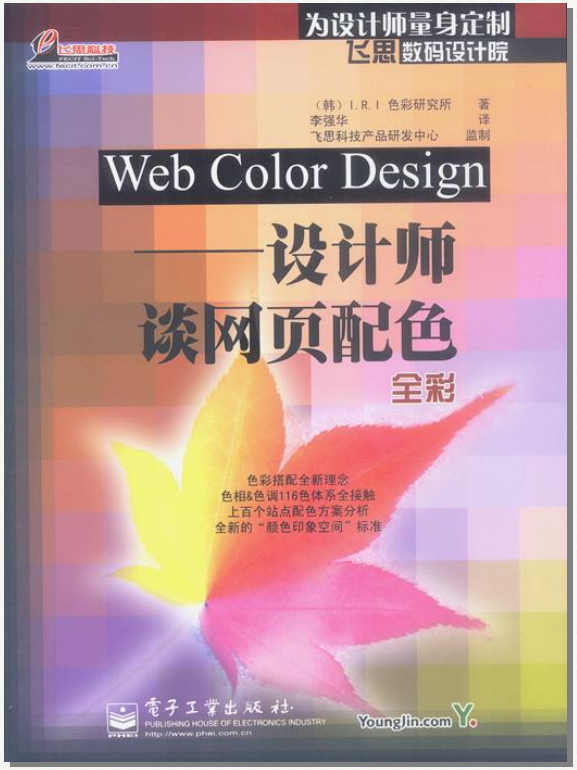
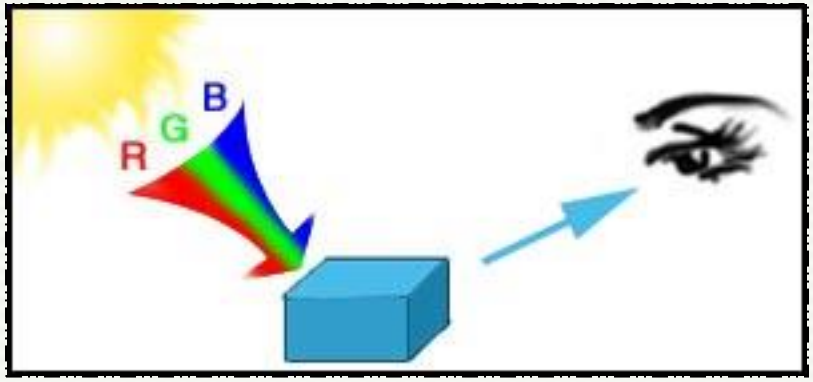
Web Color Design

Suggested Tools – Reference Books



What Is Color?

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

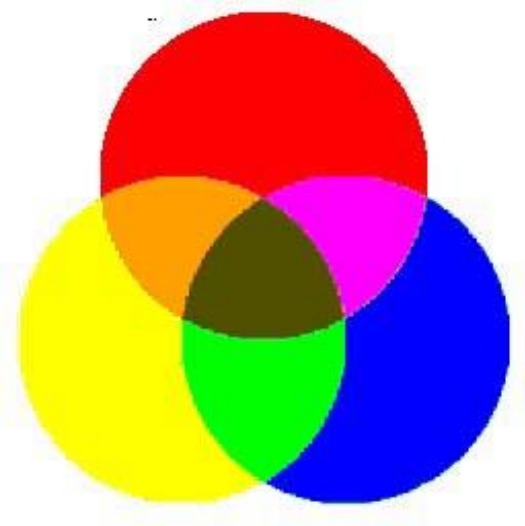


What Is Color?

- The world is full of light. Visible light is made of seven wavelength groups.
- The reddish colors are the long wavelengths. The greenish colors are the mid-size wavelengths. The bluish color are the short wavelengths.

Paint Colors Model

- This is the system that you probably learned in grade school, using poster paints or crayons. It is included here for the sake of comparison, since many people will remember it and perhaps wonder why the colors we use on computers are different.



Primary colors: red, yellow, blue
Secondary colors:
orange = red + yellow,
green = yellow + blue,
purple = blue + red.

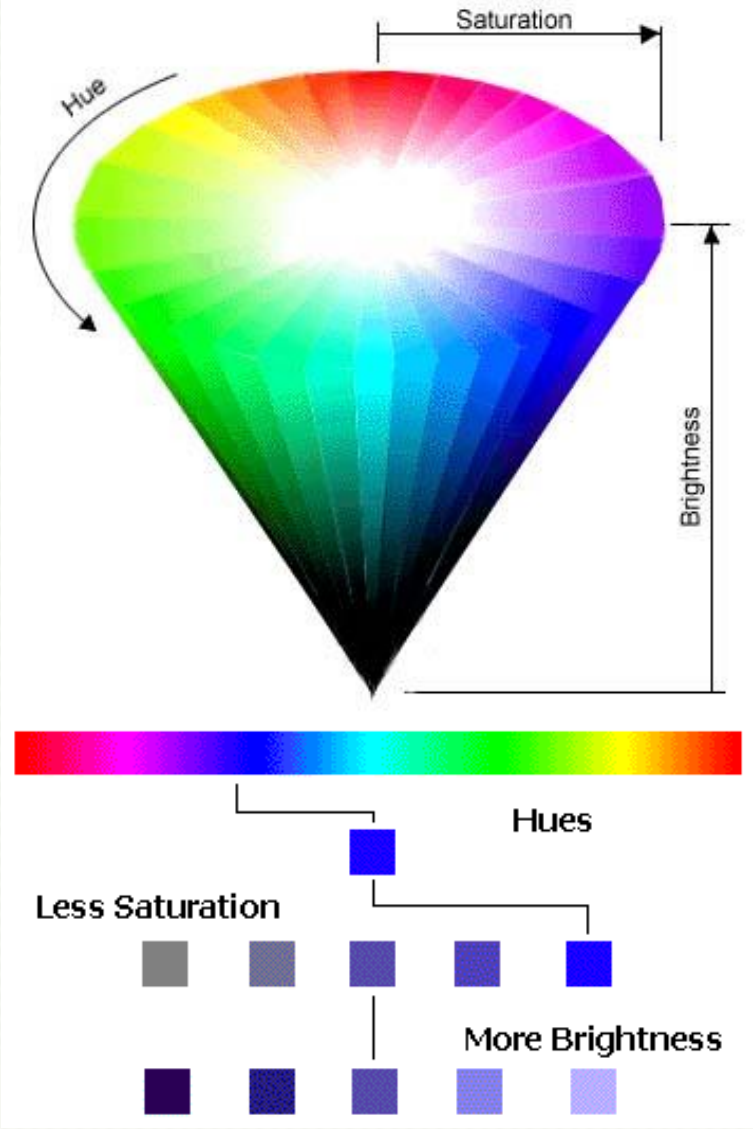
Digital Color Models

- A color model is an abstract mathematical model describing the way colors can be represented as tuples of numbers, typically as three or four values or color components.
- RGB Red, Green, Blue
- CMYK Cyan, Magenta, Yellow, Black

