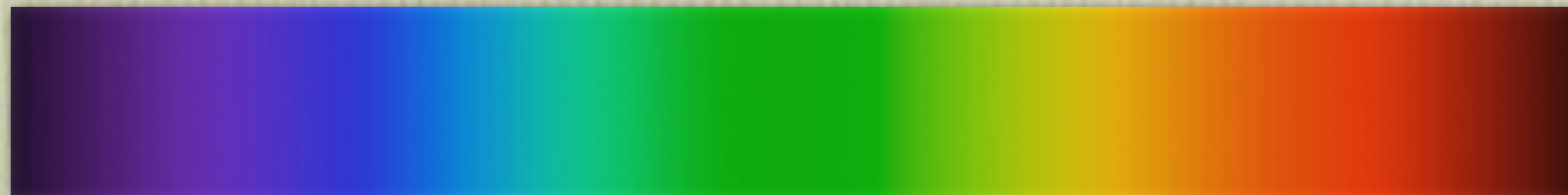


Color Theory



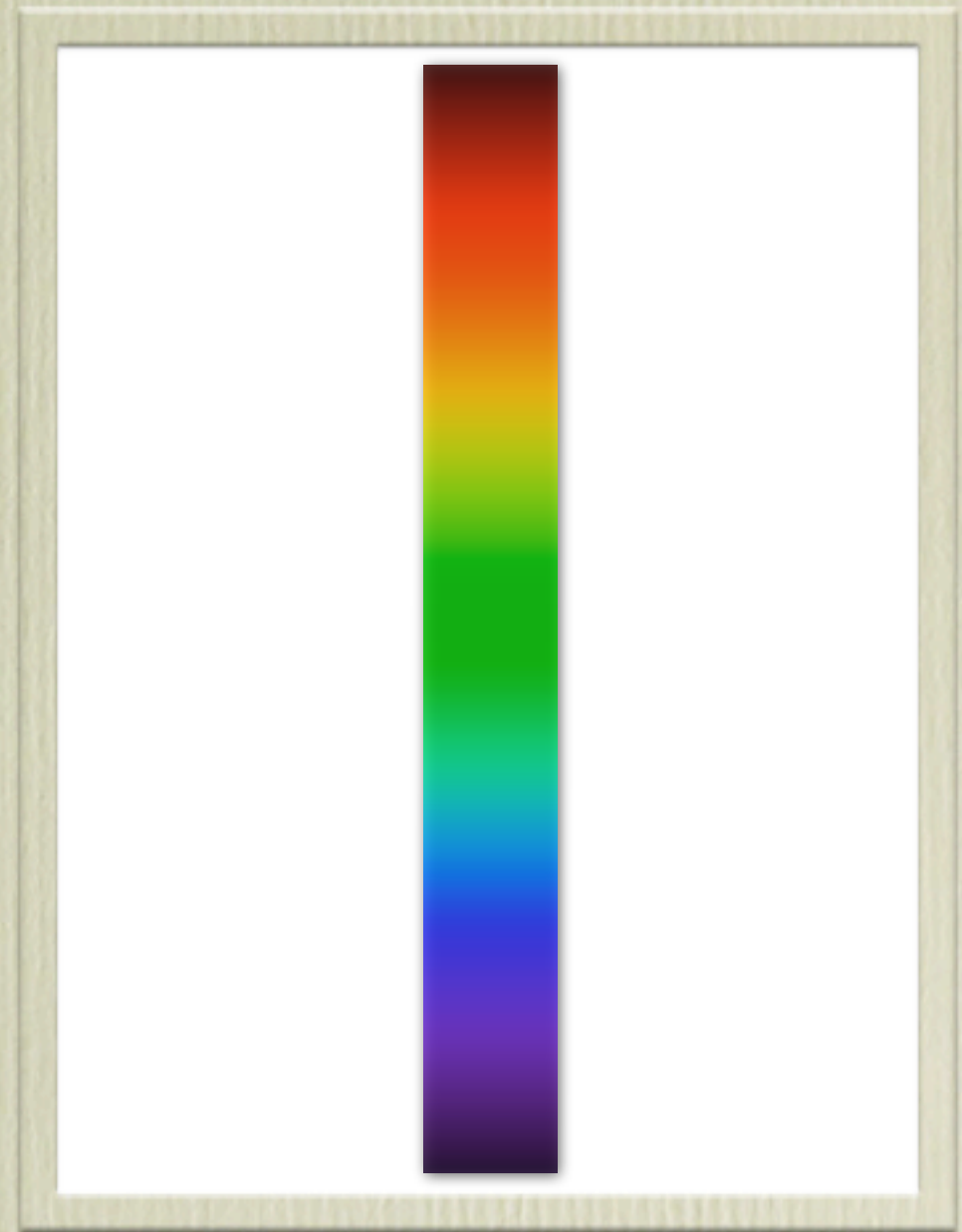
Color is an all embracing term for any visual sensation derived from light.

Color has three distinct properties: hue, value and saturation.

Hue (color)

Hue: This refers to the specific name of a color.

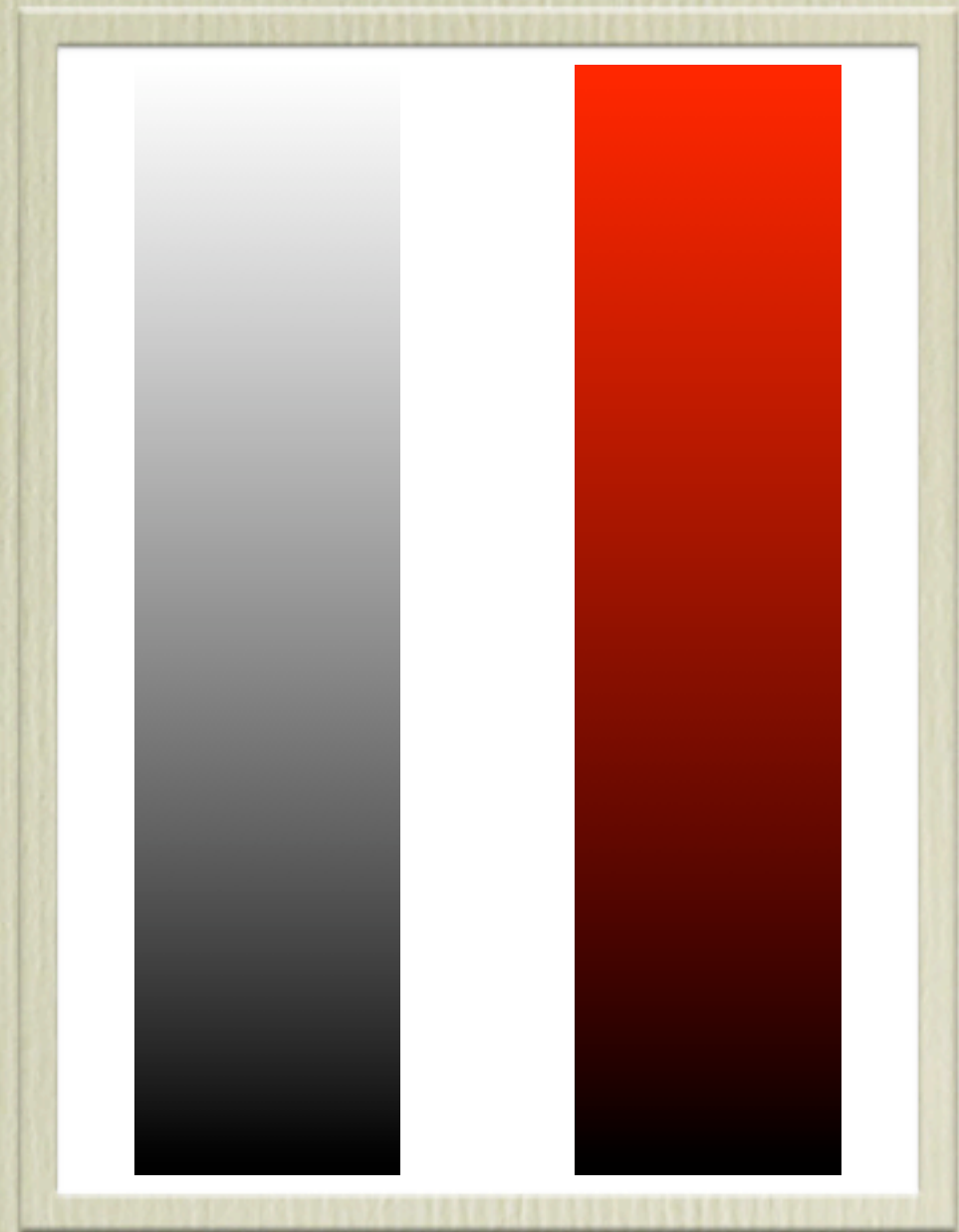
Red, blue, green, etc.



