



ACR101 - 2D Asset Creation: Colour Theory

Week 6

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Colour Theory

- What is colour theory, exactly?
 - Creates a logical structure for colouring/choosing palettes
 - Just a formalising of the pleasing relationships between colours
- Comprised of three main categories:
 - Colour Wheel
 - Colour Harmony
 - Context of Colour



<https://s-media-cache-ak0.pinimg.com/236x/41/a9/5a/41a95a5ef58430ee4f97ca3f2ala770a.jpg>

Colour Modes



Saturation



Under saturated

Very saturated

Value

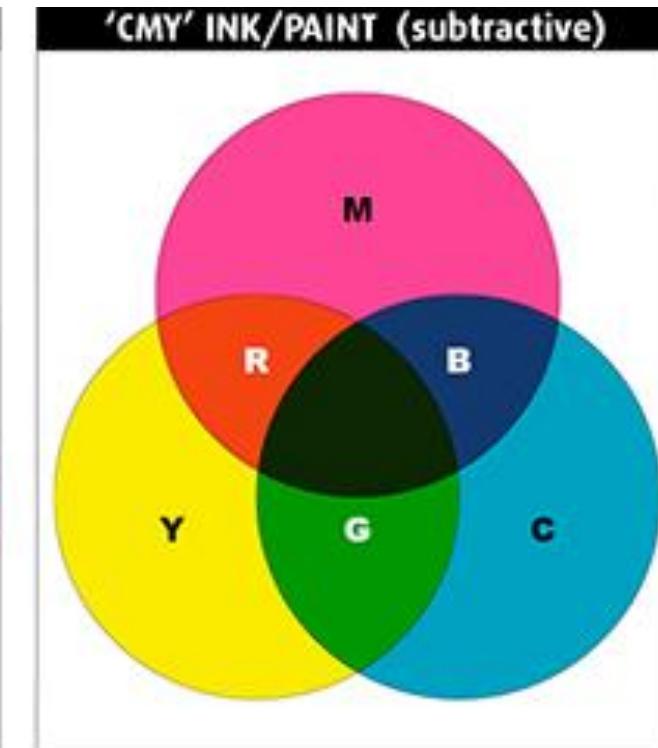
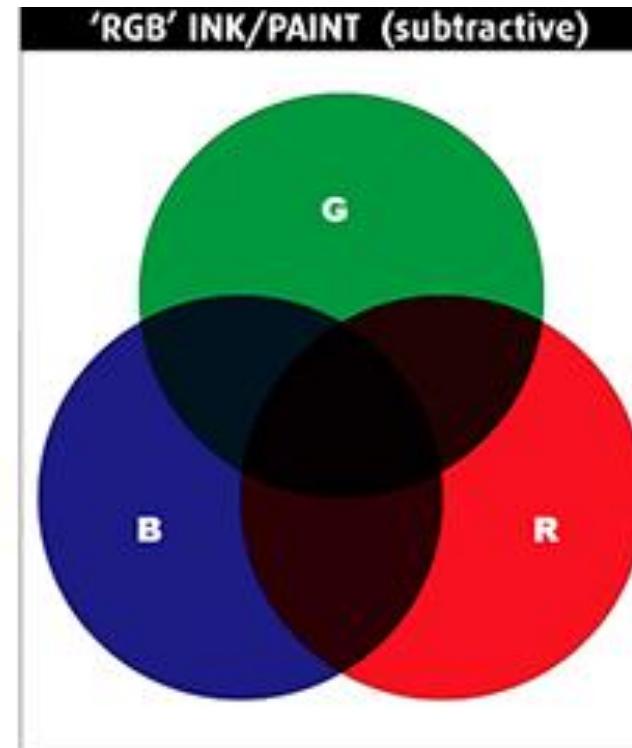
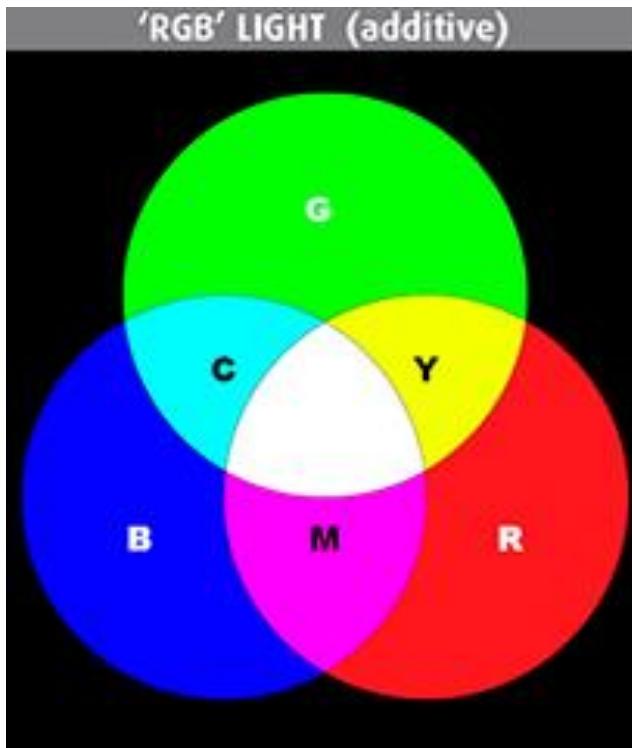