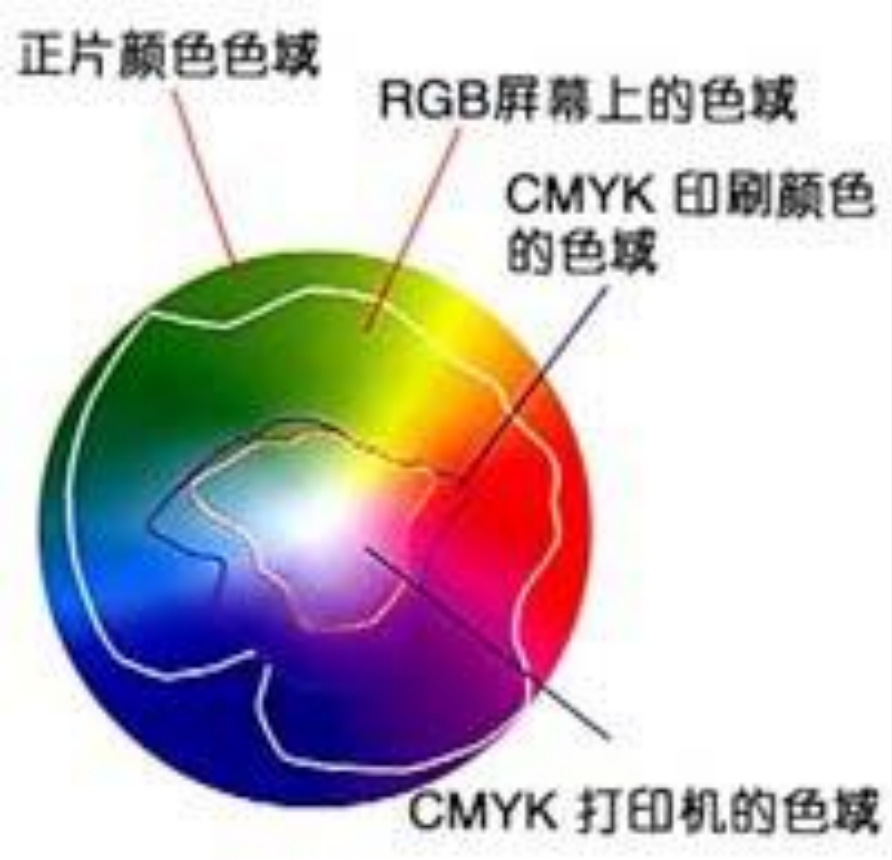
Color Models

- HSB

- Hue is the actual color.
- Saturation is the purity of the color.
- Brightness is the relative lightness or darkness of a particular color. Brightness is also called Lightness in some contexts.



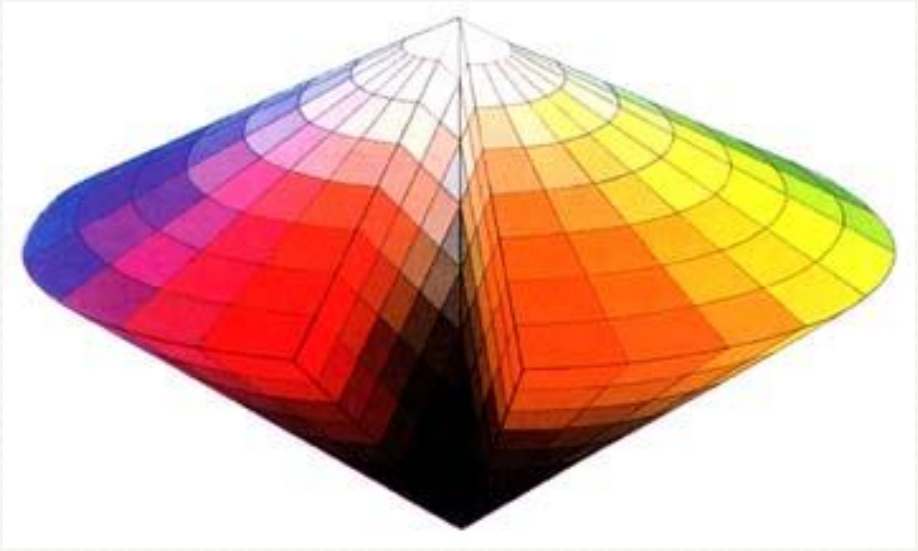
Color Field



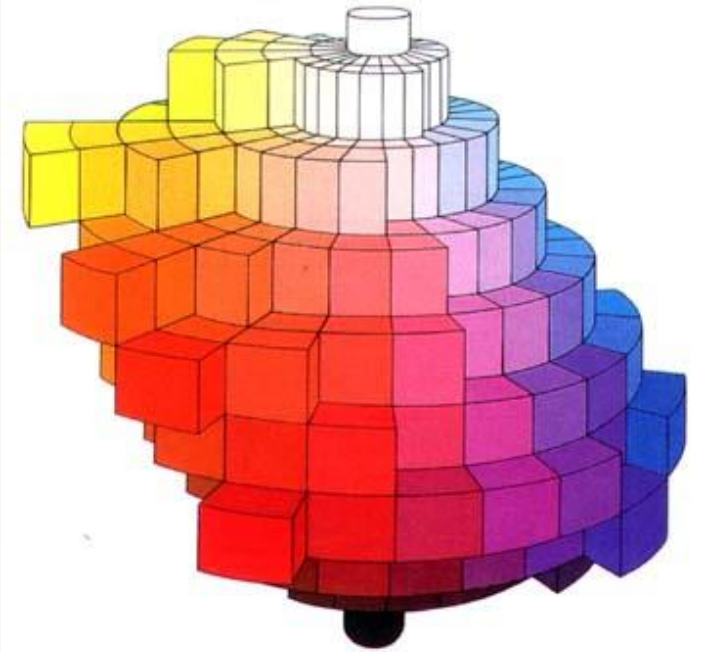
Color Wheels

- Color wheels are a way to arrange colors, making it easier to select a palette that works.

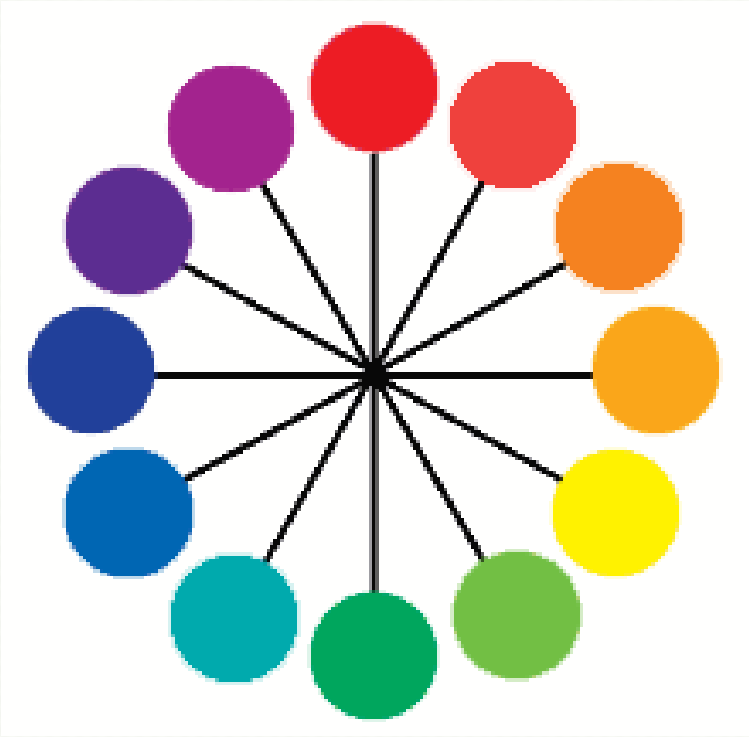
奥斯特华德色系 Der Farbatlas



Munsell Color System

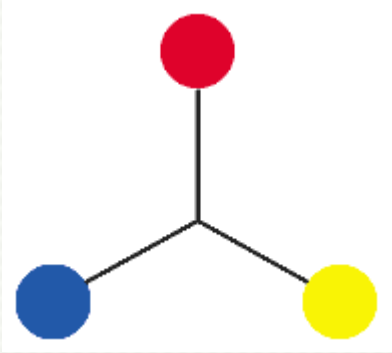


12 Hue Wheel



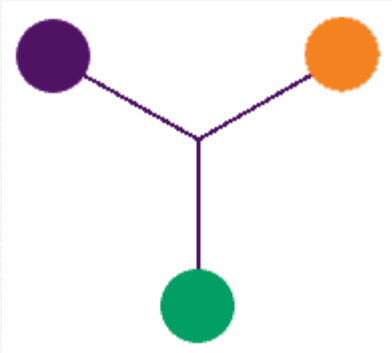
primary hues:

colors are the defining colors of the wheel.



