

GD-105

Color

Winny Lucas

Color theory

Color Practice!

Color since we were kids



What is COLOR?

Color is commonly referred to as a property of things:

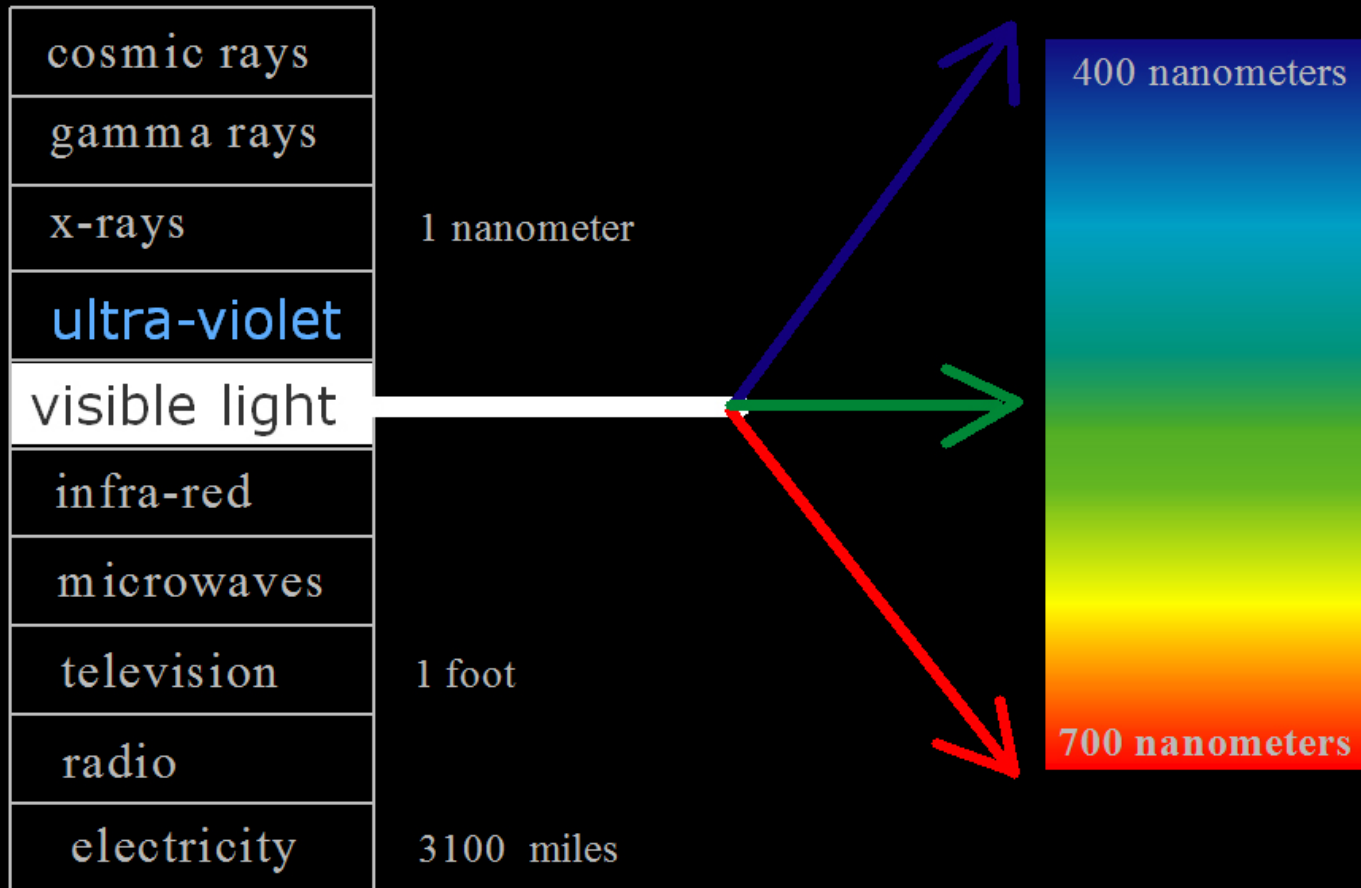
The sky is blue,

blood is red,

bananas yellow.

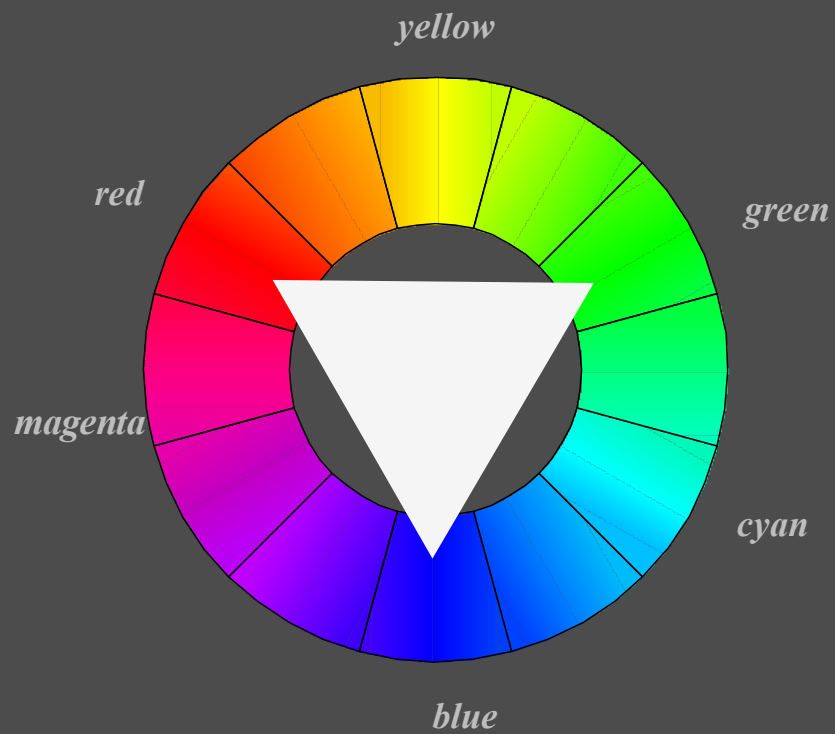
Color, though, exists only in the brain. It is a neural process, triggered by wavelengths of light.

COLOR

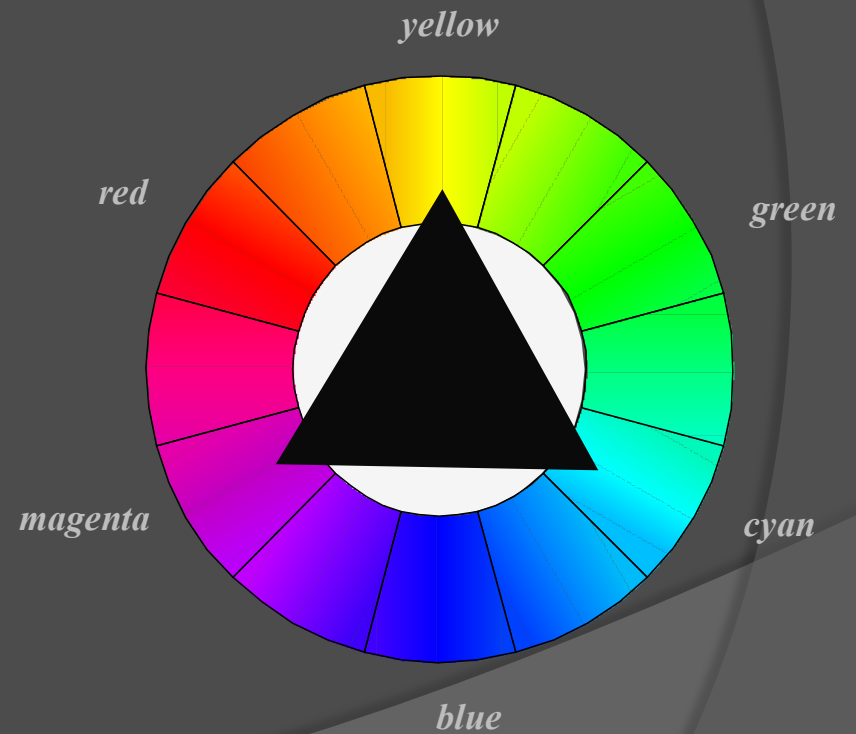


COLOR

additive



subtractive



COLOR

RGB (in CSS2)