Low value

High value

<http://netdna.webdesignerdepot.com/uploads/color/hsv-samples.jpg>

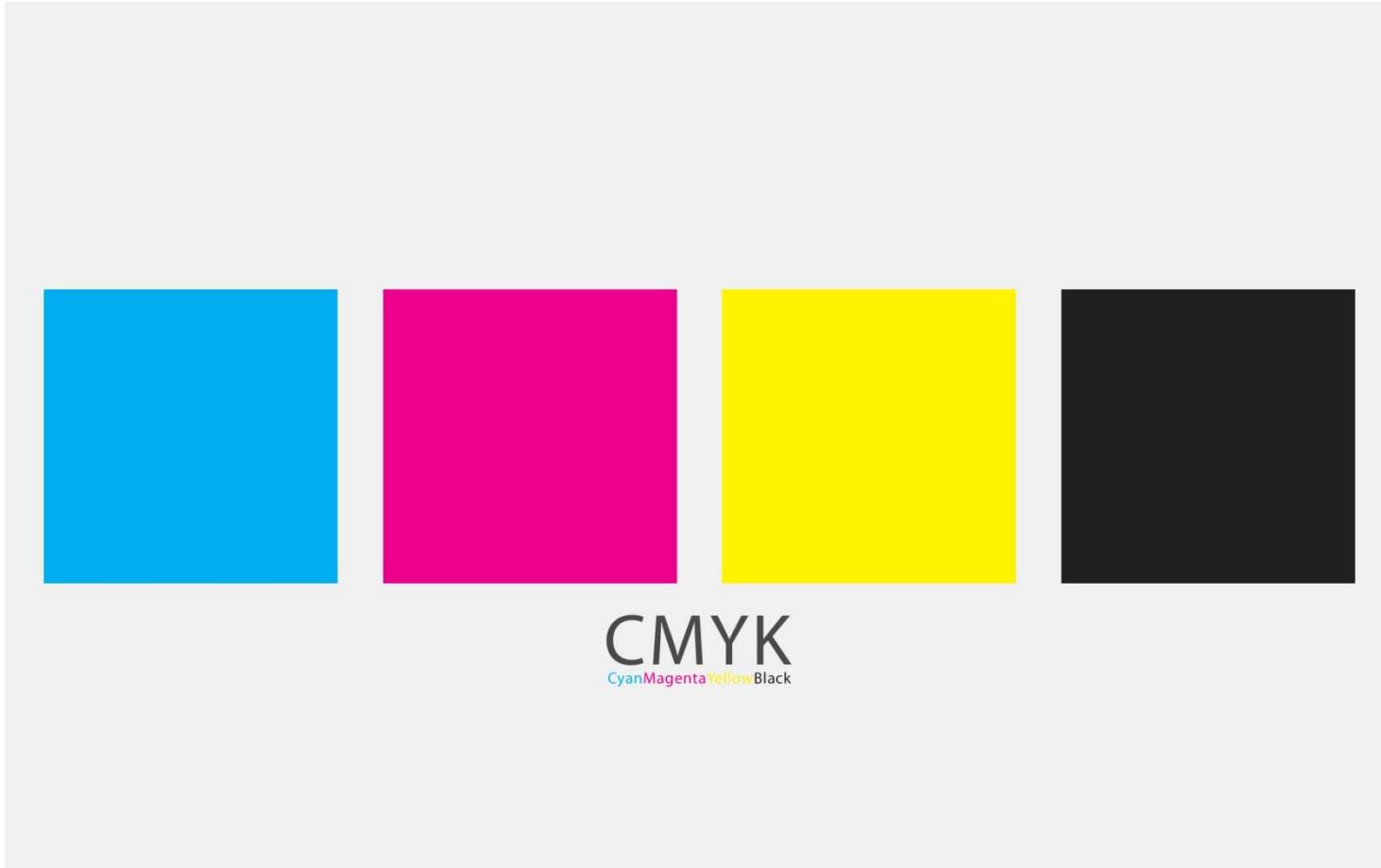
Colour Types – Subtractive & Additive



© Graeme Cookson / Shutha.org

http://shutha.org/sites/default/files//uploads/3_Courses/3_Digital_Imaging/CMYK1.png

Colour Types – CMYK



http://jettpprint.com.au/wp-content/uploads/2014/02/CMYK___A_Minimal_Wallpaper_by_keylocker.jpg

Complementary Colours: Light

- Complimentary colours: across from eachother on the colour wheel, maximise hue contrast.
- Ctrl-click the picture to explore complimentary colours in your web browser.
- Best used with less saturation (or bright/dark) due to extreme contrast.

Colors > Color wheel

Color wheel

Want to know what colors look good together? Canva's Color Wheel makes color combinations easy.

1. Pick a color

#78BCD8

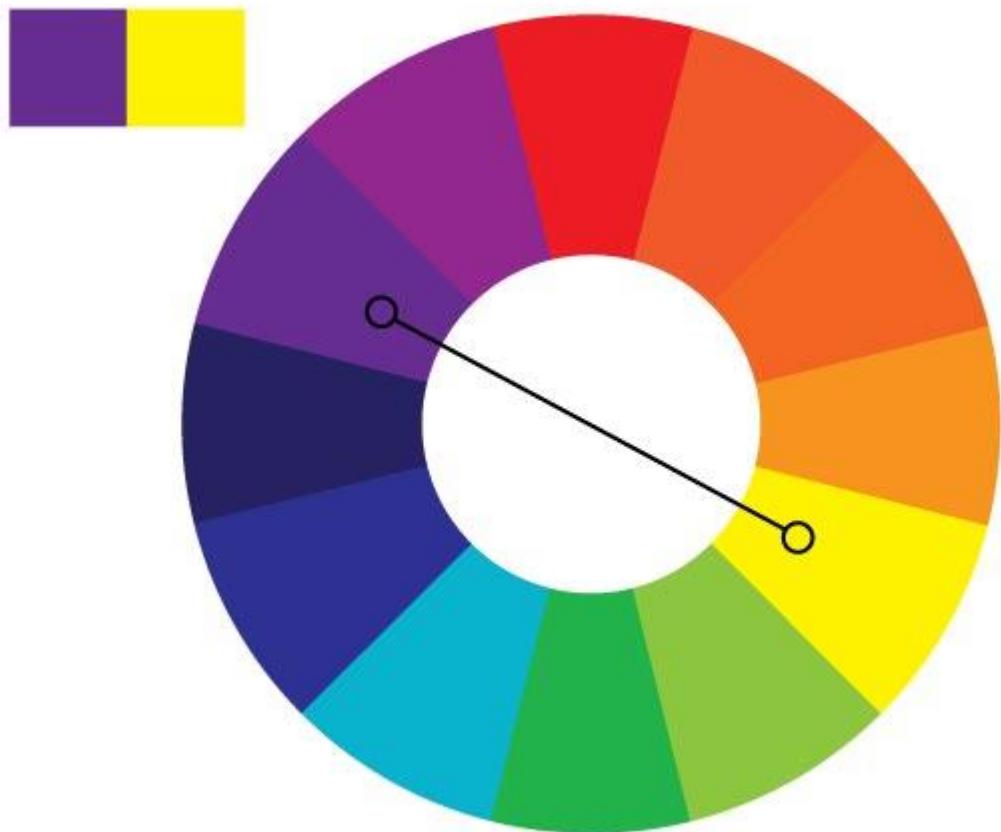
2. Choose a color combination

Complementary

#78BCD8 #D89478

RGB Colour (additive)

Complementaries – Paint (subtractive)



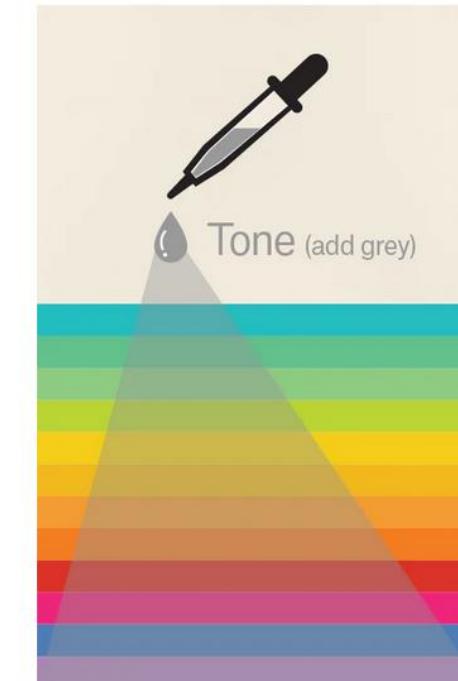
<http://dab1nmslvntp.cloudfront.net/wp-content/uploads/2012/10/complimentary2.jpg>



http://en.wikipedia.org/wiki/Complementary_colors#/media/File:VanGogh-starry_night_ballance1.jpg

Shades and Tints

- Technically tint is lighter, shade is darker.
- In practice people sometimes use these terms to describe mixing in other colours, changing the hue.
- Let's stick to value to discuss brighter and darker versions of a hue.