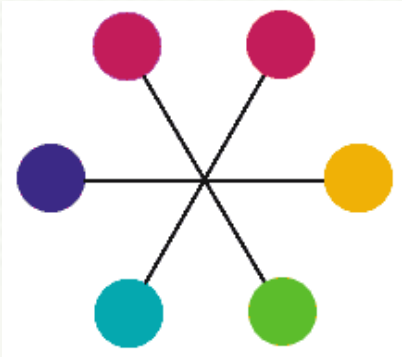
secondary hues

colors are the three colors that are equal distant from the primary colors.



tertiary hues

colors are the colors between each primary and secondary color.

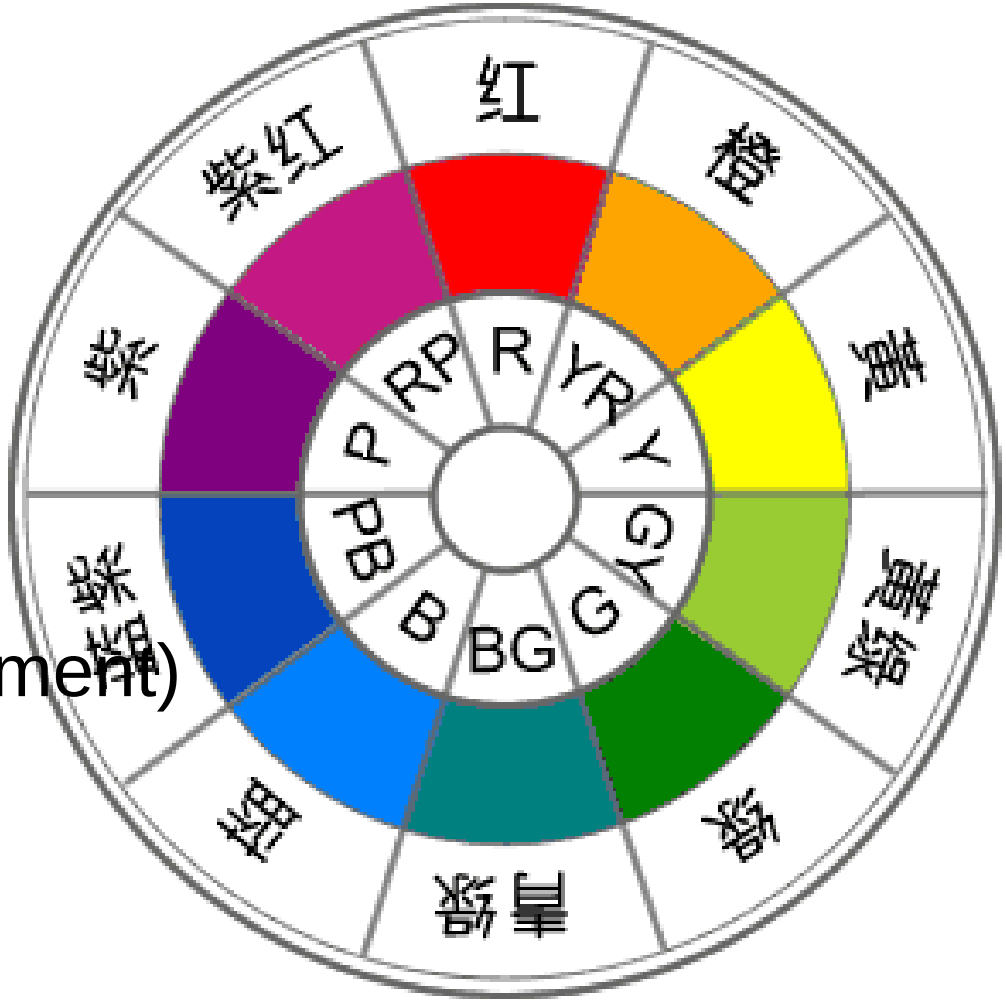


10 Hue Wheel

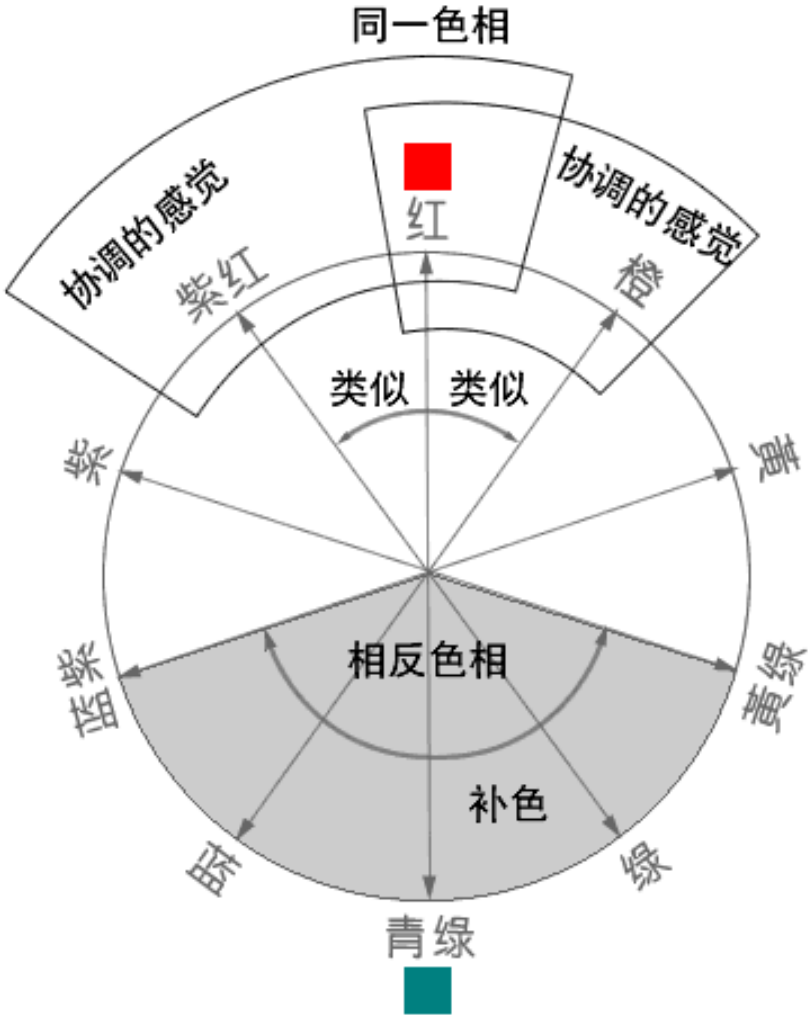
Red
Yellow Red
Yellow
Green Yellow
Green
Blue Green
Blue
Purple Blue
Purple
Red Purple