red, green, & blue

RGBA

red, green, blue, & alpha

HSL

hue, saturation, & lightness

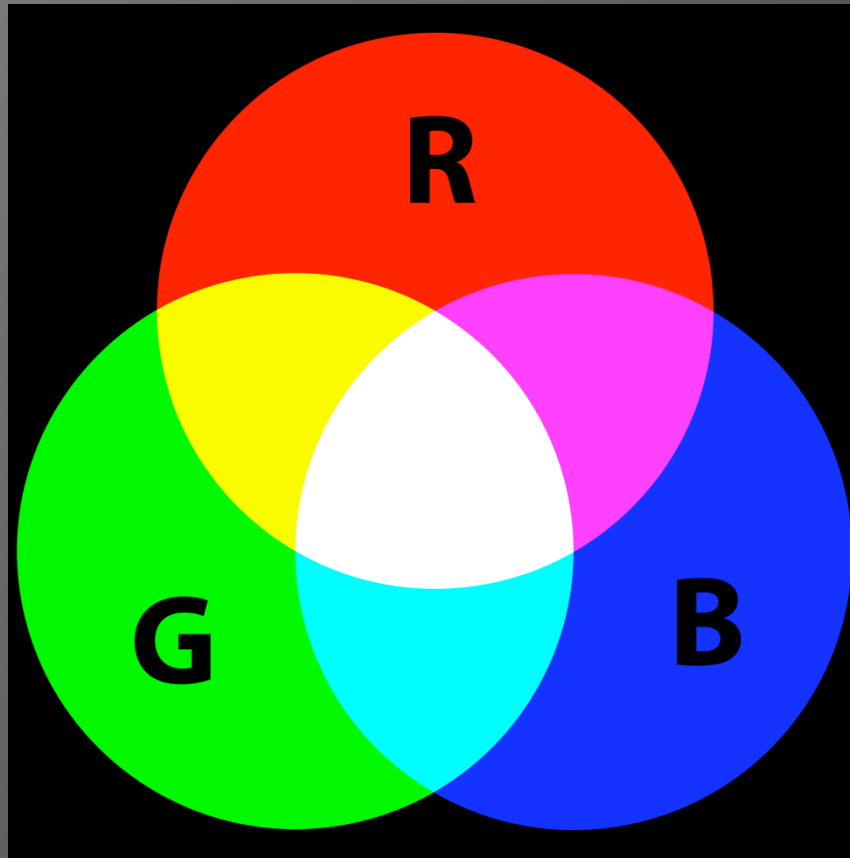
HSLA

hue, saturation, lightness, & alpha

CMYK (in the Generated Paged Media Module)

cyan, magenta, yellow, & black

RGB is how computer think about color

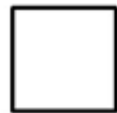


COLOR

In CSS, RGB values can be written as three comma-separated values ranging from 0 - 255, or as percentages ranging from 0 - 100%. Red values are first, followed by green, and then blue.



`rgb(0,0,0)`

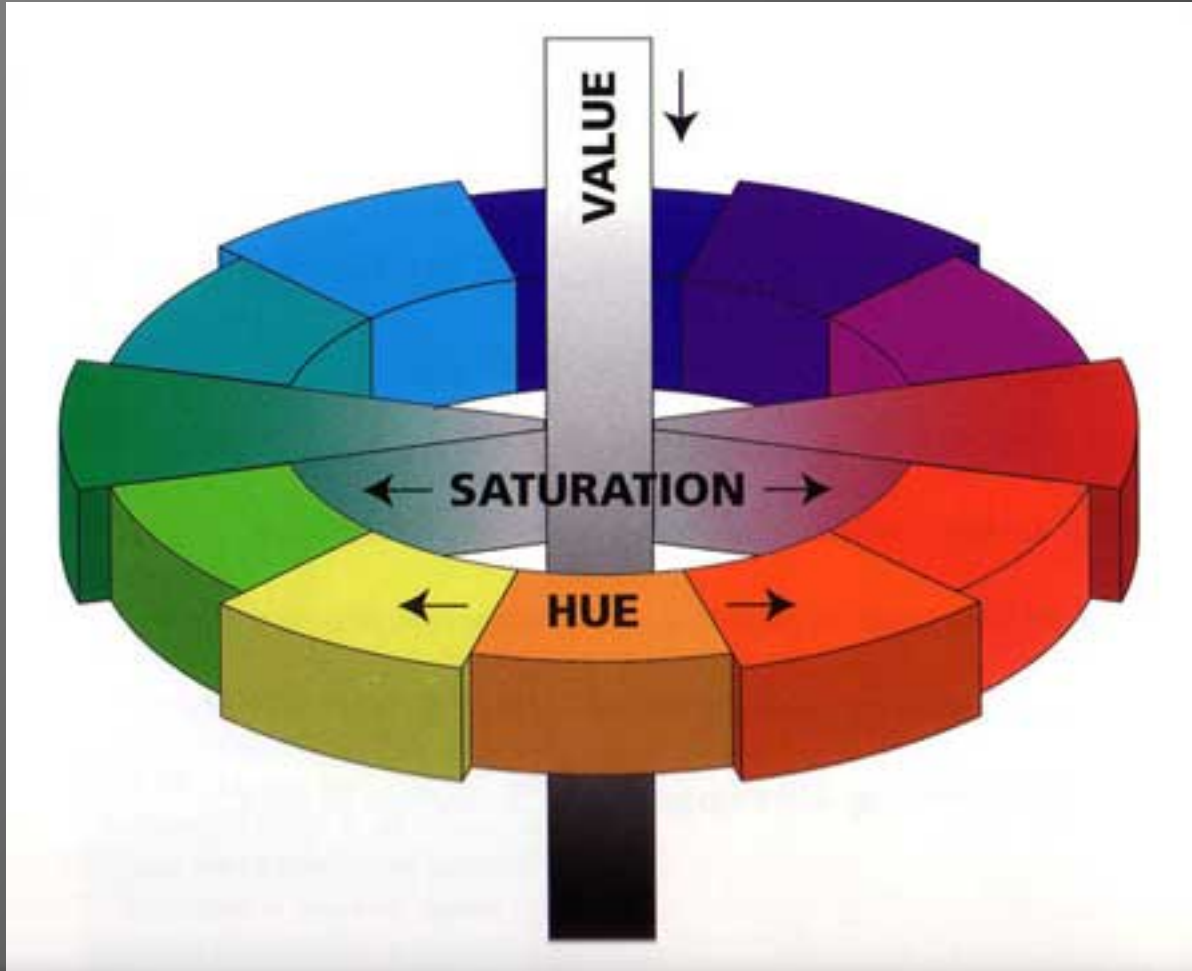


`rgb(255,255,255)`



`rgb(69%,9%,12%)`

Value Hue and Saturation is how designer's way of thinking of color



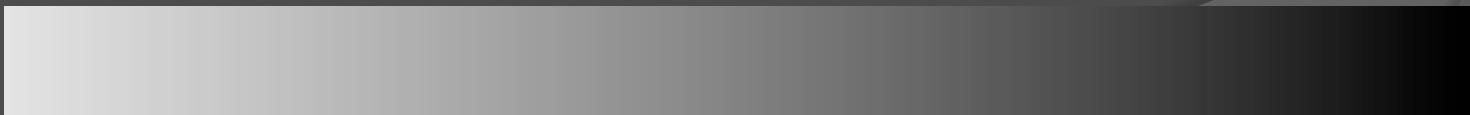
HUE: the dimension of color determined by the light wave grouping of the color.



SATURATION: the amount of hue in a color. The saturation of a color decreases as it moves to black, white or gray.



VALUE: the lightness or darkness of a color, measured as a level of gray.



Colors in design

- Color is a powerful component in design.
- It defines and influences the mood and emotion.
- No matter which colors are chosen, colors must be used consistently throughout the design.

Value is considered the most important of all.
That's why black and white photo works.