Value

Value: Usually refers to the amount of black in a color.

The more black a color has, the darker its value.

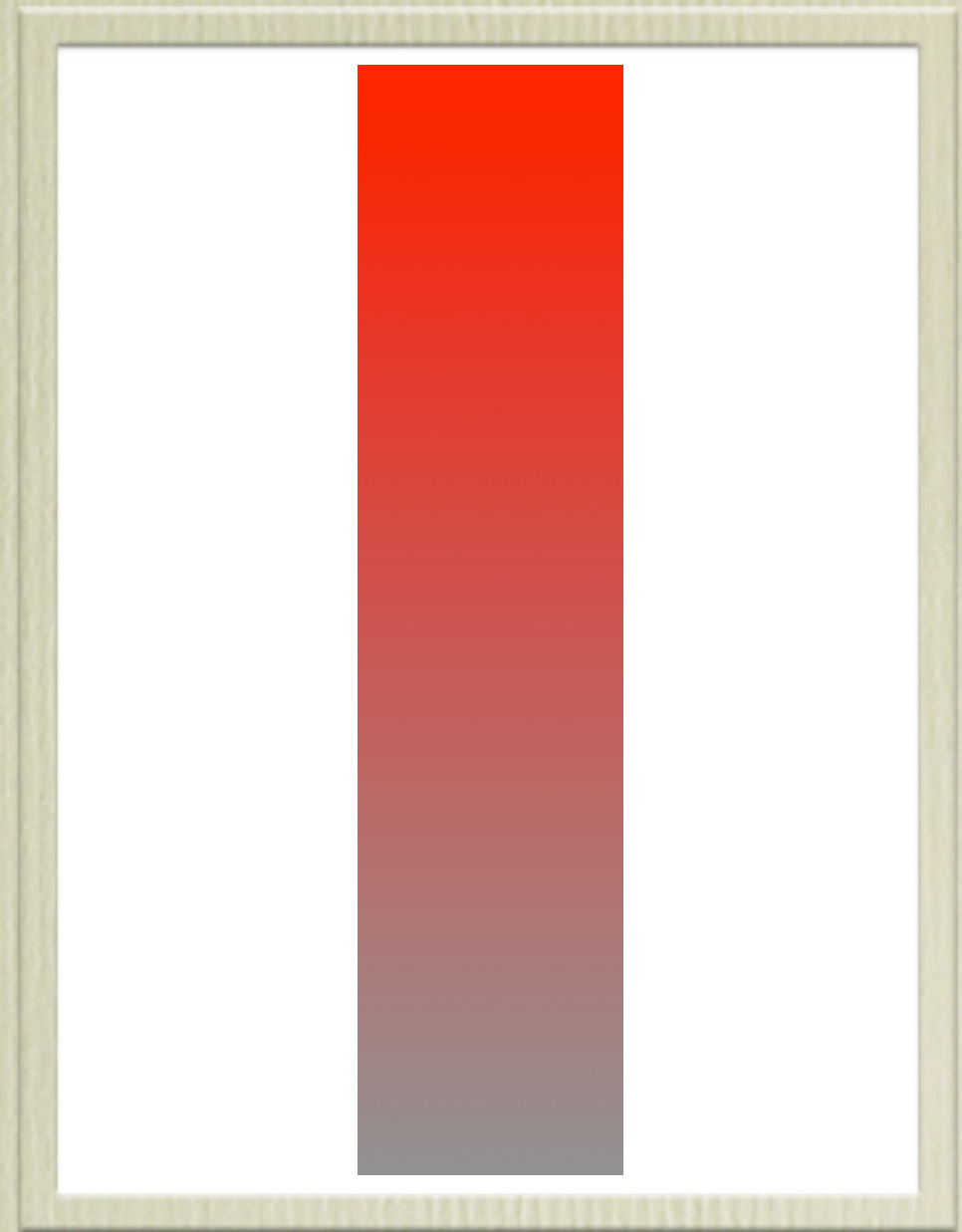


Saturation (chroma)

Saturation: Refers to the amount of a color used.

When a color is at full saturation, it is extremely vibrant. When a color is “desaturated,” a large amount of color has been removed.

Desaturated colors tend to be close to being neutral because there is so much gray in them.