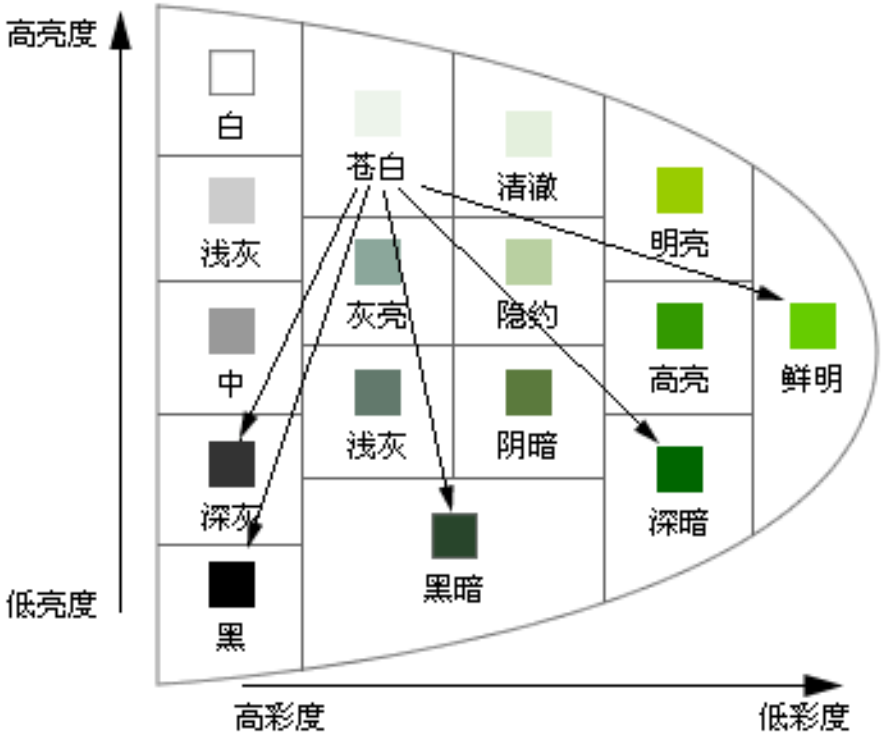
Basic Match Colors

无色设计(achromatic)
类比设计(analogous)
冲突设计(clash)
互补设计(complement)
单色设计(monochromatic)
中性设计(neutral)
分裂补色设计(splitcomplement)
原色设计(primary)
二次色设计(secondary)
三次色三色设计(tertiary)