value

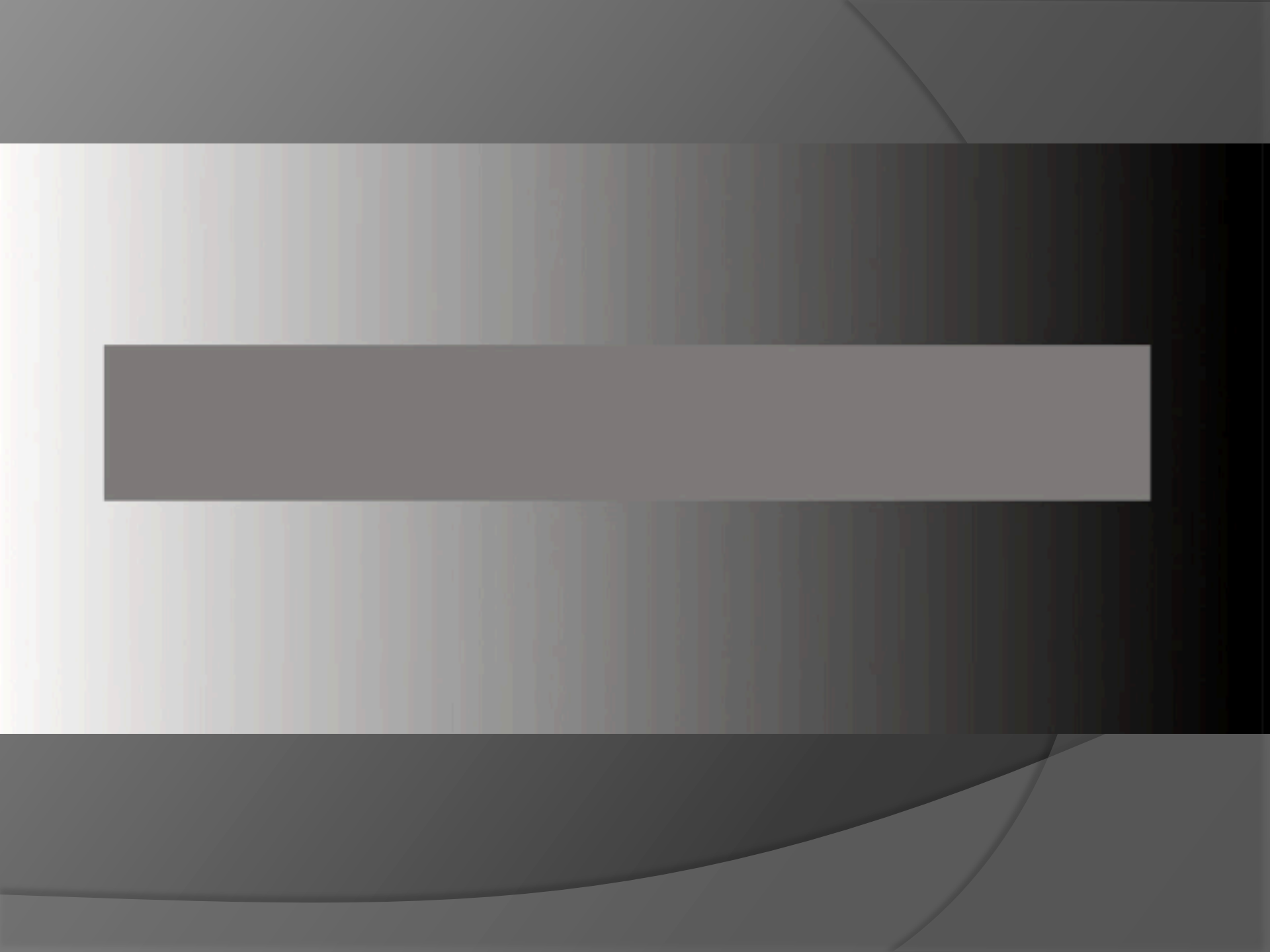
Value ranges from black to white

Value pops with contrast

Value defines the invisible

Value is relative to other values.





Value is **relative**

A value to **human eye** is not defined by a singular value standing by itself, but in relation to the values surrounding.

Brain is making thing more readable to us.



Brain is making thing more readable to us.



How to use this? Contrast.

Eye are drawn to the highest point of contrast – focal point.



Contrast as a control

- Eyes are typically drawn to the point of the highest contrast.
- The largest of high contrast typically draw most attention.
- Low contrast can move elements to the background, lower the importance.

- White is not white
- Black is not black
- They are all relative, your brain redefine what is black and white.
- Think about a washed out photo

Exercise: using contrast to control focal point.