Color Wheel



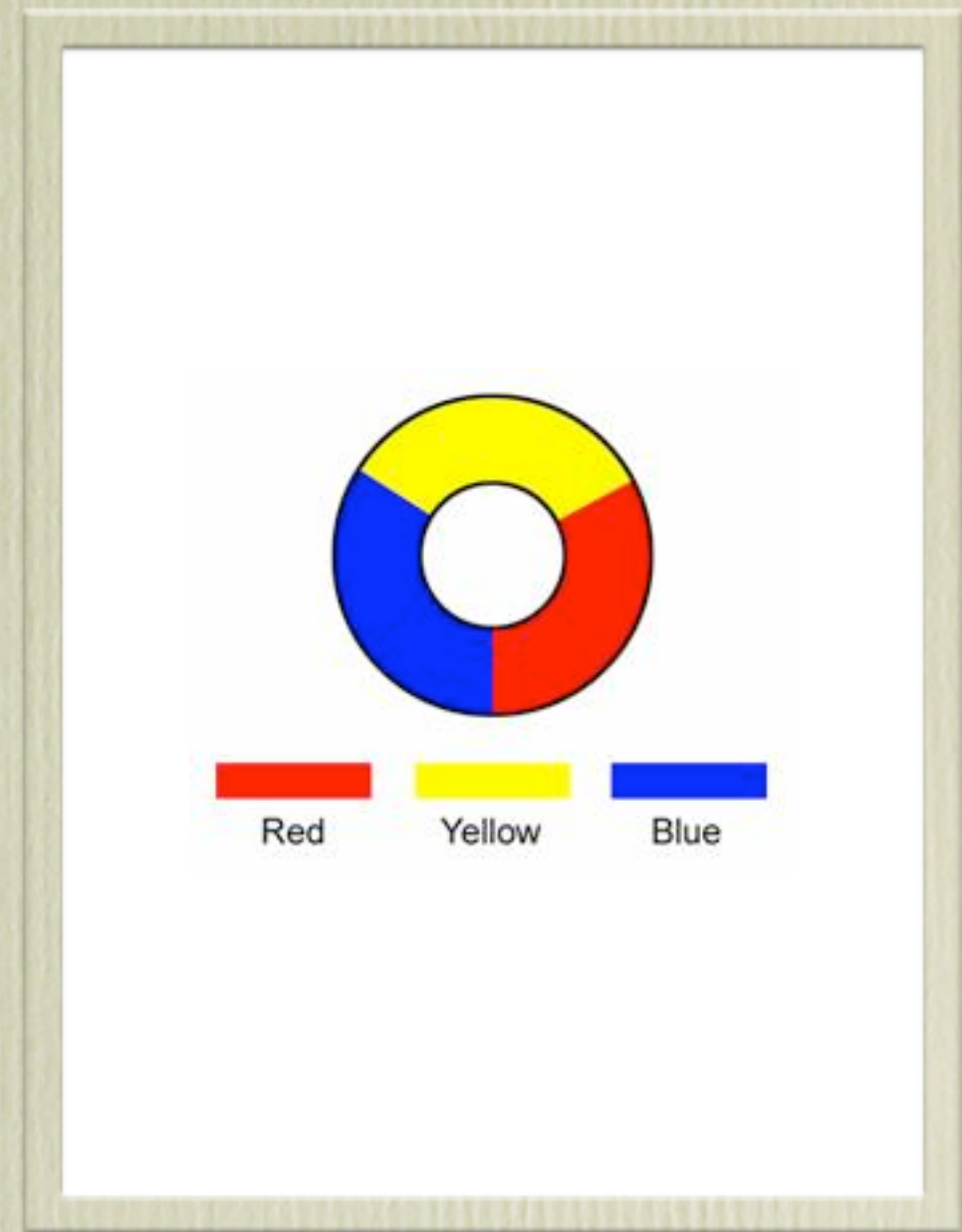
A color wheel (also referred to as a color circle) is a visual representation of colors arranged according to their chromatic relationship.

Primary Colors

Primary Colors: Red, Yellow, Blue.

These 3 colors are the base colors for every other color on the color wheel.

This is why they're called "primary." When you mix two primaries together, you get a secondary color.

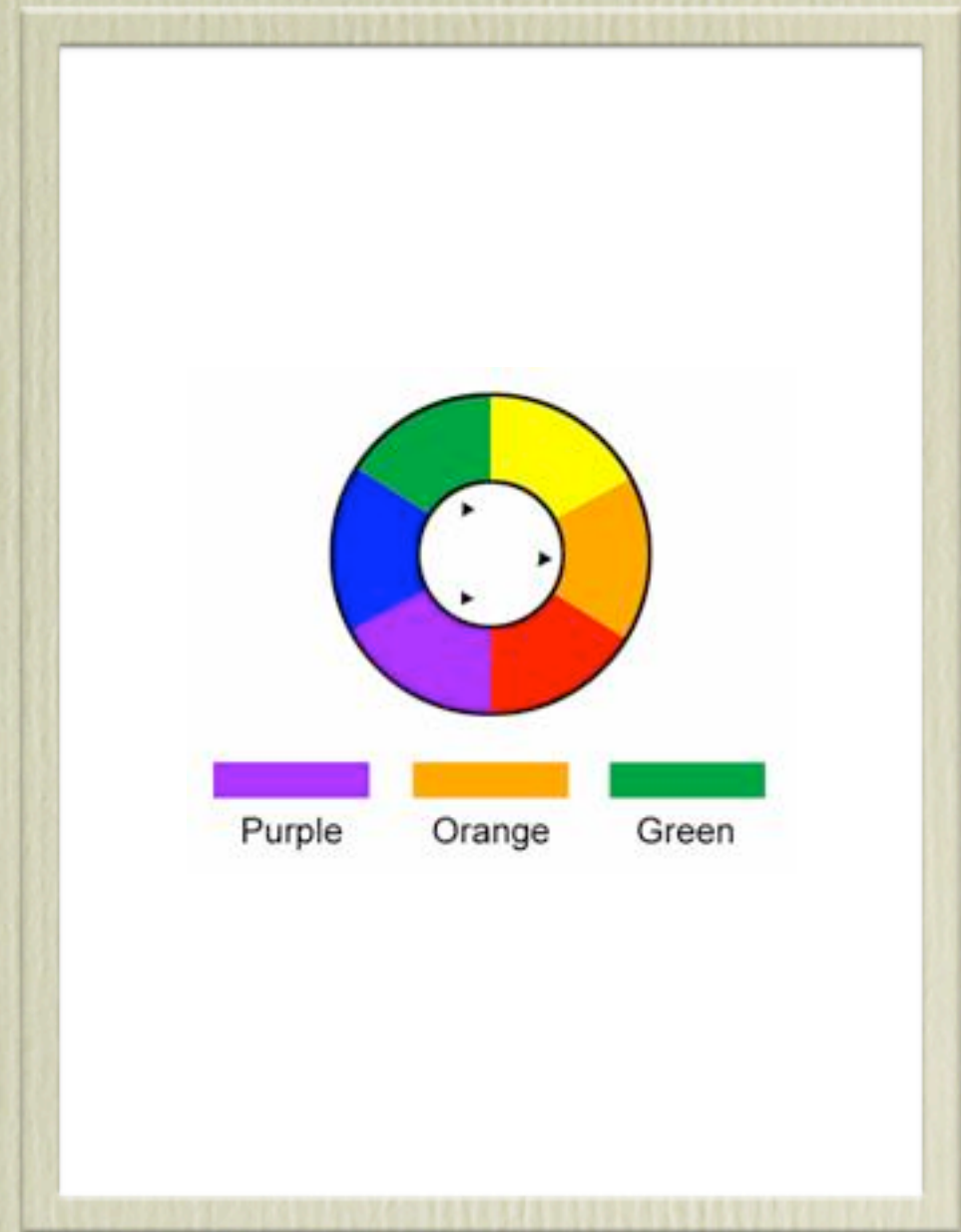


Secondary Colors

Secondary Colors: Orange, Green, Purple.

These 3 colors are what you get when you mix the primary colors together.