Based on Hue or Tone



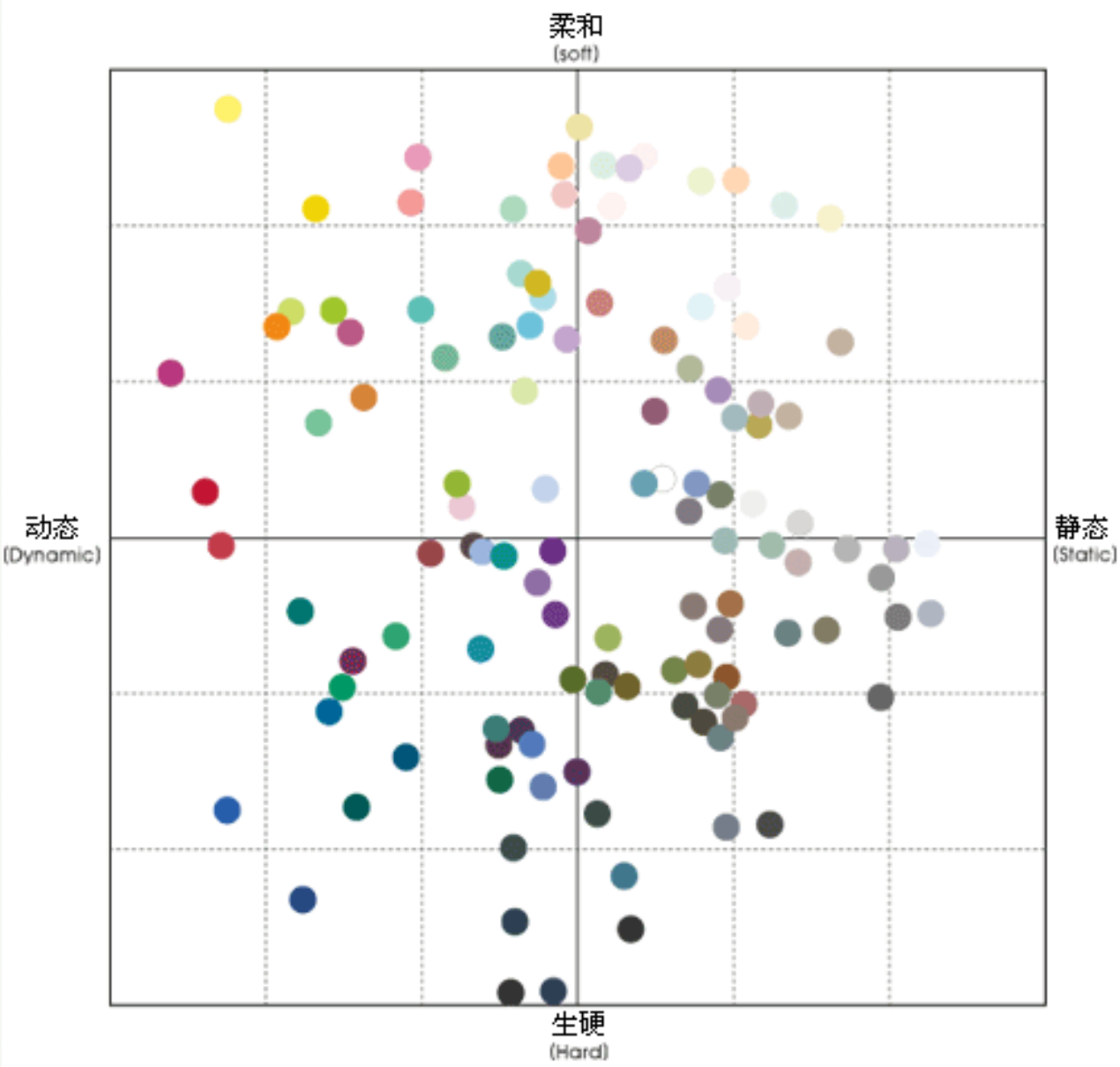


Hue & Tone 116

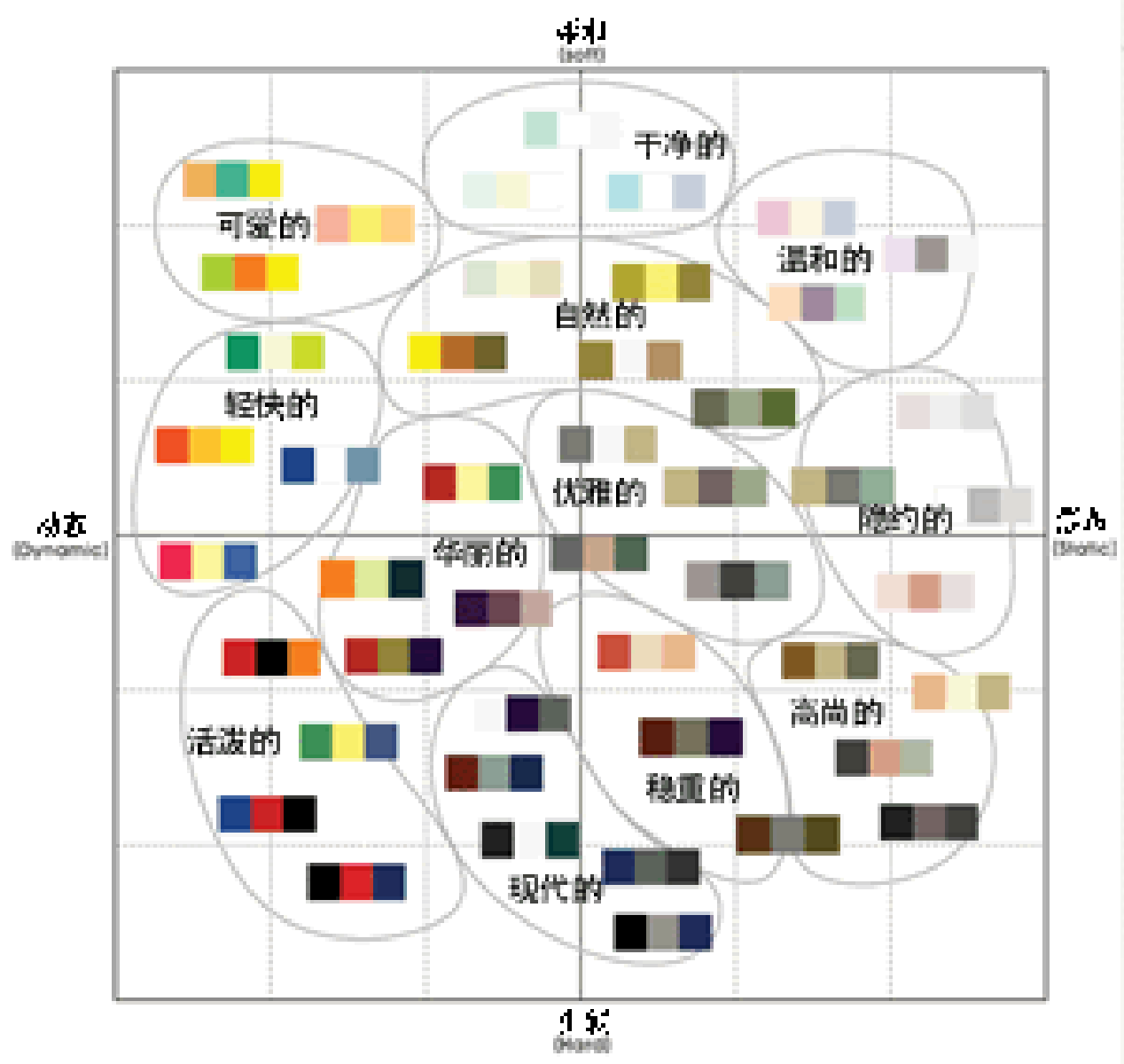
R YR Y GY G BG B PB P RP
V
#FF0033 #FF9900 #FFFF00 #99FF33 #00FFCC #00FFFF #0099FF #3366FF #CC33FF #FF33CC
S
#CC3333 #FF6600 #CCCC00 #99CC00 #00CC99 #33CCCC #0099CC #3333FF #9900CC #CC3399
B
#FF6666 #FF9933 #FFFF66 #CCFF00 #33FFCC #66FFFF #3399FF #0066FF #CC66FF #FF66CC
P
#FF9999 #FF9966 #FFFF99 #CCFF66 #66FFCC #99FFFF #33CCFF #6666FF #CC99FF #FF99CC
VP
#FFCCCC #FFCC99 #FFFFCC #CCFF99 #CCFFCC #CCFFFF #99CCFF #9999FF #CCCCFF #FFCCFF
LGr
#CC9999 #CC9966 #CCCC99 #99CC99 #99FFCC #99CCCC #66CCFF #6699FF #9999CC #CC99CC
L
#CC6666 #CC9933 #CCCC66 #99CC66 #66CC99 #66CCCC #3399CC #0066CC #9966CC #CC6699
Gr
#996666 #996600 #999966 #669966 #339966 #669999 #6699CC #6666CC #666699 #996699
Dl
#990033 #CC6600 #999933 #669933 #009966 #339999 #336699 #3366CC #9933CC #993399
Dp