1 2 3

1 2 3

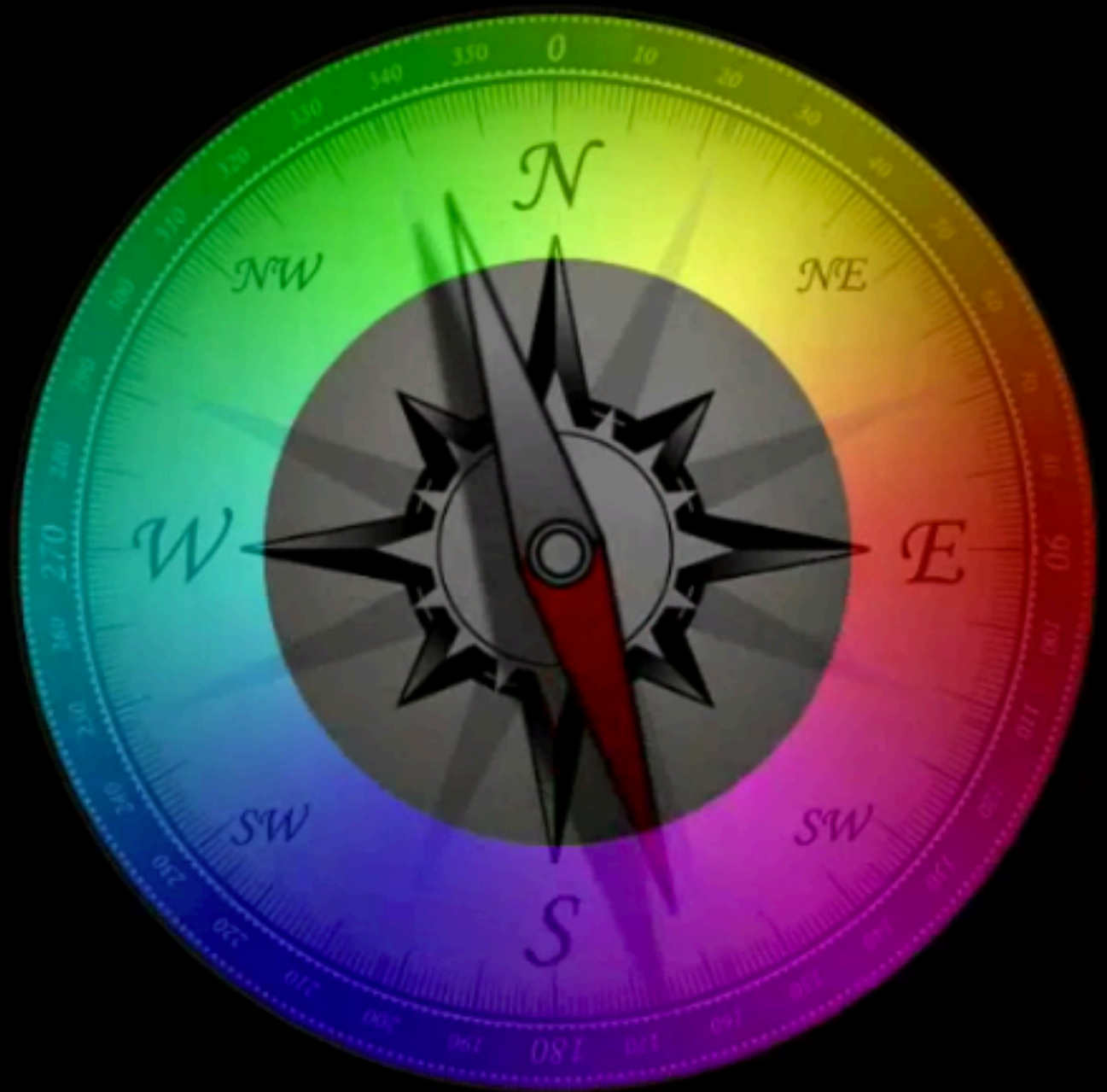
1 2 3

1 2 3

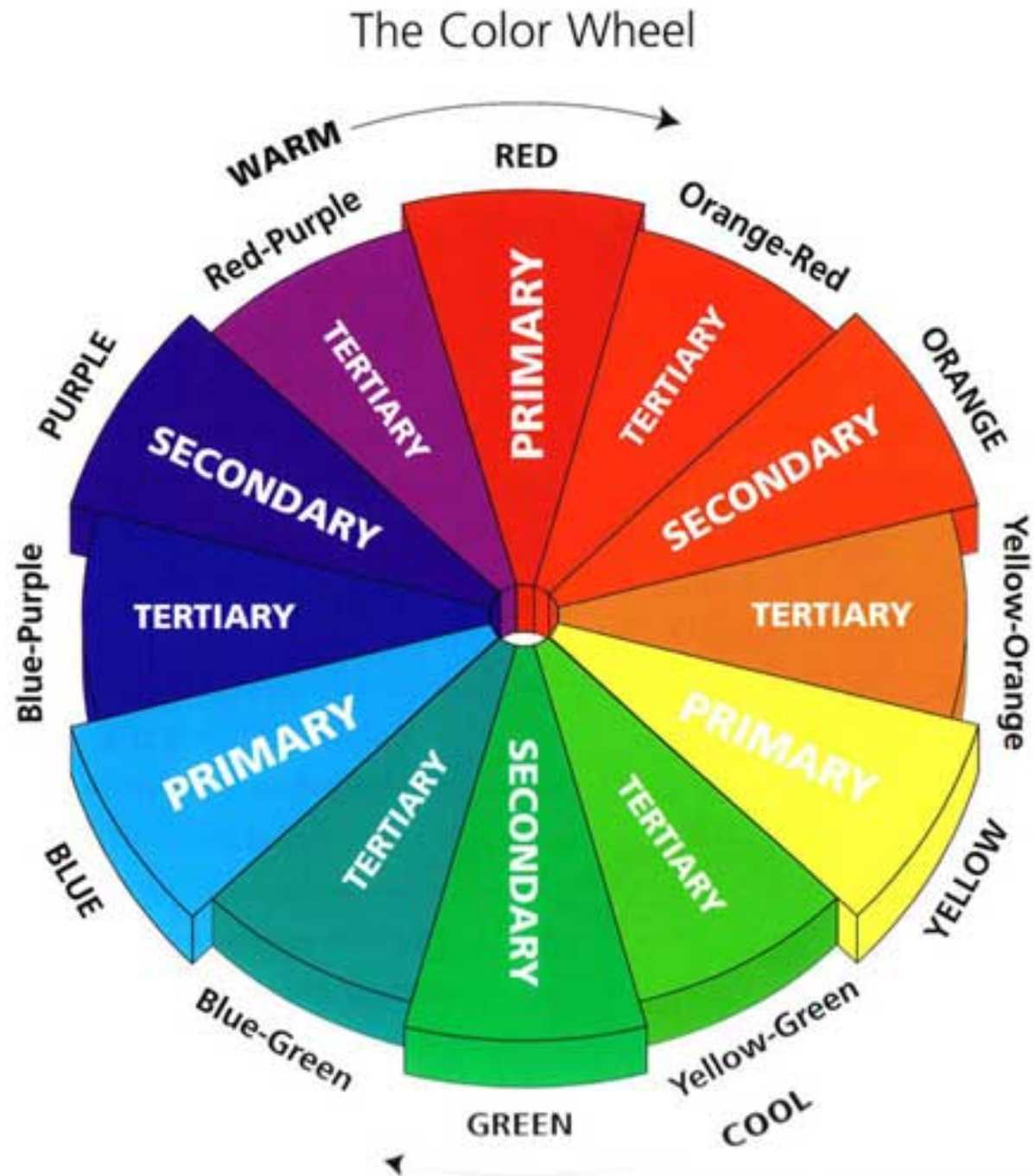
1 2 3

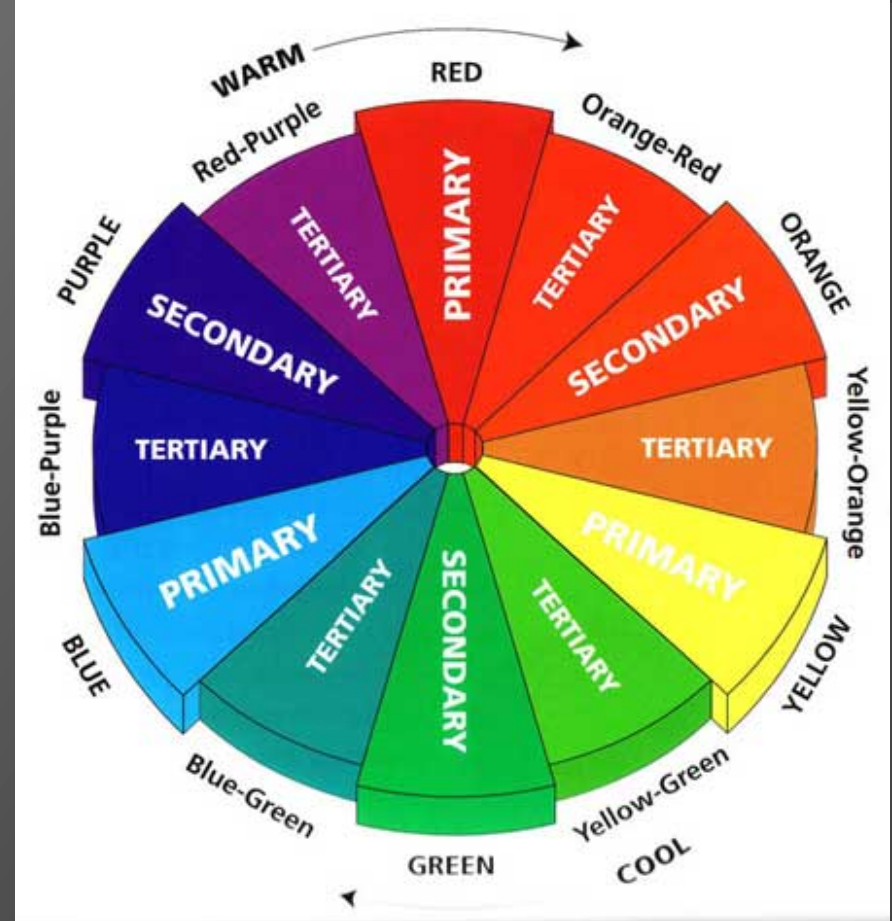
1 2 3

Hue/color



Hue/color





warm vs. cool

Red, orange and yellow are associated with the warmth of fire and sun

Blue, green and violet connect in the mind's eye with the coolness of sea, sky, foliage and outer space.

Hue has no sense of value.