Colour Harmonies – Analogous Colours

ANALOGOUS COLORS

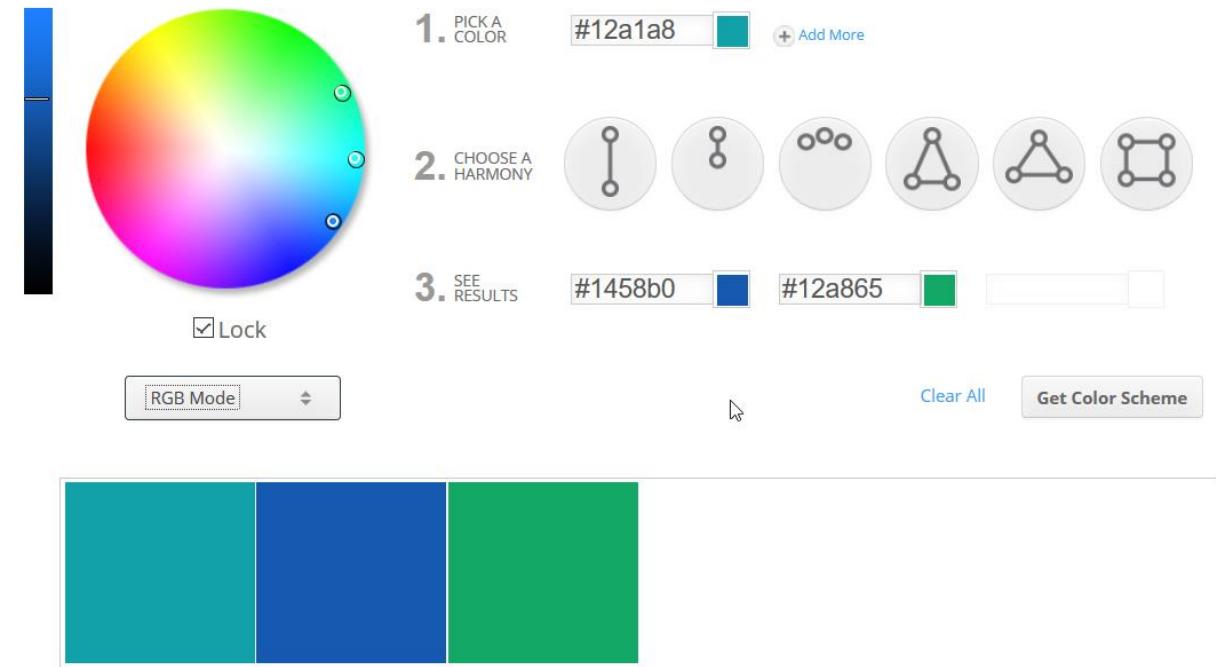


http://30daysweater.com/wp-content/uploads/2014/06/30_Day_Sweater_Analogous_Colors_Wheell.png

Analogous Colours – Additive

- You'll mostly see RGB colour wheels as a digital artist, it's how monitors make colour.
- Click the image to play with analogous schemes and more in RGB (additive) and RYB (subtractive)

Color Calculator ⓘ



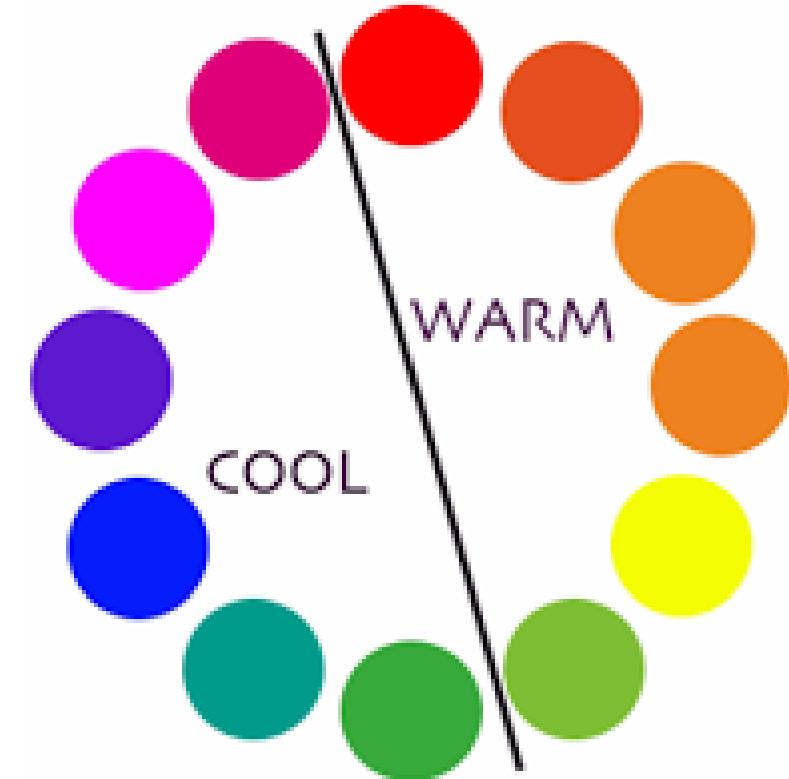
Colour Harmonies – Triadic Colours



<http://twotales.org/wp-content/uploads/2013/04/Triadic-color-scheme.png>

How to choose your own palettes

- Limit yourself to a few colours – four or five is a good number.
- Think about **warm + cool, light + dark**. Often picking opposites (dark warm + light cool, dark cool + light warm) makes for a better palette.
- Pick a dominant category. Mostly dark, or mostly warm?
- Pick a series of colours from that category – 3-4.
- Pick 2-3 colours from the secondary, non-dominant category.
- Be careful of **contrast and proportions** - good palettes only work in tandem with good composition!



<http://3.bp.blogspot.com/-a3tgc6RK4a0/TwZjcvWrPkI/AAAAAAAAC4/NWUUEQjlzgk/s200/skin-tone-colors.png>

Exercise – DIY Palettes

- You don't have to become a colour savant right away.
- Go to <https://color.adobe.com/create/color-wheel>
- Make 5 palettes either in the basic or advanced palette editors.
- You can sign in and save 'em!

The screenshot shows the Adobe Color website at <https://color.adobe.com/create/color-wheel>. The interface includes a top navigation bar with links for CREATE, EXPLORE, TRENDS, and MY THEMES. Below the navigation is a color wheel with various color harmony rules listed on its left: Analogous, Monochromatic, Triad, Complementary (which is selected), Split Complementary, Double Split Complementary, Square, Compound, Shades, and Custom. To the right of the wheel is a color palette consisting of five squares in brown, orange, yellow, blue, and light blue. Below the palette are color hex codes and RGB values for each square. At the bottom of the page are links for Language (English), Terms of Use, Privacy, User Forums, Community Guidelines, and Copyright information.

Color Hex	Color Name	RGB Values
#B38B4D	Brown	179, 139, 77
#FFDBA1	Orange	255, 219, 161
#FFD187	Yellow	255, 209, 135
#3B7AB3	Blue	59, 122, 179
#87C6FF	Light Blue	135, 198, 255

Language: English Terms of Use Privacy User Forums Community Guidelines Copyright © 2019 Adobe. All rights reserved.