#993333 #996633 #666600 #669900 #006633 #009999 #006699 #0033CC #660099 #990066
Dk
#660033 #663300 #333300 #336600 #003300 #336666 #003366 #003399 #330066 #663366

N9.5 N9 N8 N7 N6 N5 N4 N3 N2 N1
#FFFFFF #CCCCCC #999999 #666666 #333333 #000000

Impression Space of Match Colors



Impression Space of Match Colors

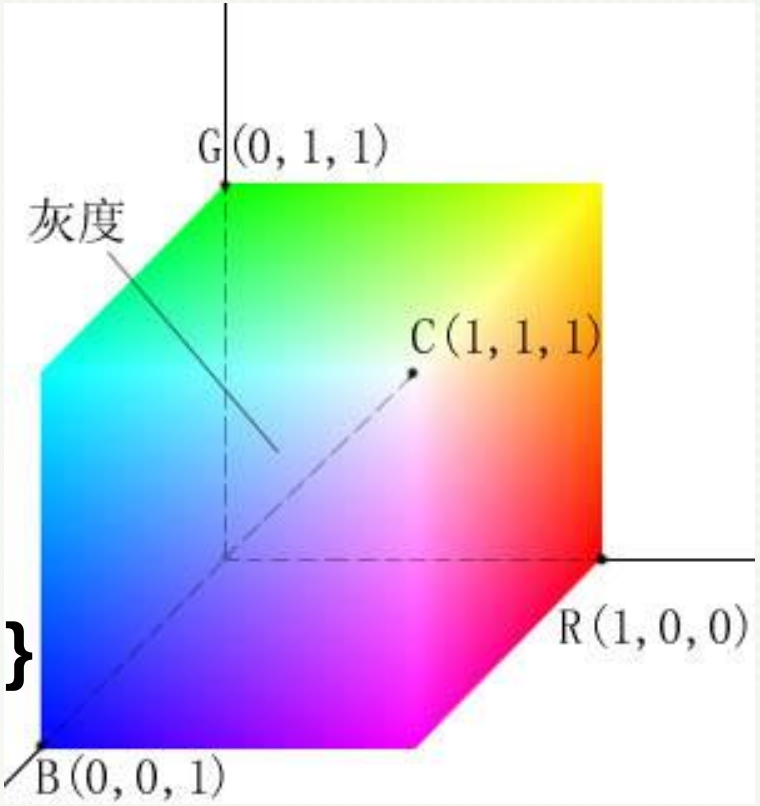


How to define web color?

Color Name: aqua, black, blue, fuchsia, gray, green, lime, maroon, navy, olive, purple, red, silver, teal, white, and yellow

#RRGGBB

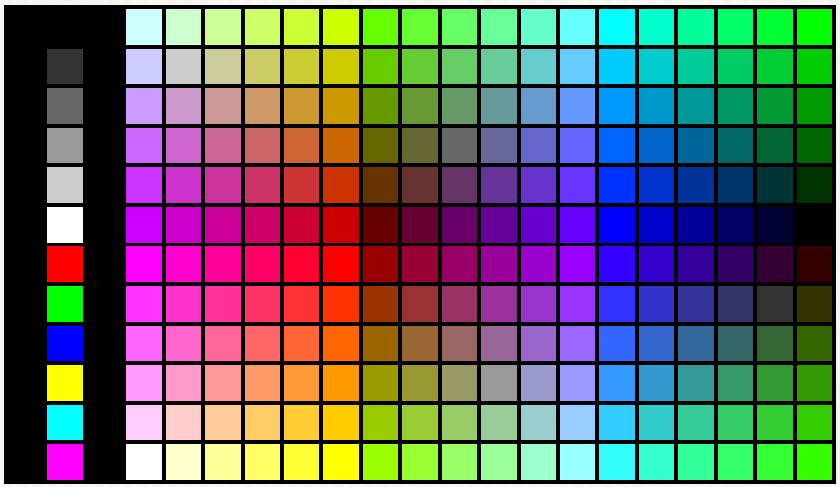
RGB (*R,G,B*)



p { color:red }
p { color:#ff0000 }
p { color:rgb(255,0,0) }
p { color:rgb(100%, 0%, 0%) }

Safety color palette

- The safety color palette is a set of 216 different colors that should be used in images designed for the World Wide Web. By using this set of colors, you minimize the risk of unwanted dithering in your images.