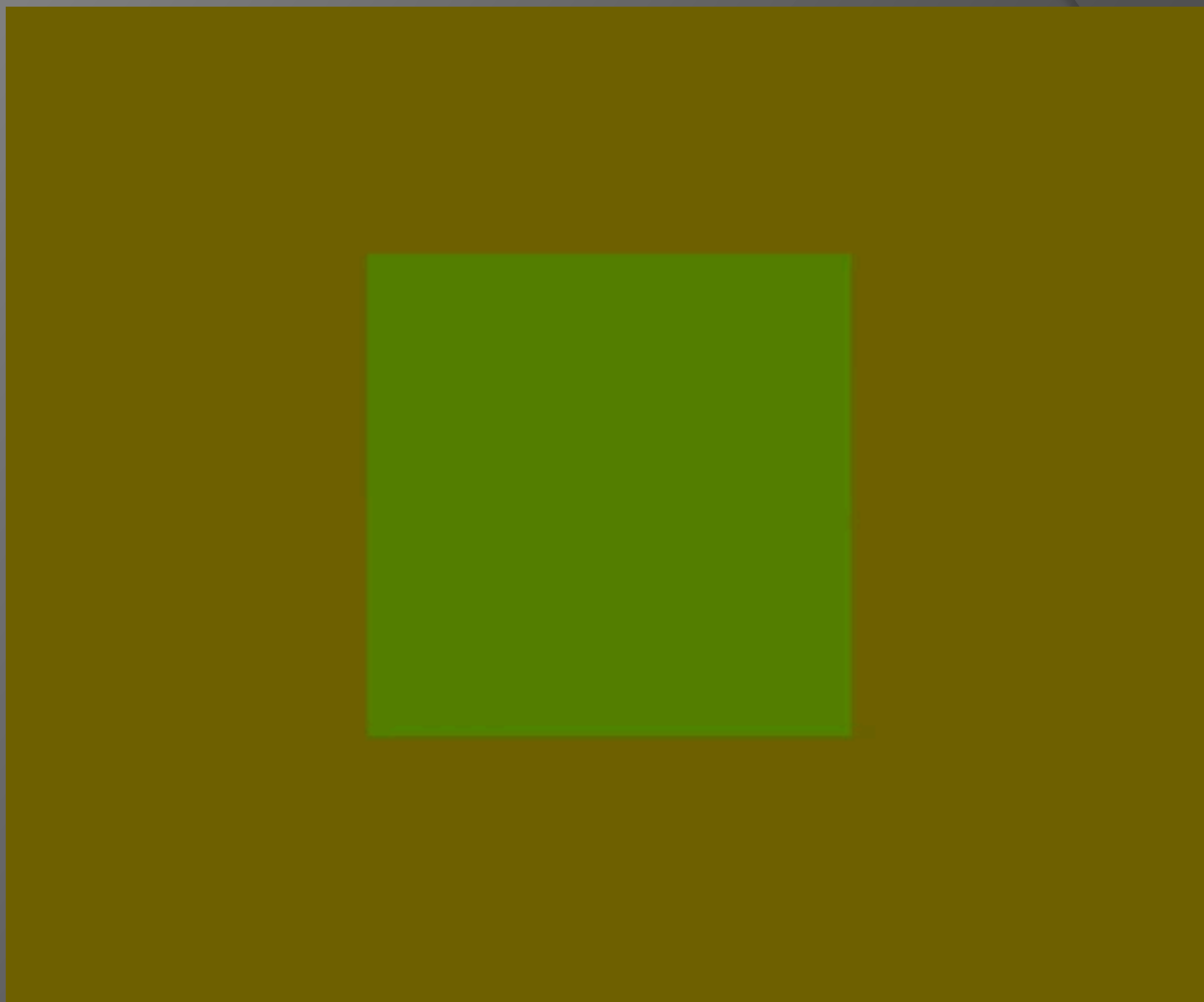


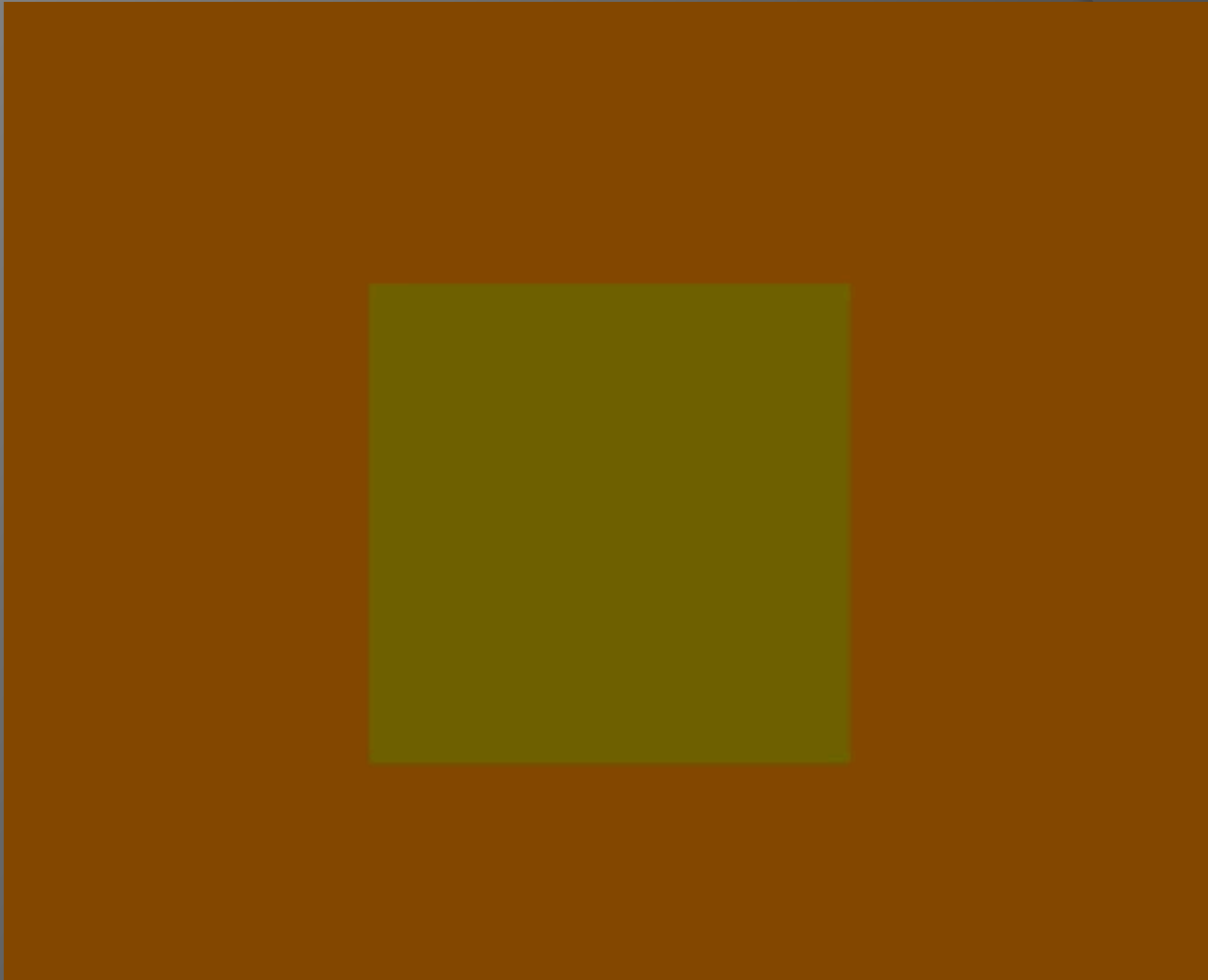


HUE

is relative







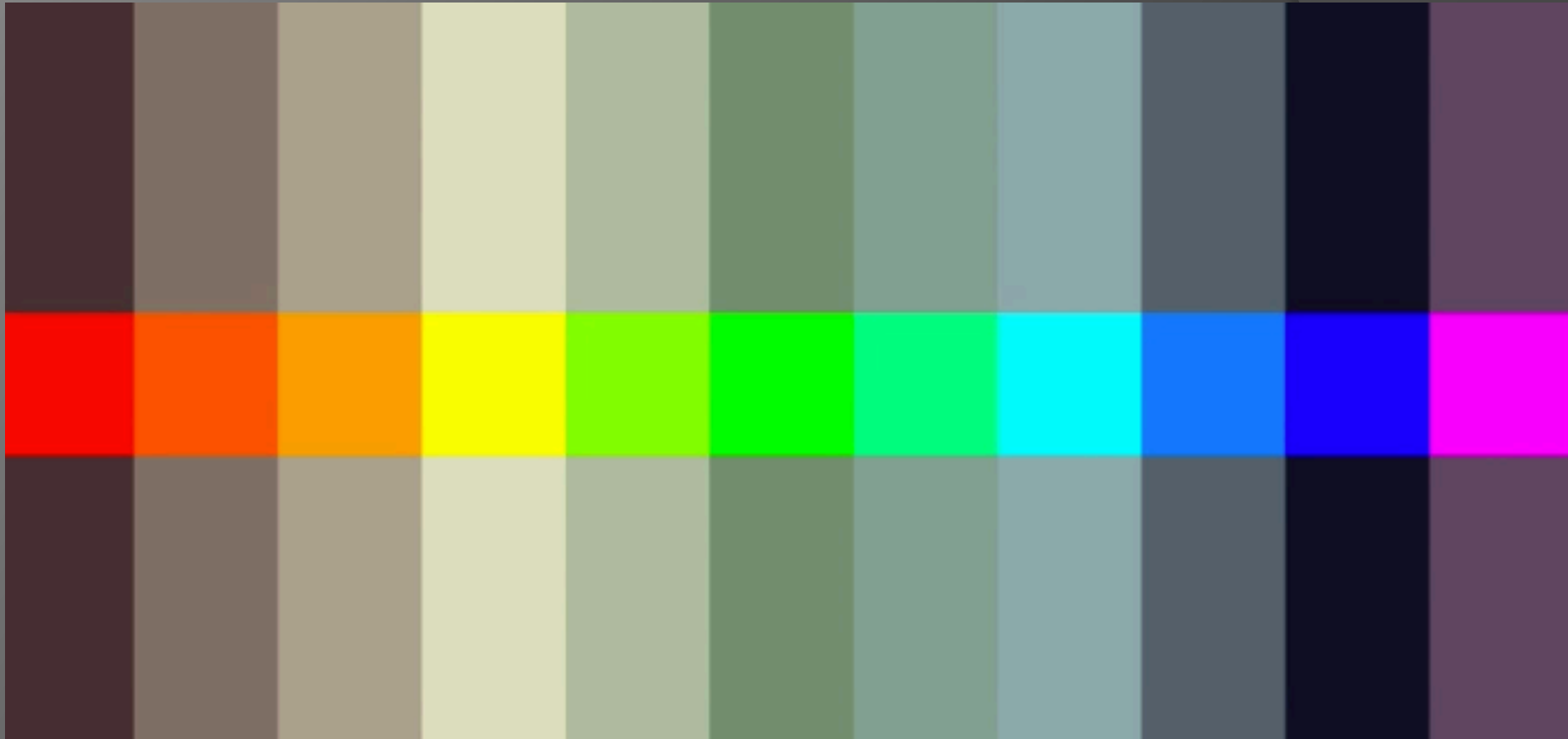
saturation



Saturation is **Relative**



saturation



saturation

Desaturated text doesn't read well on a saturated color background unless there is a large value difference.

saturation

Saturated text on a de-saturated background reads ok. But could be improved with value.

saturation

saturation
is color **intensity**.