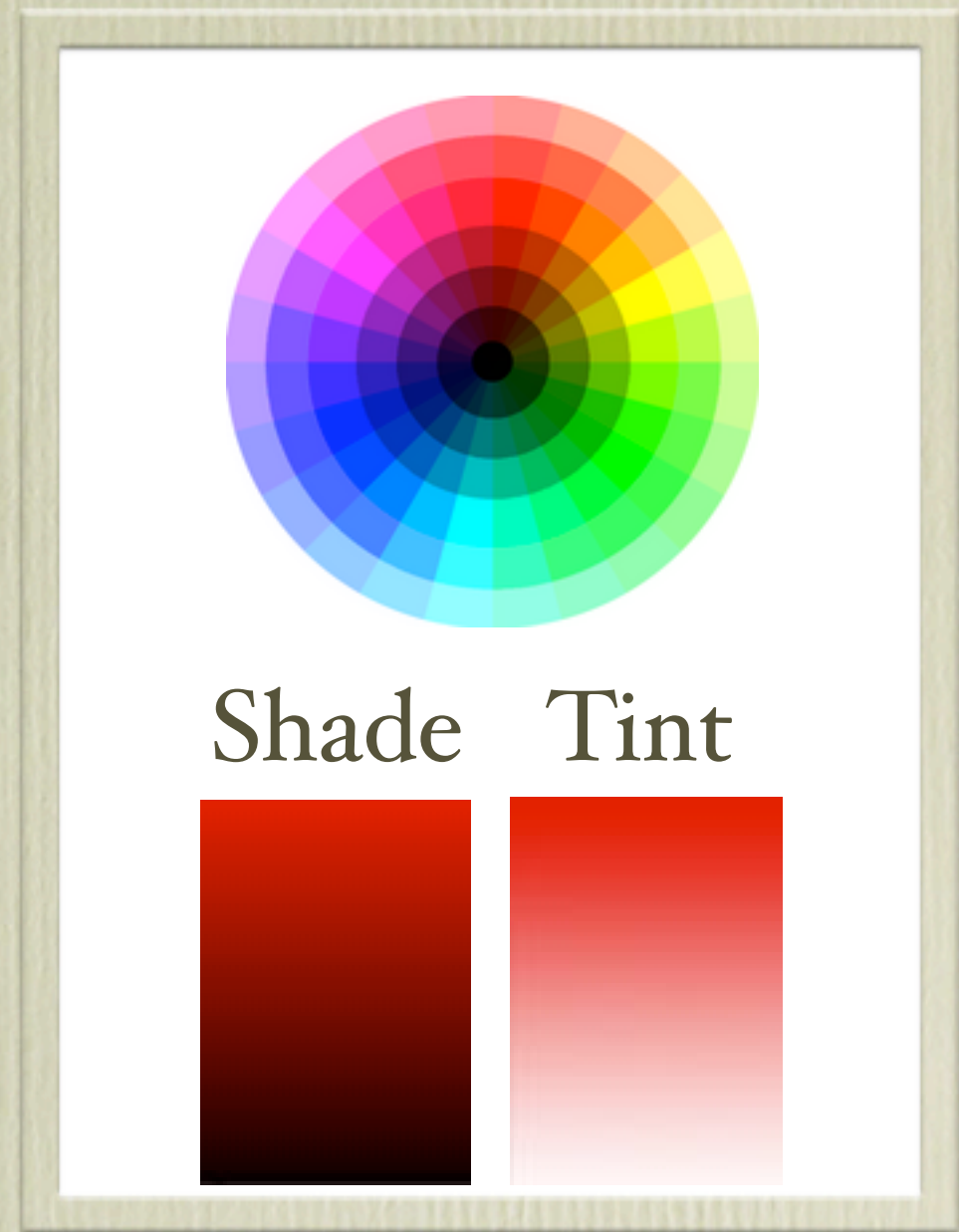
Secondary Colors: Those colors achieved by a mixture of two primaries.



Shades & Tints

Darker versions are produced by adding black, and are called **shades**; they are sometimes also called “deep” or “dark” colors.

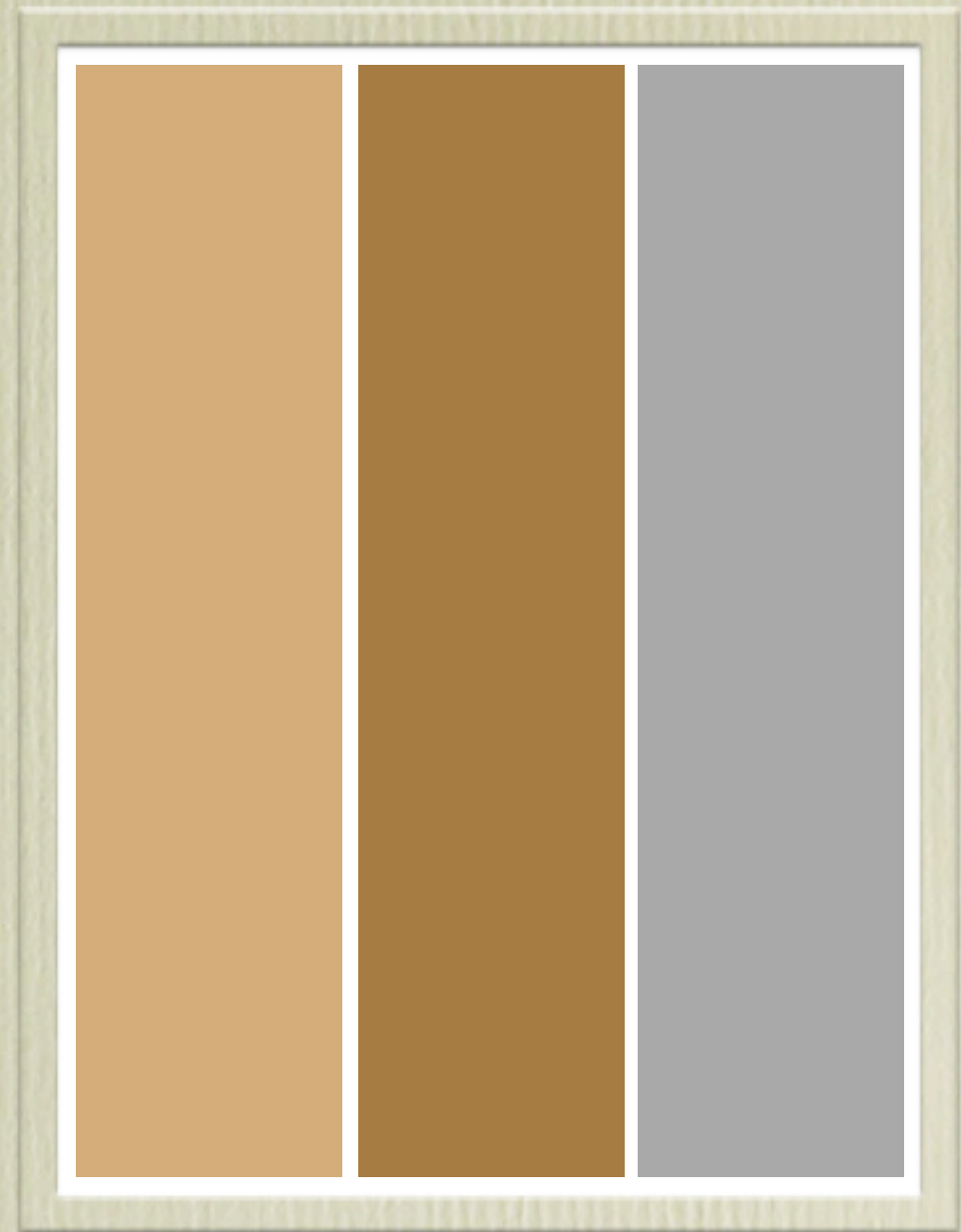
Lighter versions are produced by adding white, and are called **tints**; they are also sometimes called “pale” or “light” colors.