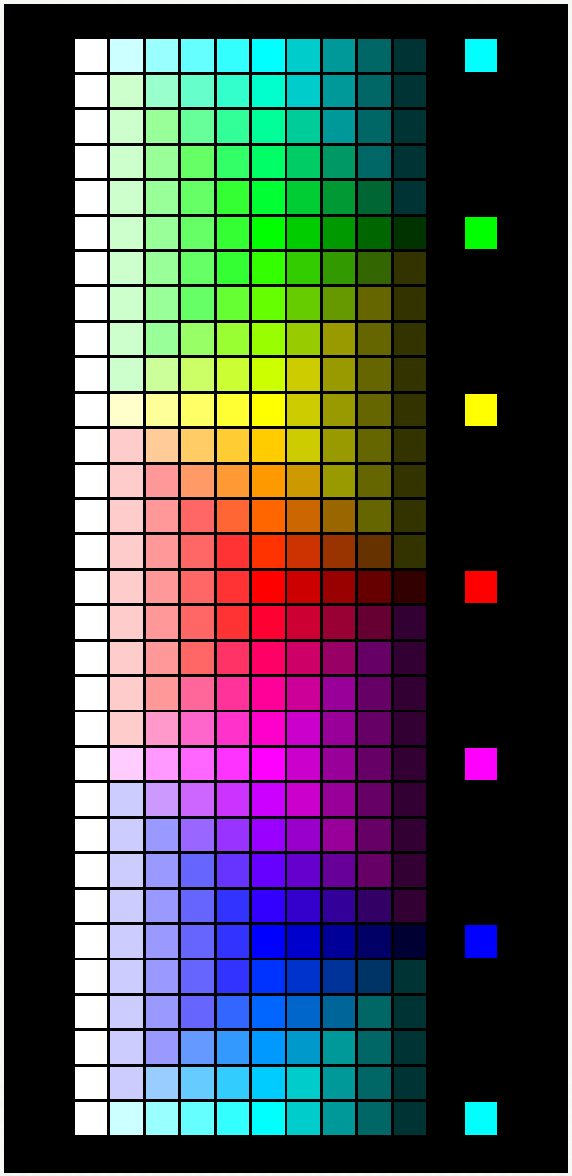


彩色系(Chromatic Colors) 210
非彩色系(Achromatic Colors) 6

00	33	66	99	CC	FF
0	51	102	153	204	255

#0033FF #3300FF
#00FF33 #33FF00

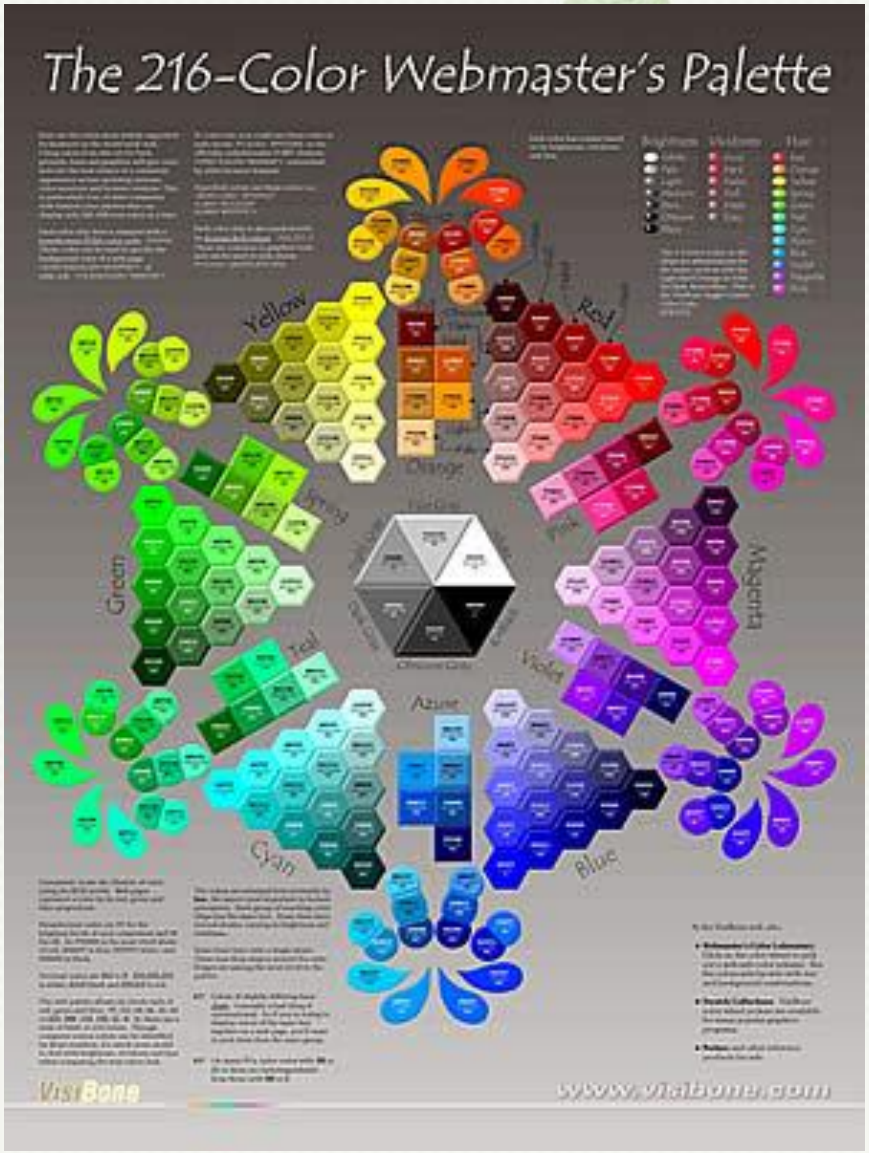
Safety color palette

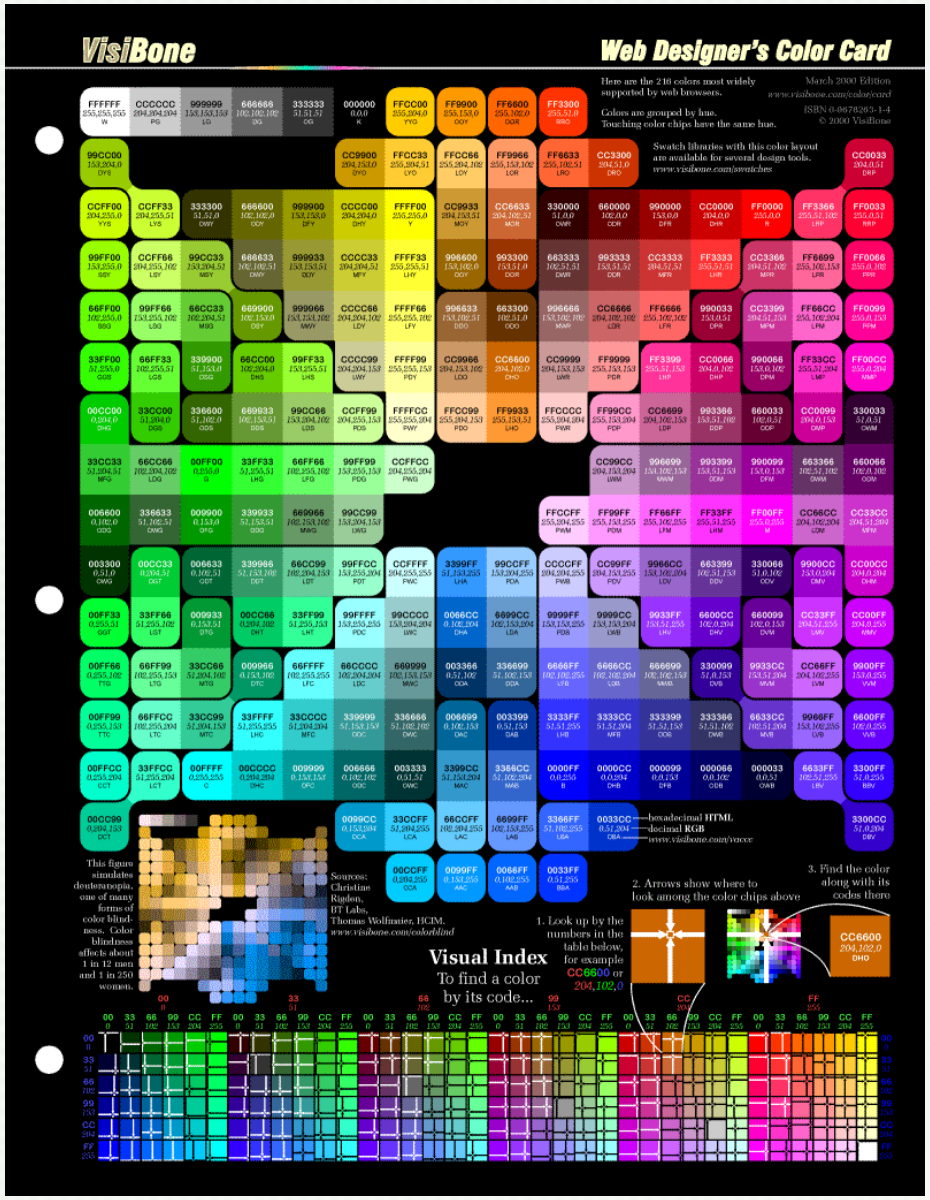


- Browser-Safe Color Palette
- The Browser-Safe Palette, as I so named it, is the actual palette that Mosaic, Netscape, and Internet Explorer use within their browsers. The palettes used by these browsers are slightly different on Macs and PCs. This palette is based on math, not beauty.

Safety color palette

- 216-Color Webmaster's Palette
- All 216 universal browser-safe colors are arranged symmetrically by hue in a color wheel. Includes the original open airy collection and a new, ruthlessly compact collection.

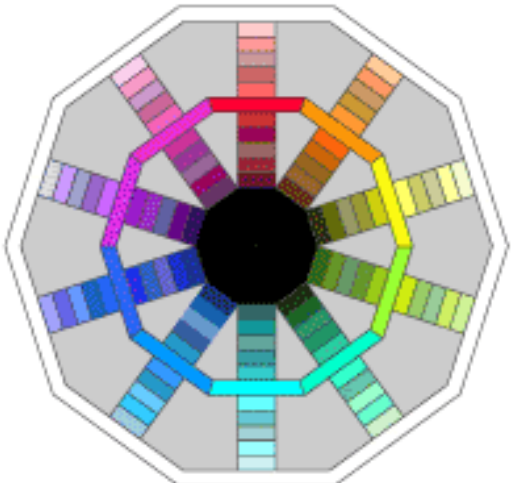


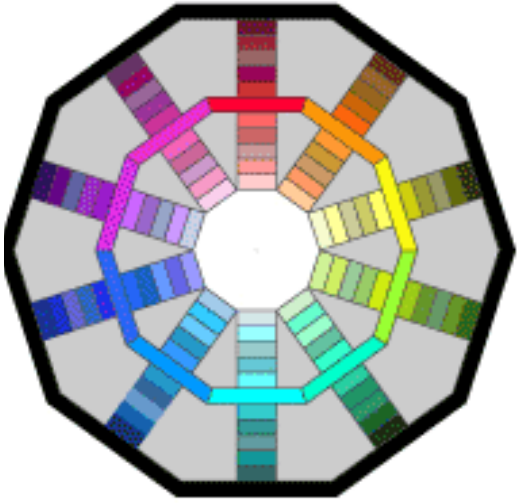

VisiBone
Web Designer's Color Card
Here are the 216 colors most widely supported by web browsers.
March 2000 Edition
www.visibone.com/colorjecard
Colors are grouped by hue.
Touching color chips have the same hue.
ISBN 0-9678263-1-4
© 2000 VisiBone
Swatch libraries with this color layout are available for several design tools.
www.visibone.com/swatches
This figure simulates deuteranopia, one of many forms of color blindness. Color blindness affects about 1 in 12 men and 1 in 250 women.
Sources:
Christine Rigden,
BT Labs,
Thomas Wolfmaier, HCIM.
www.visibone.com/colorblind
Visual Index
To find a color by its code...
1. Look up by the numbers in the table below, for example CC6600 or 204,102,0
2. Arrows show where to look among the color chips above
3. Find the color along with its codes there
CC6600
204,102,0
DH0
hexadecimal HTML
decimal RGB
www.visibone.com/vaccr