saturation



Value of color



Value of Color

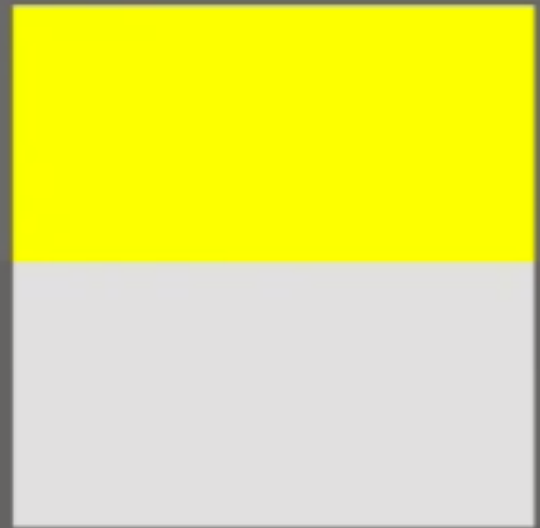
Value of color

red hue



red value

yellow hue



yellow value

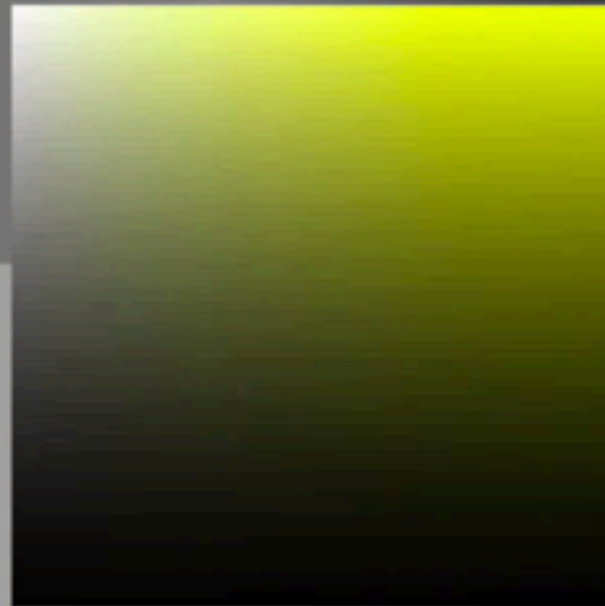
Each Hue's Value and Saturation

Hues

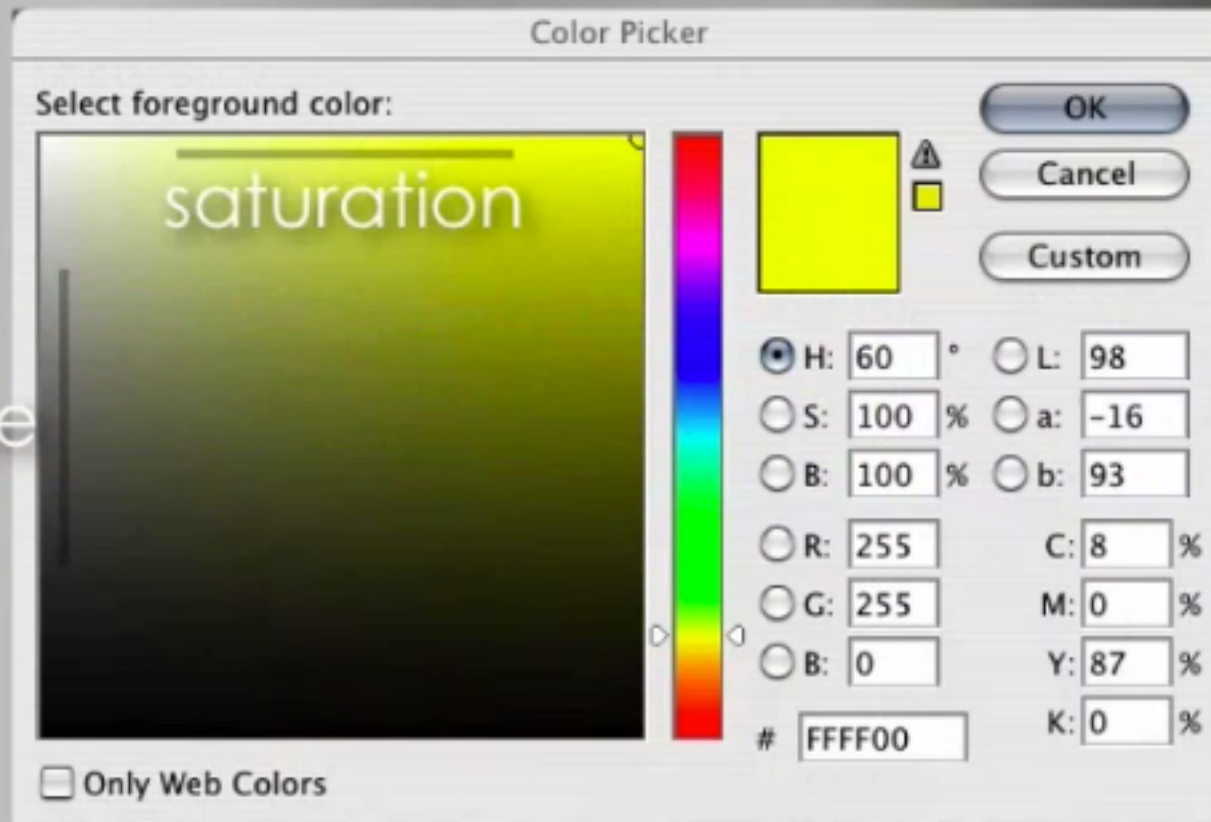
Yellow

value

saturation



Pick color in adobe.



Hues with the same value,
Difficult to read for color blind

can you read?

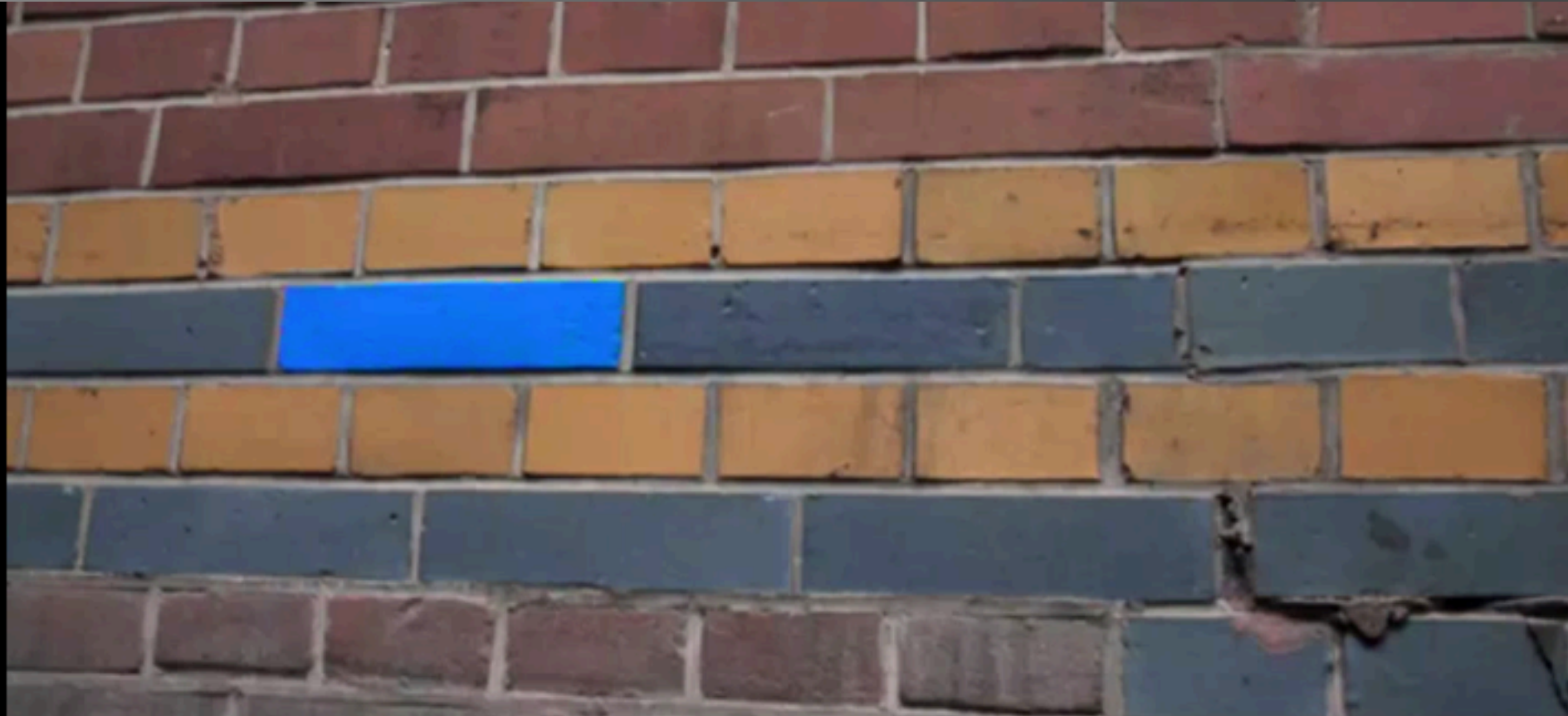
Convert to just value, same grey.

Now with contrast and outline, much better.

can you read?

Controlling the viewers *eye*.

Controlling the viewers *eye*.