Neutral Colors

Neutral Colors: Gray, Brown.

These aren't on most color wheels, but they're considered neutral because they don't contrast with much of anything.



Color Schemes

We use the color categories to then create color schemes.

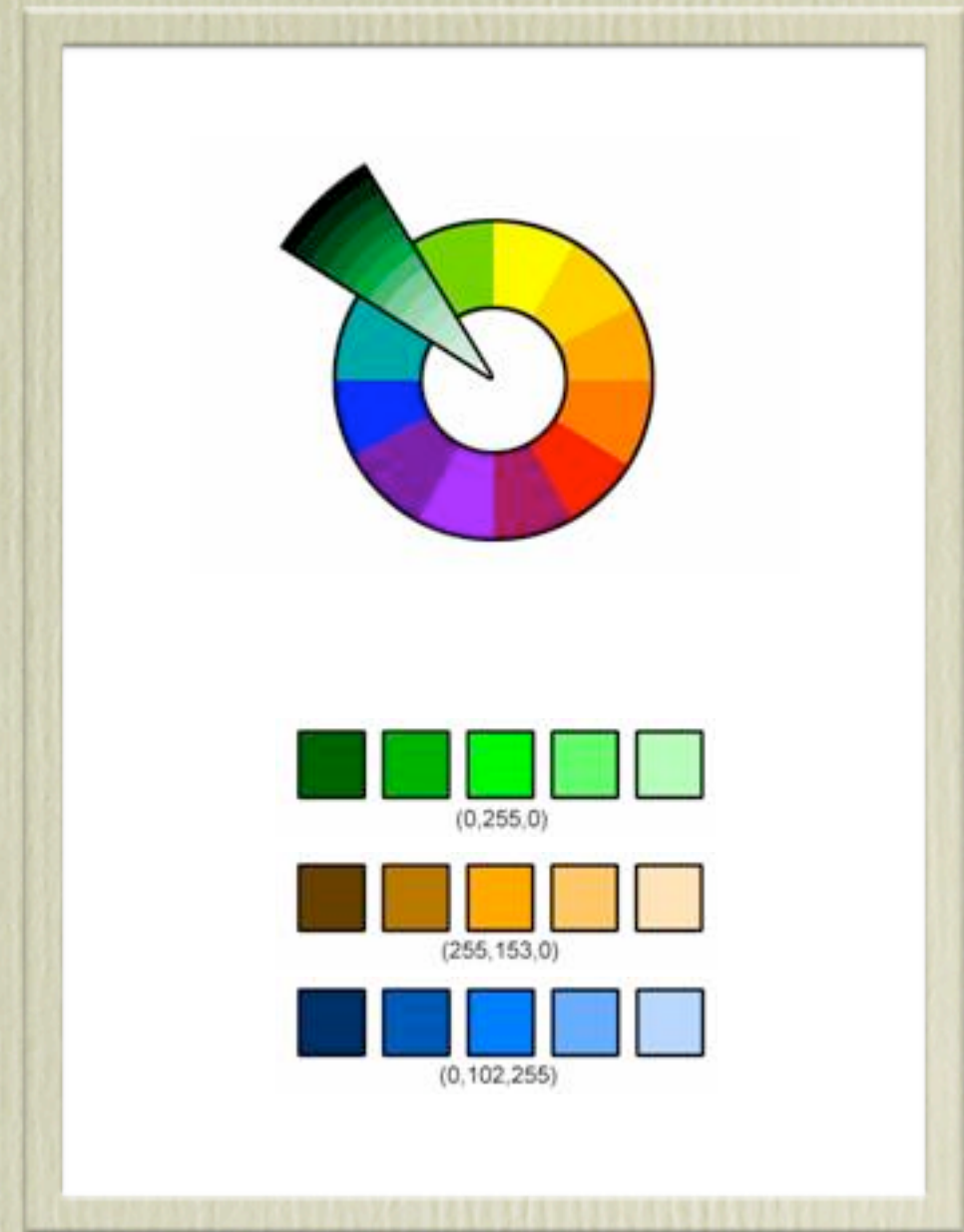
Color schemes are used in designing our compositions of a painting, digital image, etc.

Monochromatic Color

Relying on only one color, with variations in intensity and value.

The monochromatic color scheme uses variations in lightness and saturation of a single color. This scheme looks clean and elegant.

Monochromatic colors go well together, producing a soothing effect.



Intermediate (tertiary) Colors

Intermediate Colors: These are those “in-between” colors like Yellow-Green and Red-Violet.

They’re made by mixing one primary color and one secondary color together.

There can be endless combinations of intermediate colors, depending on how they’re mixed.

