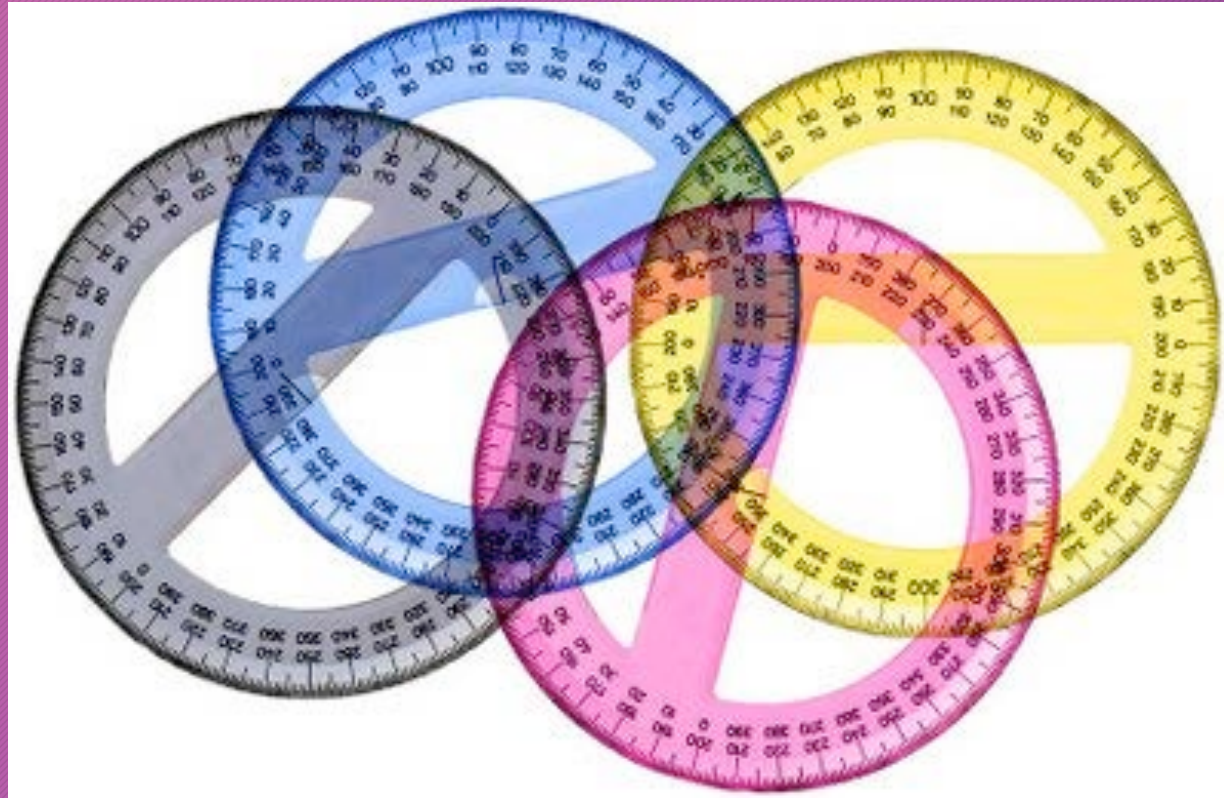
Simulation of continuous tone color

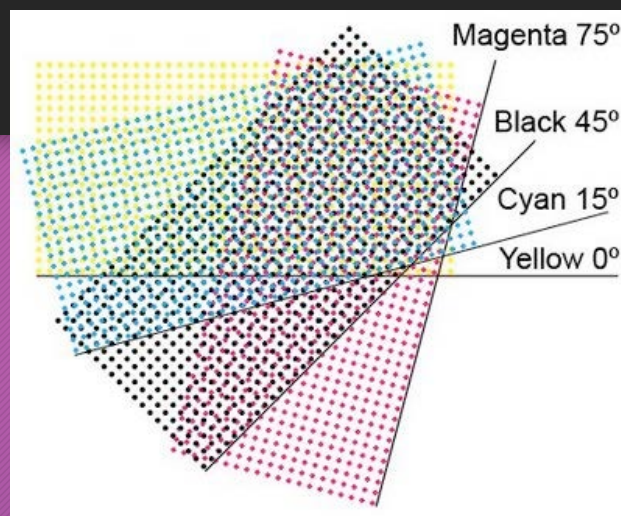
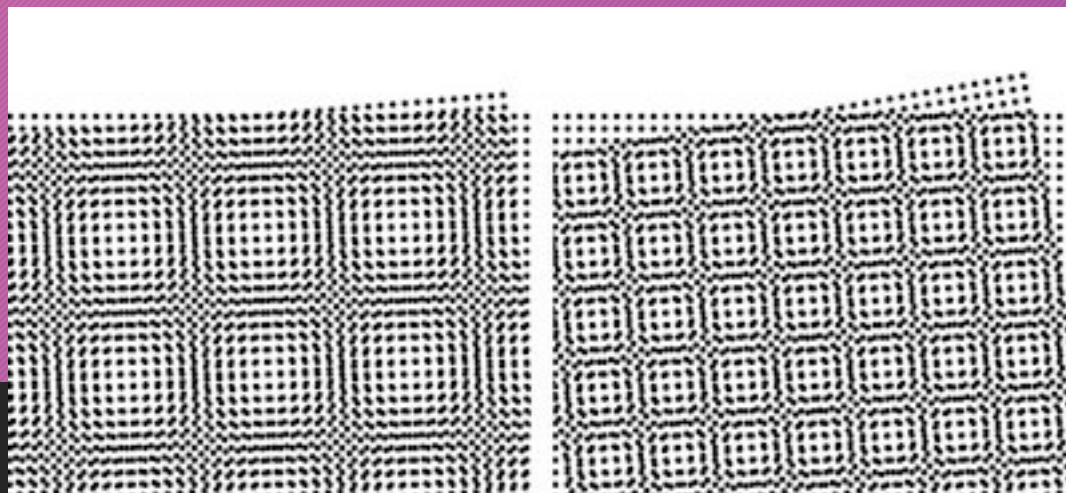
Setting the angle of the halftone screens differently, creates the the illusion of continuous tone color.



Simulation of multiple tones of color

Using halftone screens to create the percentage of each primary color and overprinting we achieve not only grey, but also the simulation of multiple tones of color.





AM or FM Screening?

<https://www.kymc.com/msg/msg63.html>

<http://printcolormanagement.weebly.com/articles-gallery/what-is-the-difference-between-fm-and-am-screening>

<https://www.flexoglobal.com/flexomag/09-May/flexomag-Pritchard.htm>

Break Time

5 minute break!

Quiz One

I have uploaded to OpenLab a 10-question quiz, please highlight the correct answers. Include your name on the copy of the quiz you email to me. Once you have completed the exam tonight's session is complete for you.

Next Week

Prof. Carr will be observing our session

Review the process of print, the workflow and process

Start the discussion on paper and substrates

Paper and substrates and their impact on the visual product.

Print Production for Designers

Prof. Thaddeus B. Kubis
tkubis@citytech.cuny.edu
917.597.1891