Colour Psychology

- Study of colour as a determinant to human behaviour
- Colour influences perceptions that aren't obvious
- Widely used in marketing and branding to evoke certain feelings in a consumer
- Colours can carry several different meanings – which may differ from culture to culture
- Meanings can be learned meanings or biologically innate meanings



http://wellington.govt.nz/~media/your-council/news/images/2015/08/greenlight-102114_MG_1226-content2.jpg?mh=320&mw=320

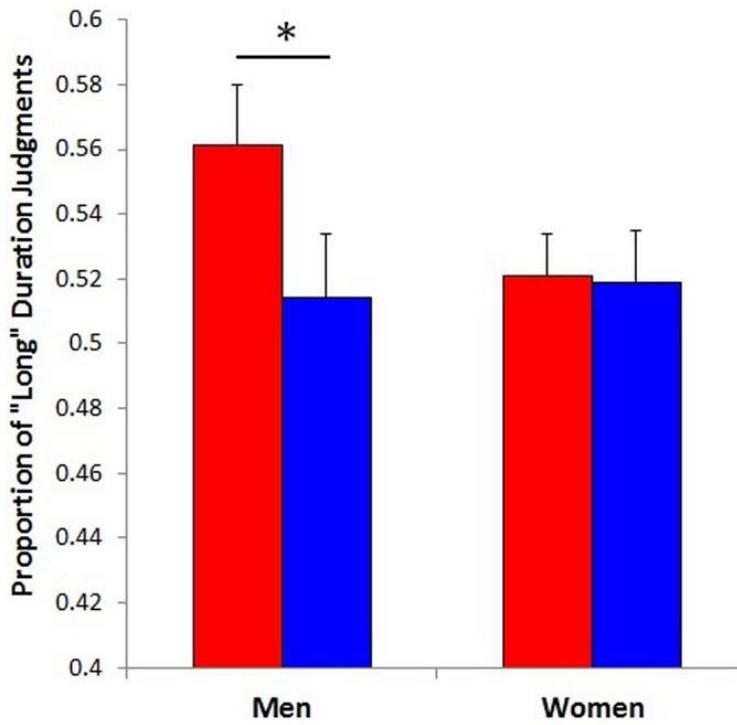
Colour Psychology



<http://mmagymchd.com/wp-content/uploads/2015/04/taekwondo.jpg>

- some evidence suggest that in combat sports the referees give greater scores to the red side
- This could be due to "subconscious bias" or increased aggression in people wearing red.
- <http://www.livescience.com/2772-referees-prefer-athletes-red.html>

Colour Psychology



- Perception in duration of time in exposure to certain colours effects both sexes but men more so.
- <http://www.nature.com/articles/srep05899>

Colour Moods - Red

Color Meanings & Symbolism: Red

battle political power rage hate lust
madness circulation charity love communism
romanticism strength excitement intensity fire
ambition suffering eccentricity speed
desire domination sexuality sensuality
revolution determination sin
courage urgency friendship patriotism
rescue success charm pain
thrill fervor
sacrifice murder
vitality rebellion
life brilliance alertness victory
aggression danger prohibition
heat
high triumph violence
martyrdom
tension social movement
passion compassion
motion eroticism beauty
emotion devotion

Worldly Color Meanings of Red

China & India: good luck, used in dresses, chair, parasol, cup lace, firecrackers in a wedding

Russia & China: revolution, communism

England: buses, phone booths

Spain: bull fighting, flamenco dresses

Colour Moods - Orange

Color Meanings & Symbolism: Orange

A word cloud on an orange background containing various positive and neutral words associated with the color orange. The words are in white and light blue text, with larger words indicating more frequent meanings. The words include: coziness, success, change, explosions, temptation, generosity, flexibility, visibility, heat, coziness, flavor, charisma, endurance, exuberance, communication, humanism, independence, action, extravaganza, security, appetite, disorder, society, dryness, exaggeration, communication, humanism, independence, action, extravagance, security, domination, fun, joy, health, fun, practicality, determination, humor, smile, health, energy, ambition, tropic, fitness, extroversion, fascination, sunset, happiness, enthusiasm, competence, determination, creativity, motivation, excitement, invitation, wisdom, service, laughter, warning, encouragement, radiation, emotion.

Worldly Color Meanings of Orange

Buddhism: humility, renunciation, desirelessness

China & Japan: love, happiness, plenitude

Other: treason, Halloween

Colour Moods - Yellow

Color Meanings & Symbolism: Yellow

A central yellow square contains a dense word cloud of various words associated with the color yellow. The words are in different sizes and colors (black, blue, and grey) and are arranged in a roughly circular pattern. Some of the visible words include: logic, ideas, fear, signal, idealism, gaiety, warning, joy, forgiveness, communication, philosophy, summer, happiness, order, friendship, spontaneity, playfulness, asperation, laughter, activity, warmth, satisfaction, brightness, expansion, intuition, wisdom, knowledge, controversy, extroversion, power, youth, confidence, imagination, optimism, uncertainty, expression, innovation, inspiration, stimulation.

Worldly Color Meanings of Yellow

Egypt: happiness, prosperity

China: Imperial color to worship, the sky

Futbol: yellow card, warning

Other: truth

Colour Moods - Green

Color Meanings & Symbolism: Green

A green square containing a white word cloud of color meanings for green. The words are arranged in a cluster and include: grass, health, mucous, adventure, hope, youth, calmness, frankness, sincerity, good, comfort, quietness, neutrality, relaxation, safety, vegetation, sympathy, prosperity, equilibrium, reproduction, spring, aspiration, renewal, friendship, generosity, cleanliness, life, fertility, open, efficiency, freshness, nature, environment, outdoors, security, growth, harmony, freedom, luck, progress, wisdom, moist, vigor, and faith.

*Worldly Color Meanings of Green
Islam: Allah in nature
Northern Europe: The Green Man*

Colour Moods - Blue

Color Meanings & Symbolism: Blue

A word cloud on a blue background containing various positive and negative meanings associated with the color blue. The words are in white and yellow, with larger words representing more prominent meanings.

Positive meanings include: trust, water, balance, goodness, culture, stability, truth, balance, introspection, self, cooperation, tenderness, harmony, authority, stiffness, reliability, flexibility, maturity, infinity, dignity, intelligence, contemplation, quietness, obedience, responsibility, security, transparency, law, cleanliness, compassion, acceptance, loyalty, frankness, technology, depth, hope, virtue, value, tradition, reflection, unity, depression, protection, quality, piety, and ice.

Negative meanings include: logic, despair, coolness, freshness, sincerity, honesty, peace, transparency, law, sadness, loneliness, compassion, acceptance, loyalty, frankness, technology, depth, hope, virtue, value, tradition, reflection, unity, depression, protection, quality, piety, and ice.