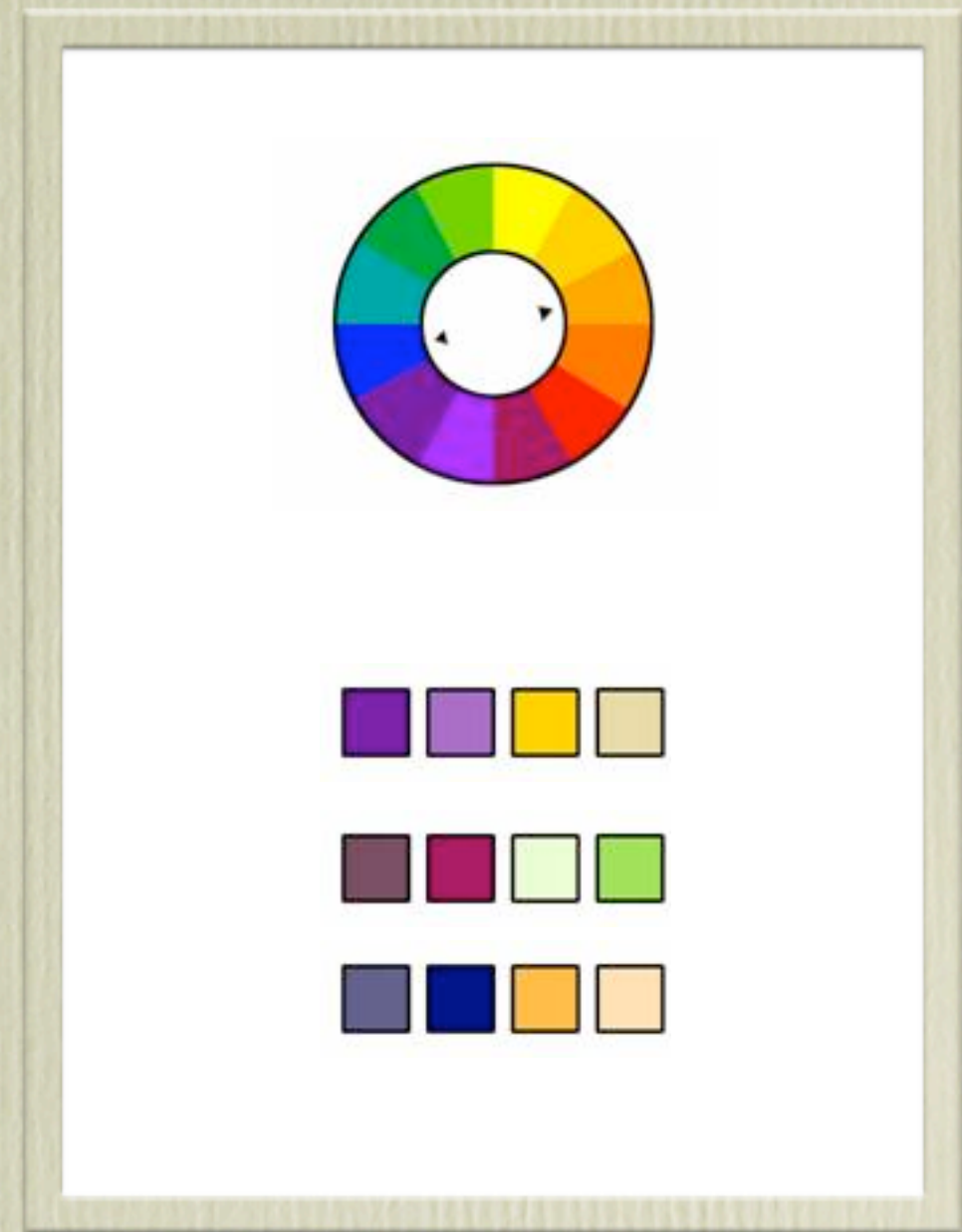


Complementary Coors

Complimentary Colors: Red and Green, Blue and Orange, Purple and Yellow.

These are the colors directly across from each other on the color wheel.

Complementary colors are useful when you want to make something stand out.

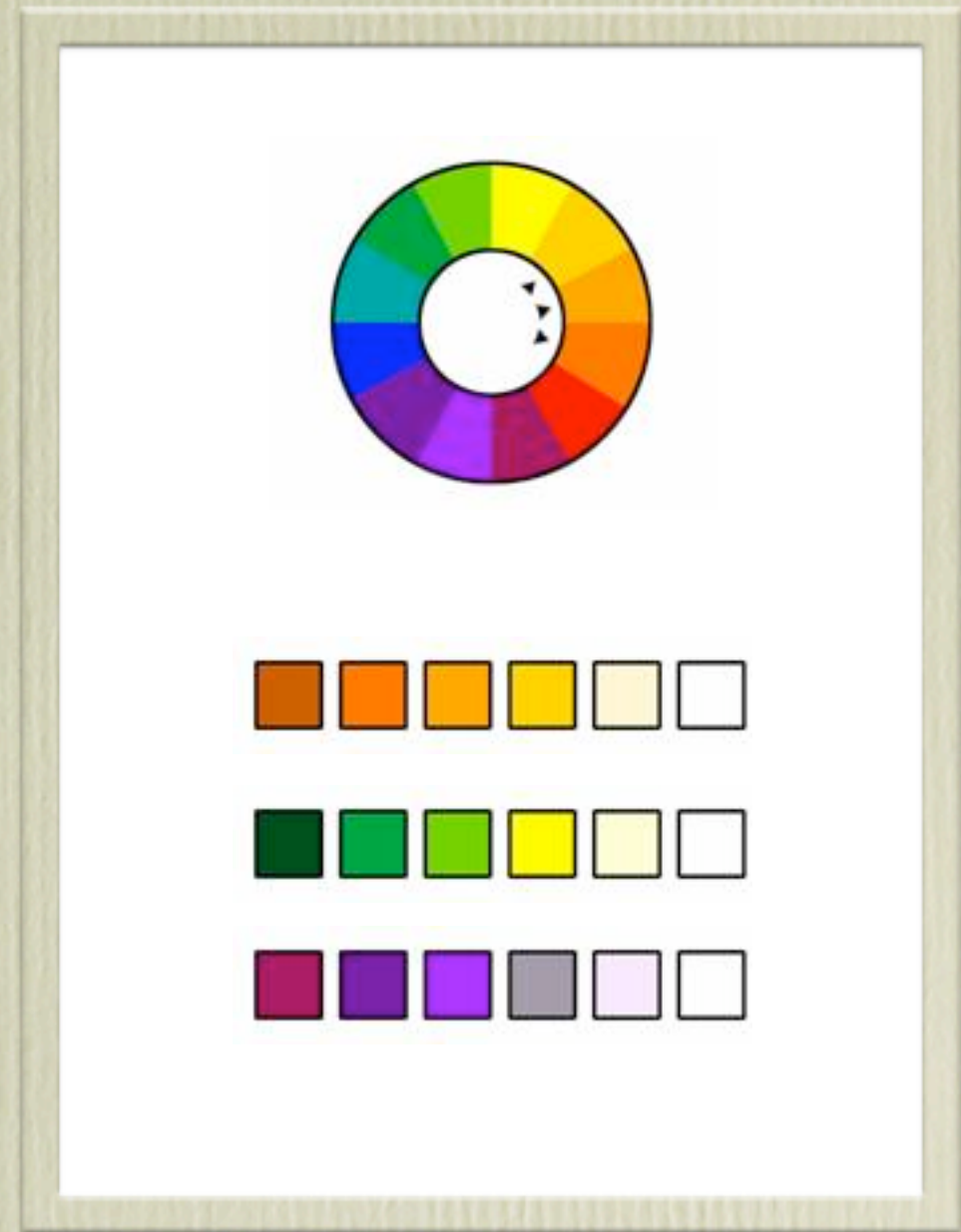


Analogous Colors

Analogous Colors: Red and Orange, Blue and Green, etc.

These are colors right next to each other on the color wheel. They usually match extremely well, but they also create almost no contrast.

They're good for very serene-feeling designs and artwork where you want viewers to feel comfortable.