Controlling the viewers **eye**.



focus

Learned from photography, depth of field,
create focal point



Create focal point

viewer's
eye
to
**what
you
consider
important**

Create focal point: color/value/saturation/focus



Create focal point: color/value/saturation/focus



Create focal point: color/value/saturation/focus



Work with color, large to small

When picking colors, start with the largest object, as it set the color theme.

Then work with the next largest object...

Explore color relationships

There is no such thing as a good color.

There are only good color relationships.

Four commonly used color-harmony rules

- Analogous (similar, related)
- Monochromatic (of a single hue)
- Complementary (When placed next to each other, they create the strongest contrast and reinforce each other.)
- Triad (A triadic color scheme uses colors that are evenly spaced around the color wheel.)

The screenshot shows the Adobe Color CC interface. At the top, there's a 'Save' button and a 'My Kuler Theme' link. Below this is a 'Color Rule' dropdown menu with options: Analogous (selected), Monochromatic, Triad, Complementary, Compound, Shades, and Custom. The main area features a large color wheel with a 'Save' button on its left. To the right of the wheel, a series of color swatches are displayed, showing a gradient from orange to red to magenta. Below the wheel, there are four large color swatches: orange, red, magenta, and pink. At the bottom, there are four rows of color swatches, each with a corresponding color rule (Analogous, Monochromatic, Triad, Complementary) and a 'Save' button. The bottom right corner shows the RGB and HEX values for the selected color: RGB 255 83 13, HEX FF530D.

My Kuler Theme

Monochromatic
Triad
Complementary
Compound
Shades
Custom

Save

RGB 255 83 13
HEX FF530D

Analogous



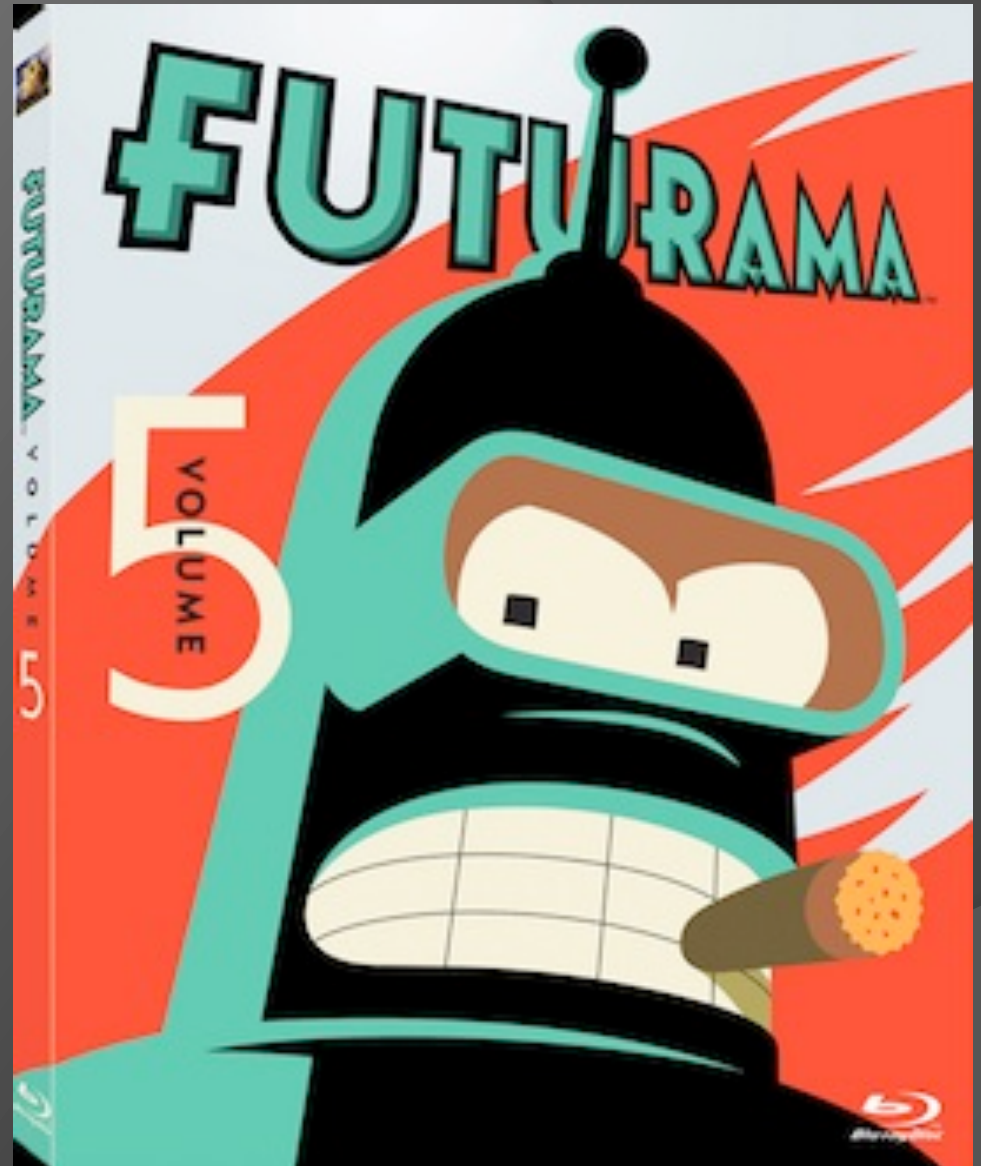
Analogous



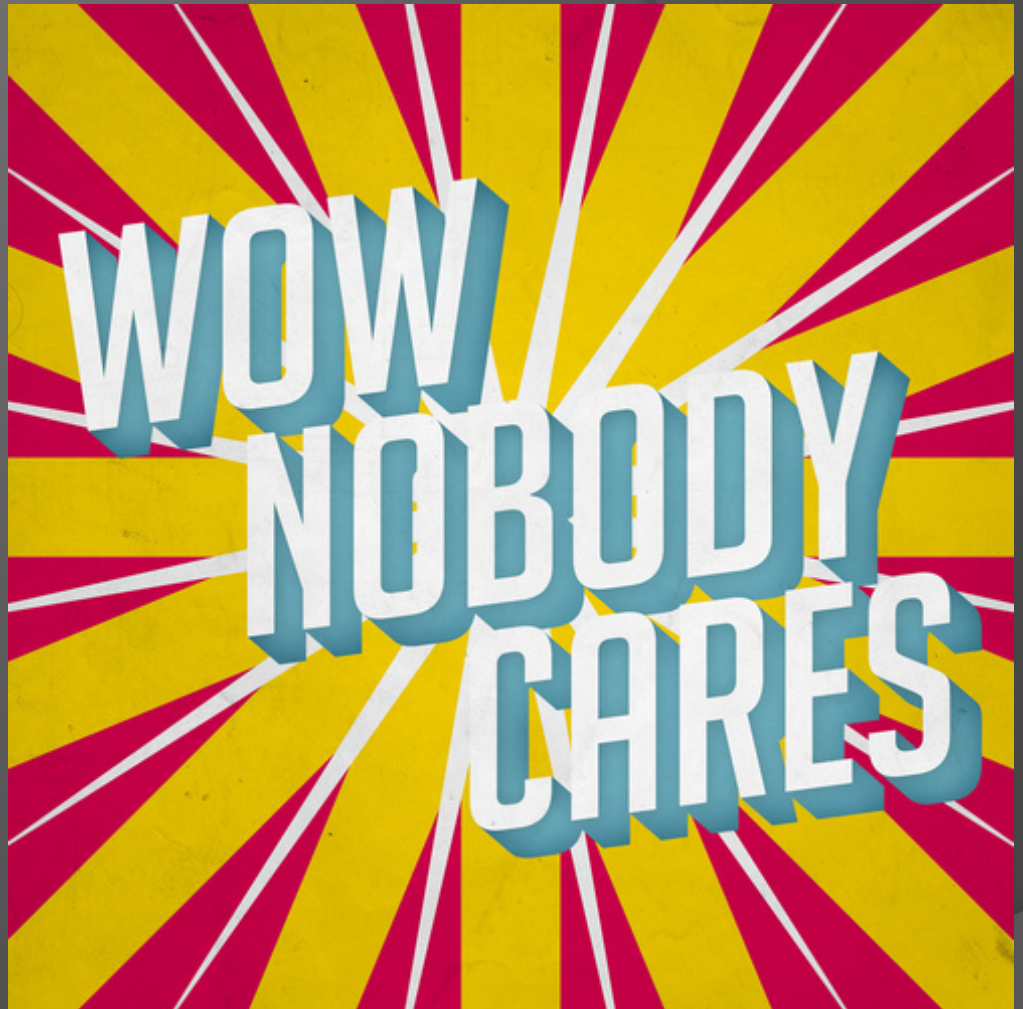
Analogous



Complementary



Triadic



Color Associations

- Red
- Blue
- Green
- Yellow
- Orange
- Black

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Red

- Red is the color of **fire** and **blood**
- It is associated with energy, war, danger, strength, power, determination as well as passion, desire, and love
- Red is a very emotionally intense color.
- It enhances human metabolism, increases respiration rate, and raises blood pressure.
- It has very high visibility, which is why stop signs, stoplights, and fire equipment are usually painted red.