Worldly Color Meanings of Blue

Catholicism: Virgin Mary, God Father

Islam: Mosque decorations

UN Flag: peace, cooperation

India: mercy

Jewish: Holiness

COLOR EMOTION GUIDE

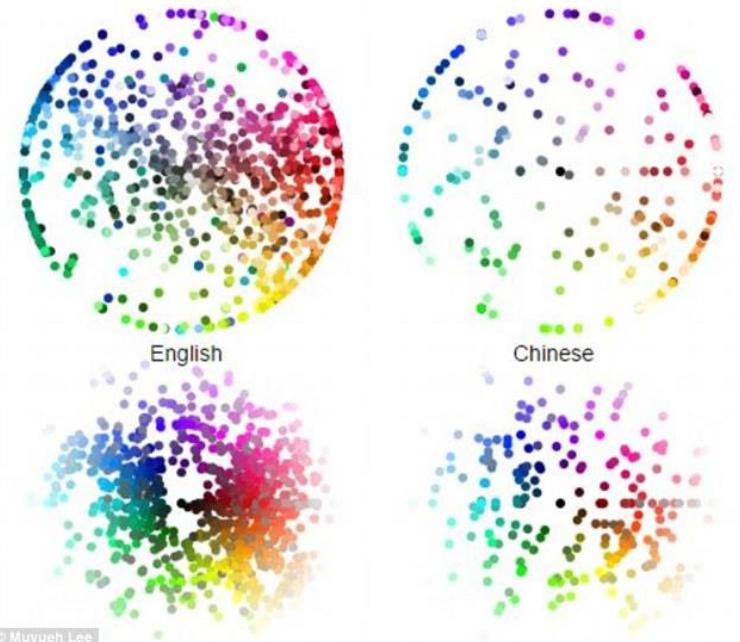


https://thelogocompany.net/wp-content/uploads/2013/01/Color_Emotion_Guide22.png



http://rocketcreativedesign.net/wp-content/uploads/2015/01/jul-blog-pic-LogoColours.jpg.pagespeed.ic_.BBpjbo8qGz.jpg

Colour Cultures and Languages



- Research suggests having more words to define colour increases the eyes/brains capacity to discern colours
- <http://www.boreme.com/posting.php?id=30670.VD1P6mddXh5#.VtGOCvl95pg>

http://i.dailymail.co.uk/i/pix/2014/11/25/237EB50800000578-2849065-image-13_1416934639421.jpg

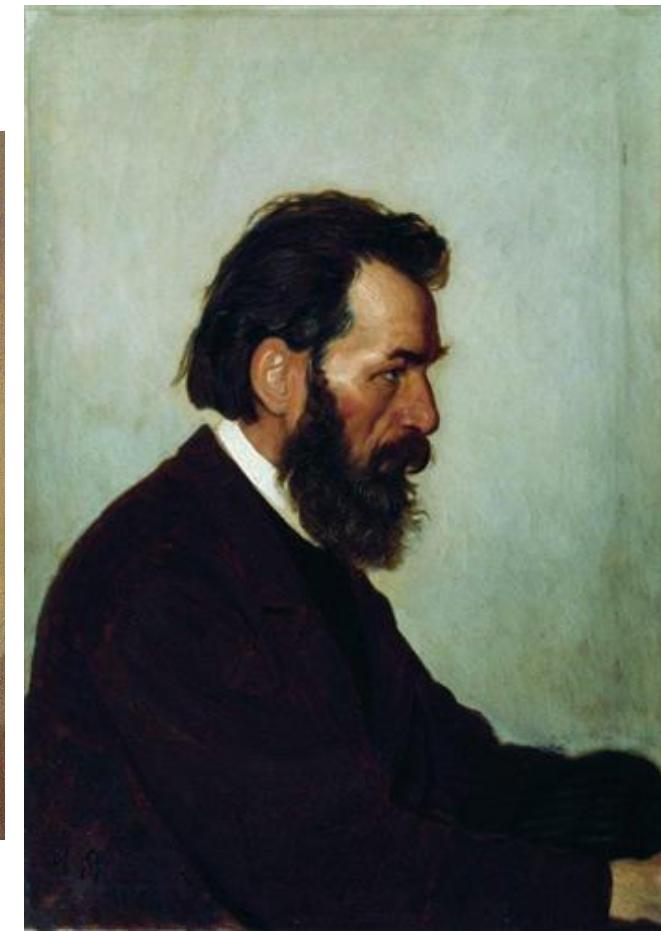
Value Contrast



[William Merritt Chase](#)
Lydia Field Emmet
1900
61 x 50.8 cm
Oil on canvas
Signed upper right: Wm. M. Chase
Santa Barbara Museum of Art
Bequest of Margaret Mallory
<https://www.pubhist.com/w26173>



Frank Frazetta
death dealer
<http://fantasy.mrugala.net/Frank%20Frazetta%20-%201996/Frank%20Frazetta%20-%20Calendrier%201996%20-%20006.jpg>



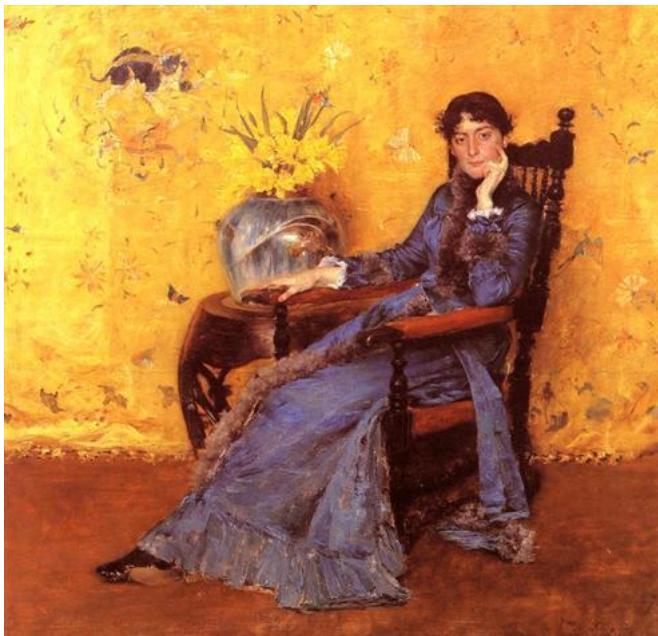
Portrait of A.I. Shevtsov
[Ilya Repin](#) 1869
http://www.wikiart.org/en/ilya-repin/portrait-of-a-i-shevtssov-1869?utm_source=returned&utm_medium=referral&utm_campaign=referral

Saturation Contrast



Portrait of Dante
[Ilya Repin](#)

http://www.wikiart.org/en/ilya-repin/portrait-of-dante?utm_source=returned&utm_medium=referral&utm_campaign=referral



Artist: [William Merritt Chase](#)
Completion Date: 1883

http://www.wikiart.org/en/william-merritt-chase/portrait-of-miss-dora-wheeler-1?utm_source=returned&utm_medium=referral&utm_campaign=referral



Dinner Table at Night
John Singer Sargent

<http://www.canvasreplicas.com/images/Dinner%20Table%20at%20Night%20John%20Singer%20Sargent.jpg>

Hue Contrast



La Ghirlandata
Dante Gabriel Rossetti (1828-1882)

<https://i.ytimg.com/vi/JrHOPQsHGvE/maxresdefault.jpg>



Frank Frazetta
Jaguar God II

<http://static1.squarespace.com/static/55f4aa90e4b044a1a3403b43/t/56757f8ba2bab87a7441fd9e/1450540941453/>