Web Designer's Color Hexagon
© 2000 VisiBone www.visibone.com

Safety color palette

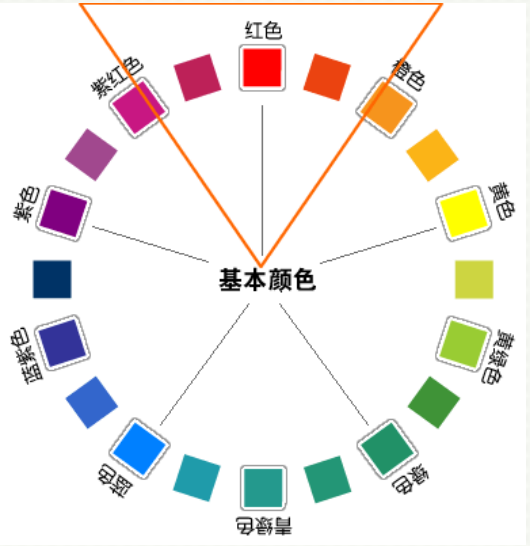
- I.R.I Web Color Sense Palette Series





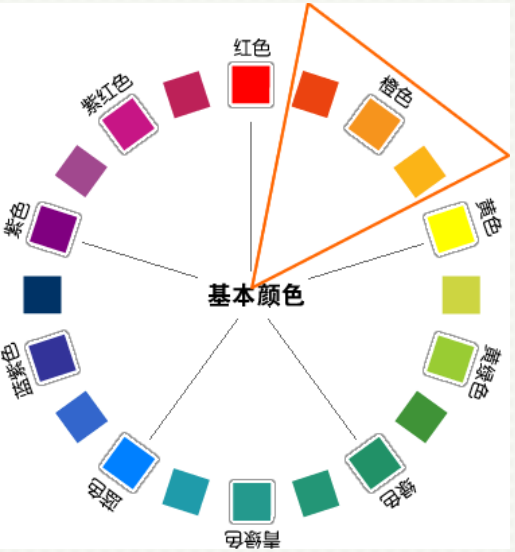
Classified Design by Color

- Red



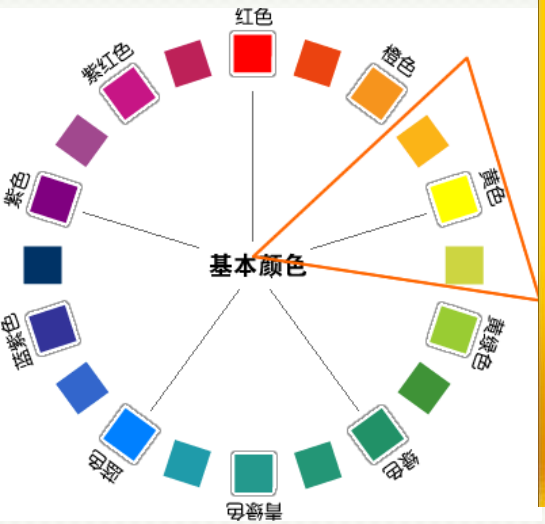
Classified Design by Color

- Yellow Red



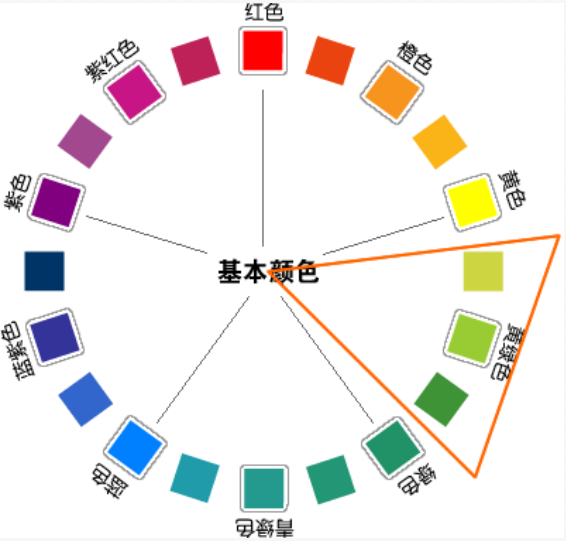
Classified Design by Color

- Yellow



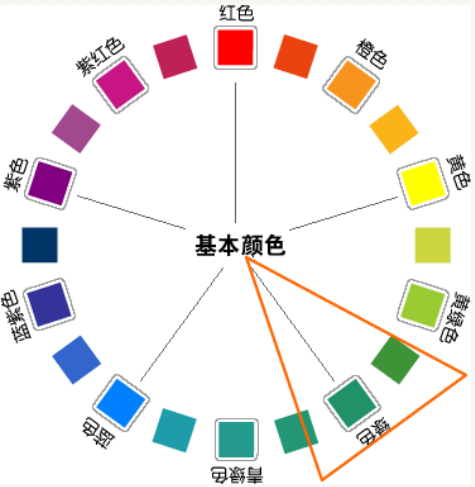
Classified Design by Color

- Yellow Green



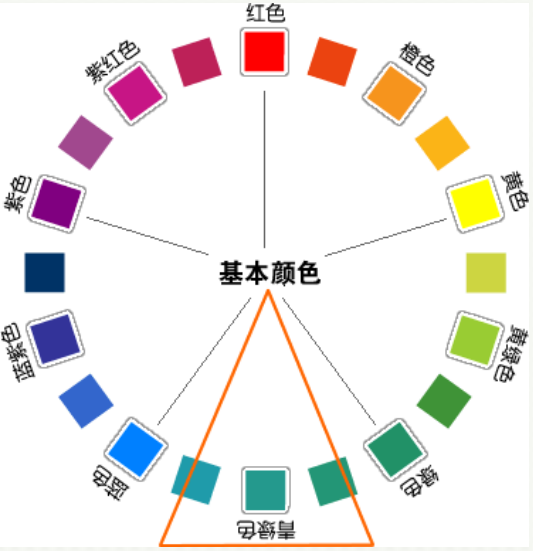
Classified Design by Color

- Green



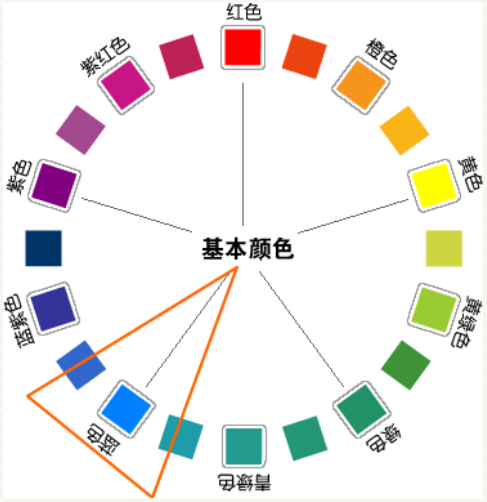
Classified Design by Color

- Blue Green



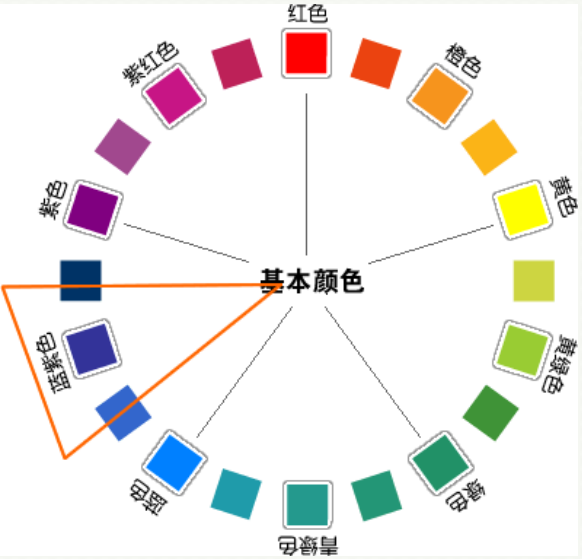
Classified Design by Color

- Blue



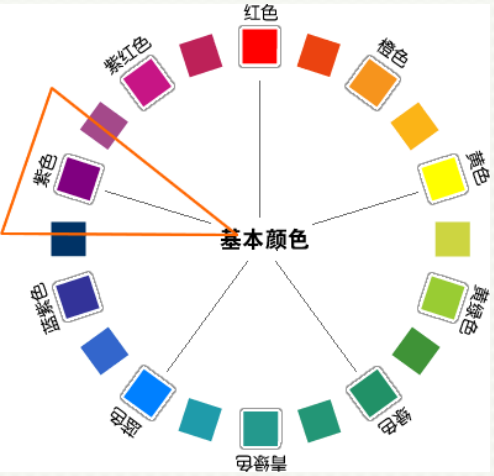
Classified Design by Color

- Purple Blue



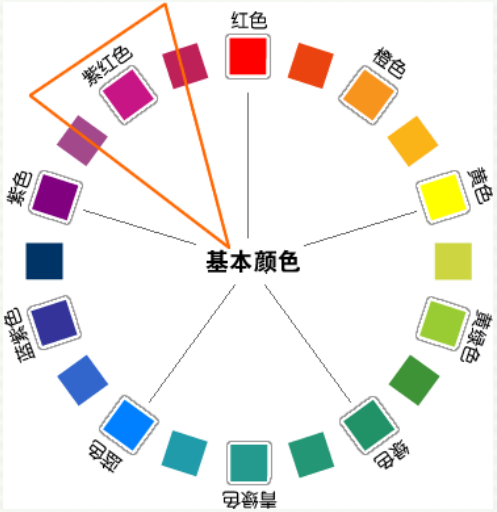
Classified Design by Color

- Purple



Classified Design by Color

- Red Purple



Website Color Match

- Website oneness
- Match colors from Impression Space
- Pick colors from a Web-safe palette.
- Choose three or five colors

The End