Red

Red brings text and images to the foreground

- Use it as an accent color to stimulate people to make quick decisions
- it is a perfect color for 'Buy Now' or 'Click Here' buttons on Internet banners and websites.
- **Light red** represents joy, sexuality, passion, sensitivity, and love

Red

- **Pink**

- signifies romance, love, and friendship. It denotes feminine qualities and passiveness

- **Dark red**

- is associated with vigor, willpower, rage, anger, leadership, courage, longing, malice, and wrath

- **Brown**

- suggests stability and denotes masculine qualities

- **Reddish-brown**

- is associated with harvest and fall

Bobbetaanland

FAMILY PARK

maak uw keuze
faites votre choix
make your choice
wählen Sie



flash
(extended version)

non-flash
(standard version)



Yellow

- Yellow is the color of sunshine. It's associated with joy, happiness, intellect, and energy
- Yellow produces a warming effect, arouses cheerfulness, stimulates mental activity, and generates muscle energy
- Bright, pure yellow is an attention getter, which is the reason taxi, cabs are painted this color

Yellow

- When overused, yellow may have a **disturbing** effect; it is known that babies cry more in yellow rooms
- Yellow is seen before other colors when placed against black; this combination is often used to issue **a warning**

Yellow

- **Dull (dingy) yellow**
 - represents caution, decay, sickness, and jealousy
- **Light yellow**
 - is associated with intellect, freshness, and joy

4 million people will access the Web via wireless by
the end of 2000 (Yankee Group)



UNPLUGGED INTERACTIVE

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Orange

- Orange represents enthusiasm, fascination, happiness, creativity, determination, attraction, success, encouragement, and stimulation
- To the human eye, orange is a very **hot color**, so it gives the **sensation of heat**
- **Life jacket - orange**

Orange

- Orange increases oxygen supply to the brain, and stimulates mental activity. It is highly accepted among young people.
- As a citrus color, orange is associated with healthy food and stimulates appetite.
- Orange is the color of fall and harvest
- Orange has very high visibility, so you can use it to catch attention and highlight the most important elements of your design. Orange is very effective for promoting food products and toys

Orange

- **Dark orange**
 - can mean deceit and distrust
- **Red-orange**
 - corresponds to desire, sexual passion, pleasure, domination, aggression, and thirst for action
- **Gold**
 - evokes the feeling of prestige. The meaning of gold is illumination, wisdom, and wealth. Gold often symbolizes high quality

home

time
jumpers

discovery
domain

amazon
arcade

incredible
ECO
adventure



Mayan Match

restart

-volume+



23

Green

- Green is the color of **nature**. It symbolizes growth, harmony, freshness, and fertility. Green has strong emotional correspondence with safety
- Green has great **healing** power. It is the most restful color for the human eye
- Green suggests **stability and endurance**. Sometimes green denotes lack of experience

Green

- Use green to indicate safety when advertising drugs and medical products
- Green is directly related to nature, so you can use it to promote 'green' products
- Dull, **darker green** is commonly associated with money, the financial world, banking, and Wall Street

Green

- **Dark green**
 - is associated with ambition, greed, and jealousy
- **Yellow-green**
 - can indicate sickness, cowardice, discord, and jealousy
- **Aqua**
 - is associated with emotional healing and protection
- **Olive green**
 - is the traditional color of peace



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Blue

- Blue is often associated with depth and stability.
- It symbolizes trust, loyalty, wisdom, confidence, intelligence, faith, truth, and heaven
- Blue is considered beneficial to the mind and body. It slows human metabolism and produces a calming effect.
- Blue is strongly associated with tranquility and calmness

Blue

- You can use blue to promote products and services related to **cleanliness** (water purification filters, cleaning liquids, vodka), **air and sky** (airlines, airports, air conditioners), **water and sea** (sea voyages, mineral water)
- As opposed to emotionally warm colors like red, orange, and yellow; blue is linked to consciousness and intellect. Use blue to suggest precision when promoting high-tech products

Blue

- Blue is a masculine color; according to studies, it is highly **accepted among males**.
- Dark blue is associated with depth, expertise, and stability;
- it is a preferred color for corporate America
- Avoid using blue when promoting food and cooking, because **blue suppresses appetite**.
- When used together with warm colors like yellow or red, blue can create high-impact, vibrant designs; for example, **blue-yellow-red** is a perfect color scheme for a superhero

Blue

- **Light blue**
 - is associated with health, healing, tranquility, understanding, and softness
- **Dark blue**
 - represents knowledge, power, integrity, and seriousness



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Purple

- Purple combines the stability of blue and the energy of red. Purple is associated with royalty
- It symbolizes power, nobility, luxury, and ambition. It conveys wealth and extravagance
- Purple is associated with wisdom, dignity, independence, creativity, mystery, and magic

Purple

- According to surveys, almost 75 percent of pre-adolescent children prefer purple to all other colors.
- Purple is a very rare color in nature; some people consider it to be **artificial**
- Light purple is a good choice for a feminine design. You can use bright purple when promoting **children's products**

Purple

- Light purple
 - evokes romantic feelings
- Dark purple
 - evokes gloom and sad feelings. It can cause frustration

M-Commerce



stay cool

Mobile security from Ericsson. Worry-free mobile transactions.

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Market Moves

⋮ Durlacher says that by 2003, the European mobile e-commerce market will be worth US\$23 billion.

⋮ More than one million bank transactions per day are enabled over Ericsson WAP systems.

⋮ Ericsson is driving m-commerce standards through the [Mobile Electronic Transactions \(MeT\)](#) initiative.

Money on the move

The Internet is transforming the way we shop and manage our finances. Mobile Internet will revolutionize it, with mobile commerce transaction capabilities that are simple and secure.

⋮ Never have the right change for the parking meter? Mobile Internet will handle it.

⋮ Forget to pay bills on time? Mobile Internet can tell us when they're due, and let us pay them instantly, wherever we are.

⋮ Trips to the grocery store take too long? Mobile Internet will guide us to the things we want, and then pay electronically at the check-out.

⋮ Always seem to trade stock at just the wrong moment? Mobile Internet offers the latest stock tips, shows us how our portfolios are performing, sends alerts and enables on-line trading — at the right moment.

With Mobile Internet, our mobiles become wireless wallets, enabling us to pay for things, securely and conveniently. No need for wads of cash, or piles of plastic — we'll use our mobiles to pay in stores or on-line.

And with anytime, anywhere access to banking and share dealing services, Mobile Internet can help us get smarter about managing our money.

Technology Focus

Ericsson Mobile e-Pay is a solution for easy-to-use, secure and flexible mobile transactions and payments.

[Mobile e-Pay](#)

Ericsson recently introduced the first digital signature for secure mobile commerce using WAP phones.

[Secure mobile commerce](#)

Technologies

[3G](#)[Bluetooth](#)[WAP](#)

Demos

[Mobile Commerce](#)[Mobile Stock Trading](#)[WAP Simulator](#)

Games

[Mobile Stock Trading](#)[Ground Zero](#)

White

- White is associated with light, goodness, innocence, purity, and virginity
- It is considered to be the **color of perfection**.
- White means safety, purity, and cleanliness.
- You can use white to suggest simplicity in high-tech products
- White is an appropriate color for charitable organizations; angels are usually imagined wearing white clothes

RFU ONLINE





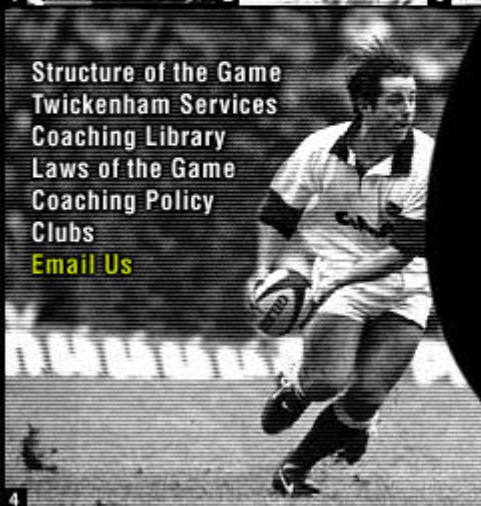
1



2



3



4

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Black

- Black is associated with power, elegance, formality, death, evil, and mystery
- Black is a mysterious color associated with fear and the unknown (black holes)
- Black denotes strength and authority; it is considered to be a very formal, elegant, and prestigious color (black tie, black Mercedes)
- Black contrasts well with bright colors. Combined with red or orange - other very powerful colors - black gives a very aggressive color scheme