Artist: [William Merritt Chase](#)
Completion Date: 1886

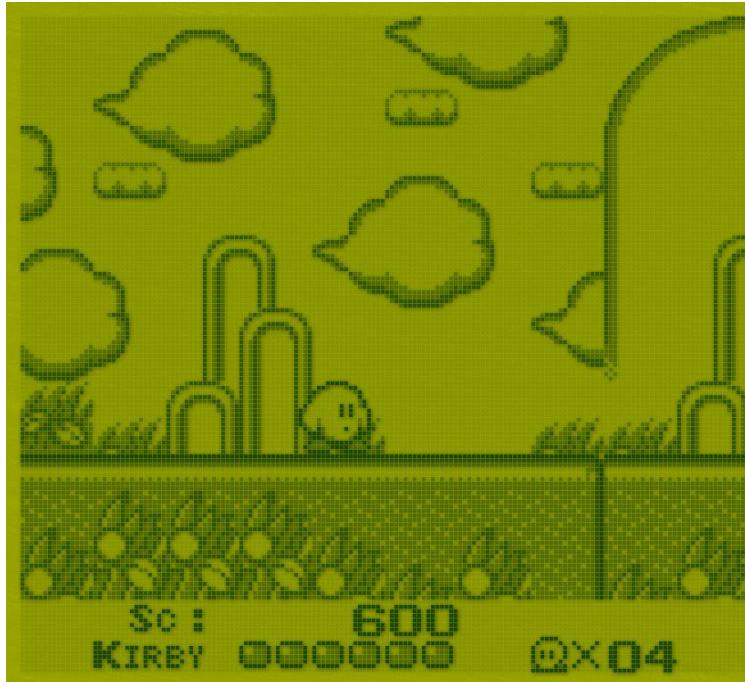
<http://www.wikiart.org/en/william-merritt-chase/terrace-prospect-park>

Limited Palette



The Massacre at Chios
Eugene Delacroix

<https://www.artsy.net/artwork/eugene-victor-ferdinand-delacroix-eugene-delacroix-scenes-from-the-massacre-at-chios/download/eugene-victor-ferdinand-delacroix-eugene-delacroix-scenes-from-the-massacre-at-chios-1822-1824.jpg>



<http://vignette2.wikia.nocookie.net/emulation-general/images/c/ce/Gb.png/revision/latest?cb=20130717183918>



Shadow of Colossus

https://vice-images.vice.com/images/content-images/2015/02/02/shadow-of-the-colossus-a-decade-on-isnt-quite-the-classic-you-recall-933-body-image-1422906490.jpg?resize=1000:*&output-quality=75

Colour and Mood



<https://i.ytimg.com/vi/FI5I5CUTqh4/hqdefault.jpg>



<http://justrpg.com/wp-content/gallery/diablo-2-lod-overview/diablo-2-assassin.jpg>



http://www.digiseller.ru/preview/264150/p1_1983258_a6a6cbd7.jpg

Colour and Mood



<http://images.bit-tech.net/blog/2009/09/i-m-so-sick-of-world-war-ii/1.jpg>



<http://cdn.pcgamesn.com/sites/default/files/best%20world%20war%202%20games%20pc%20company%20of%20heroes%20lasknd.png>



<http://pspmcia.ign.com/psp/image/article/818/818139/medal-of-honor-heroes-2-20070905071929948-000.jpg>



<http://www.warhistoryonline.com/wp-content/uploads/2014/11/The-Top-10-World-War-II-Games-on-PC-6.png>



http://www.hearts of iron 4.com/assets/screenshots/hearts_of_iron_4_20140808_04-98ff8f2d44be9910e6dd9220bf14600c.jpg



<http://media.moddb.com/images/games/1/13/12716/screen2.jpg>

Colour and Mood



<https://www.kleientertainment.com/sites/default/files/games/dont-starve/gallery/ds16.png>



<http://www.ztgd.com/wp-content/gallery/raymanoriginsgc11/RaymanOrigins03.jpg>

Colour and Mood



http://cdn.akamai.steamstatic.com/steam/apps/61730/ss_5aec03fce8153e414e73138079e6c7c1e7601893.600x338.jpg?t=1447356419



<http://www.ztgd.com/wp-content/gallery/raymanoriginsgc11/RaymanOrigins03.jpg>



<http://www.oriblindforest.com/wp-content/uploads/galleryimages/8X3BM5C1L4S4iYjL.jpg>