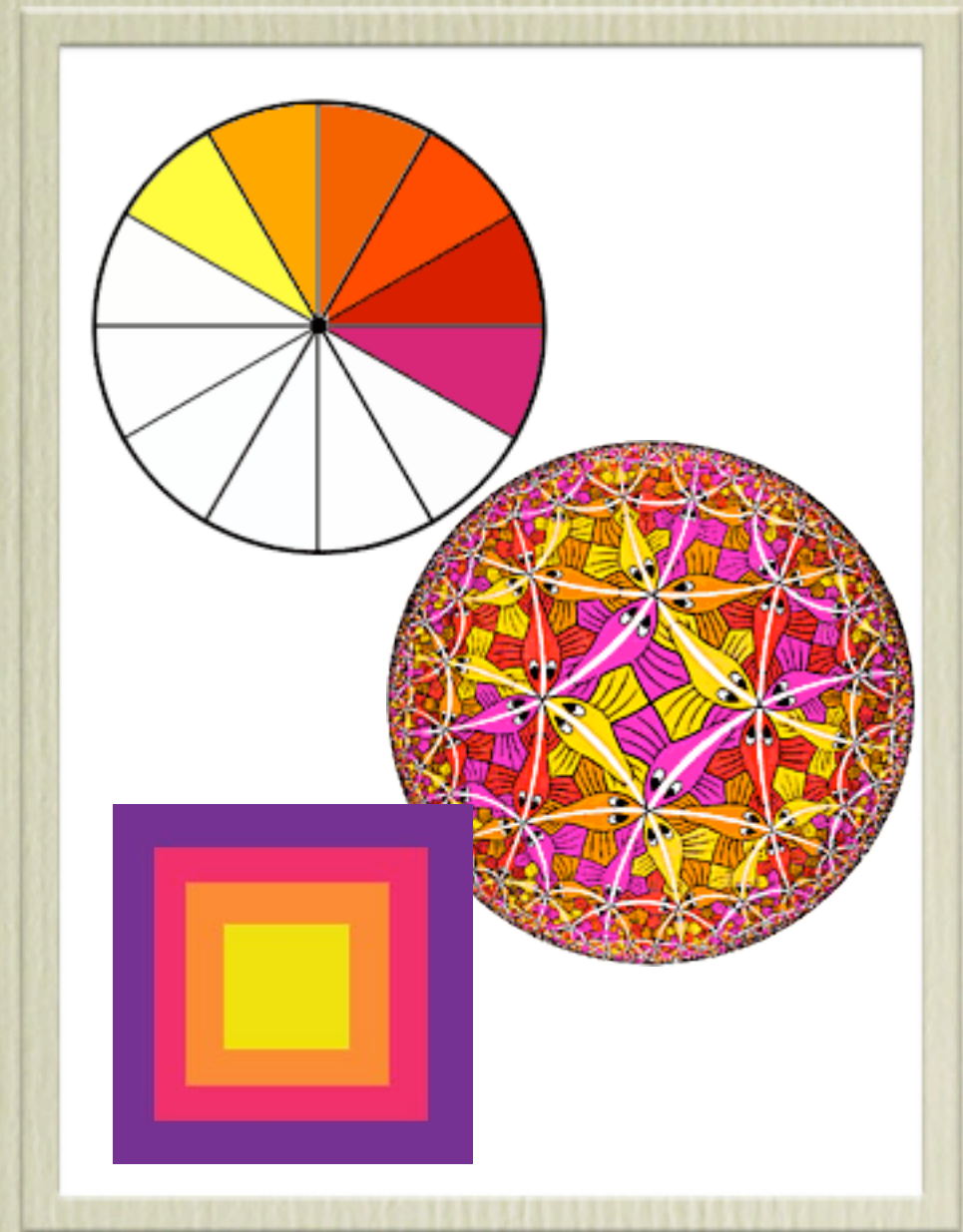


Warm Colors

Warm Colors: Colors such as red, yellow, and orange.

These colors evoke warmth because they remind us of things like the sun or fire.

Warm colors advance or come at you.

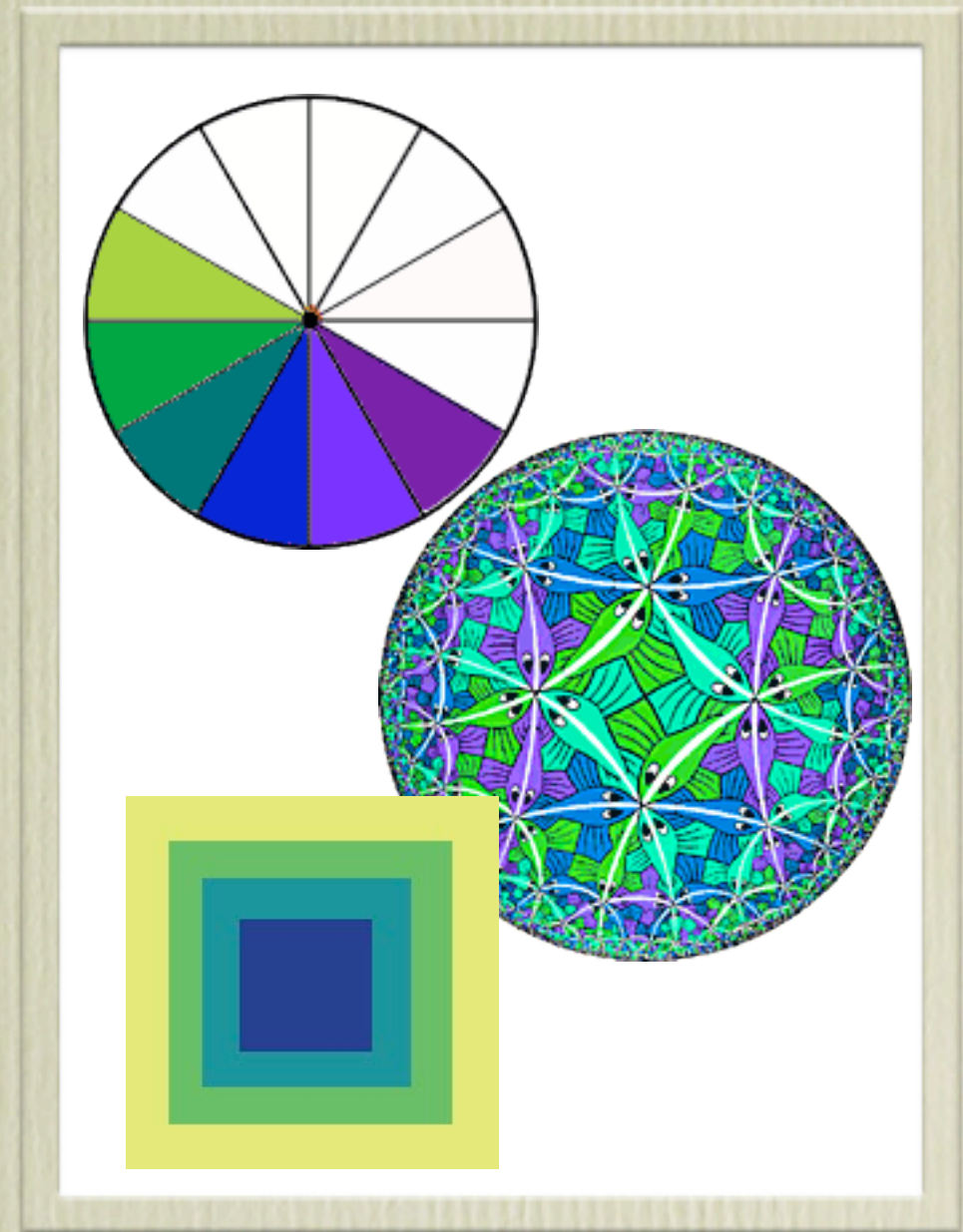


Cool Colors

Cool Colors: Colors like blue, green, and purple (violet).

These colors evoke a cool feeling because they remind us of things like water or grass.