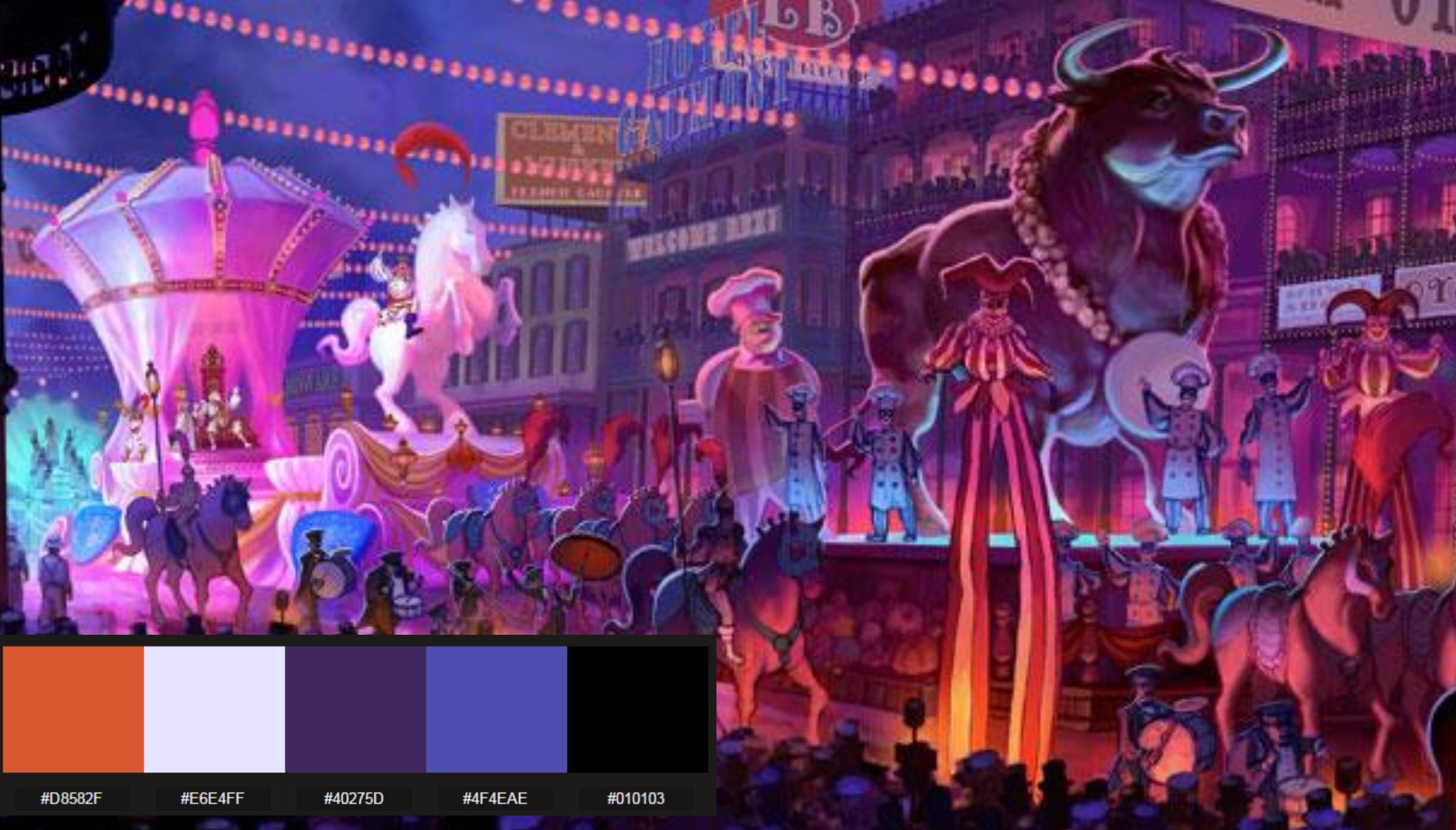
#819A8C

#F9F1AD

#D7B663

#0B0000

#916632



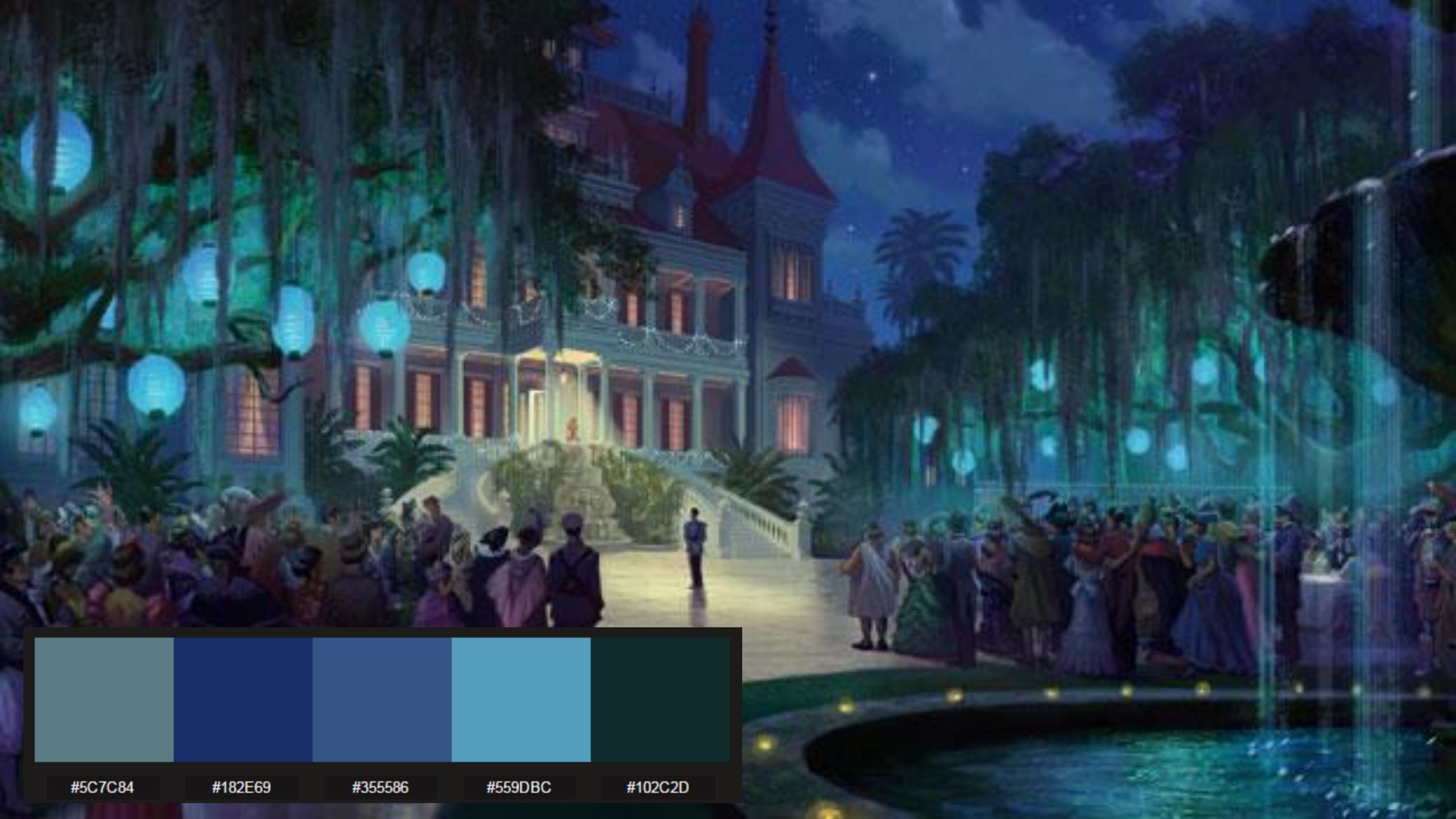
#D8582F

#E6E4FF

#40275D

#4F4EAE

#010103



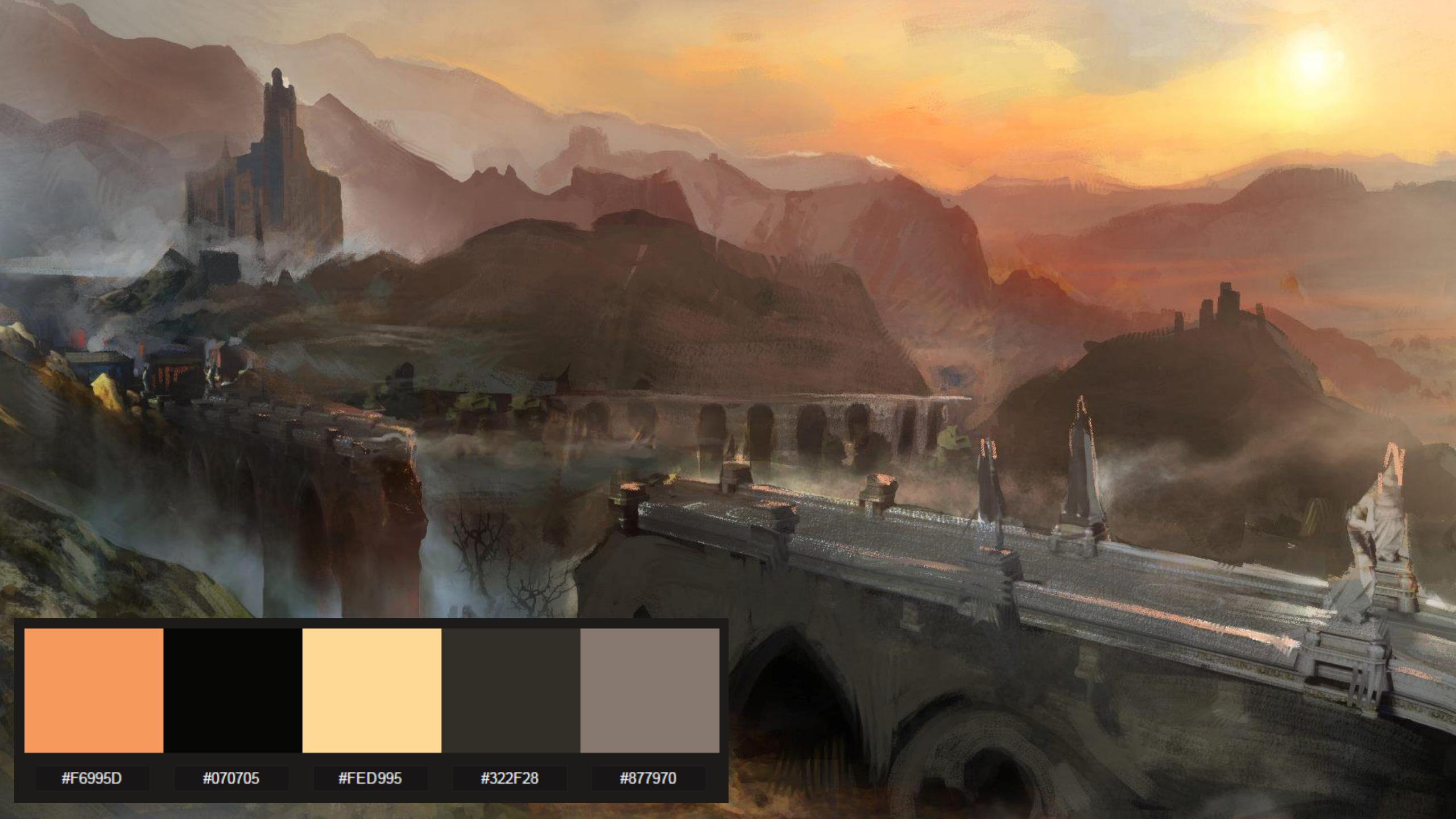
#5C7C84

#182E69

#355586

#559DBC

#102C2D



#F6995D

#070705

#FED995

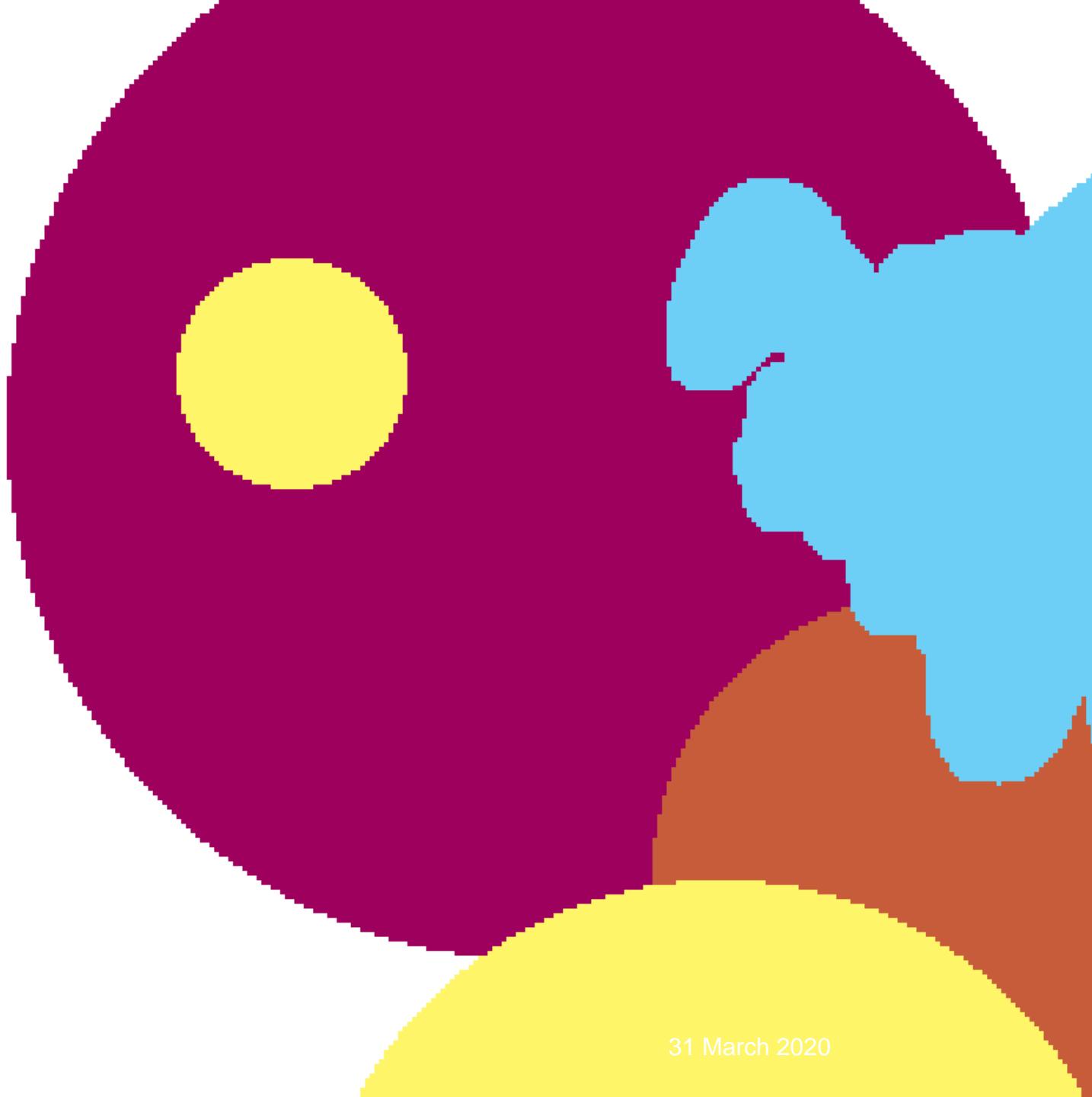
#322F28

#877970

A solid black color swatch.

Demo: Aliased Painting

- Turning off anti aliasing for fast colour editing.
- [Download demo file](#)



Exercise – Character Palette

- Return to <https://color.adobe.com/create/color-wheel>
- Make 3 potential palettes for your character
- Consider what colours imply about your character
- Take a drawing of your character (turnaround?) and colour it with a palette.

The screenshot shows the Adobe Color website at <https://color.adobe.com/create/color-wheel>. The interface includes a top navigation bar with links for CREATE, EXPLORE, TRENDS, and MY THEMES. Below this is a secondary navigation bar with tabs for Color Wheel, Extract Theme, Extract Gradient, and a New button. A sidebar on the left lists color harmony rules: Analogous, Monochromatic, Triad, Complementary (which is selected), Split Complementary, Double Split Complementary, Square, Compound, Shades, and Custom. To the right of the sidebar is a large color wheel with several colored dots indicating specific color swatches. Below the color wheel is a horizontal row of five color swatches with their corresponding hex codes: #B38B4D, #FFDBA1, #FFD187, #3B7AB3, and #87C6FF. Underneath each swatch are two rows of color sliders for RGB values (Red, Green, Blue) and HSL values (Hue, Saturation, Lightness). At the bottom of the page are links for Language (English), Terms of Use, Privacy, User Forums, Community Guidelines, and Copyright © 2019 Adobe. All rights reserved.