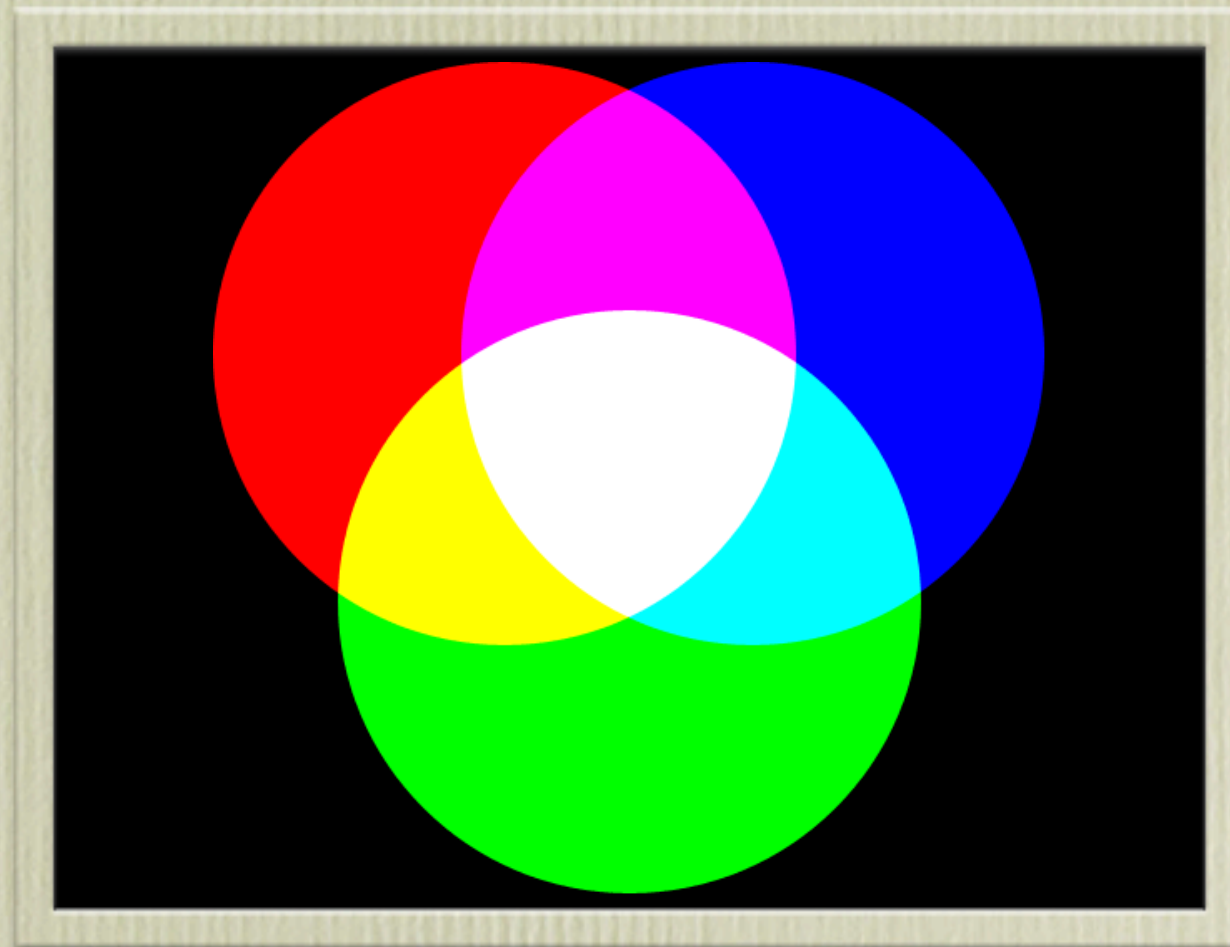
Cool colors recede or go away from you.



Color Mixing

Mixing light VS. pigment

Additive Color: RGB



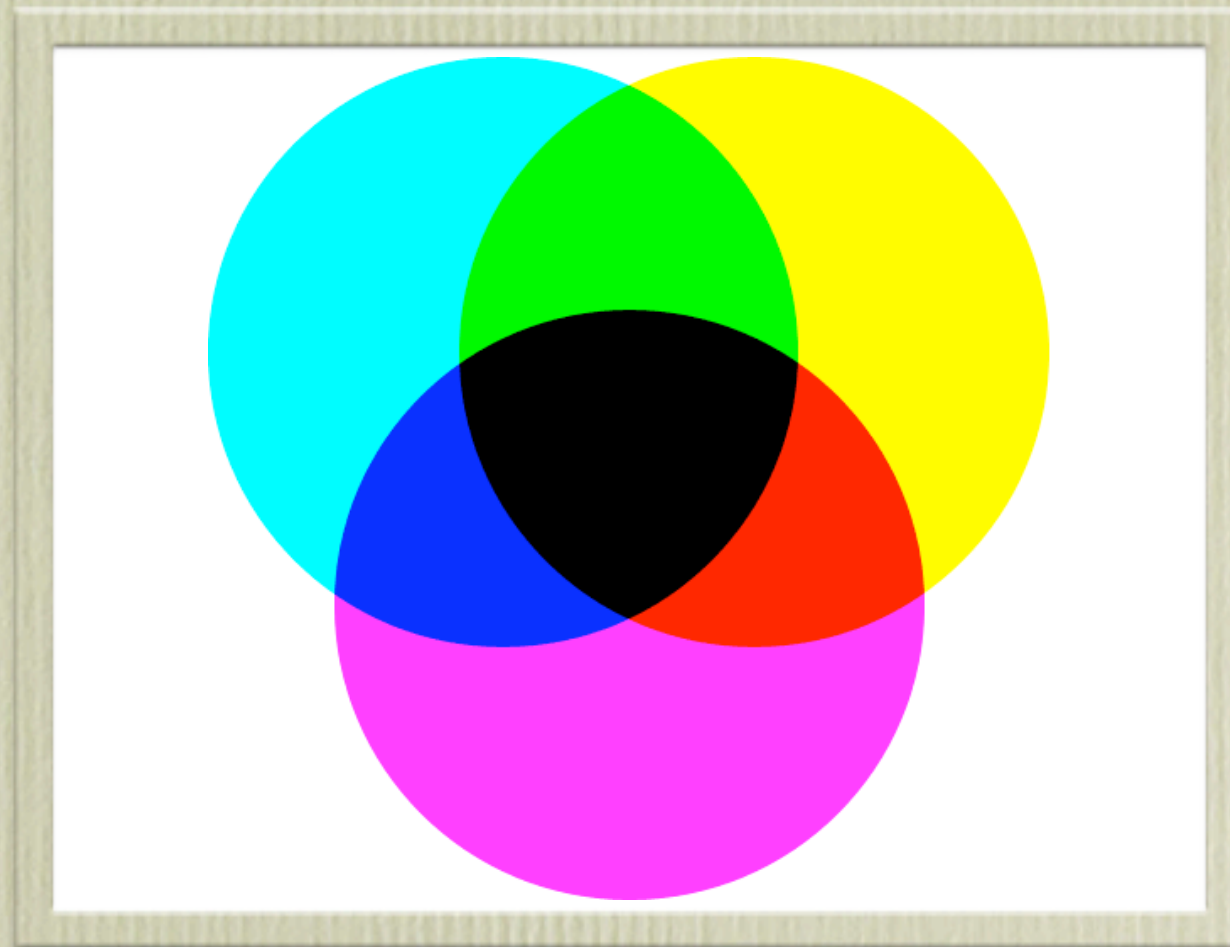
Defining color in terms of visible light waves.

The presence of all light waves simultaneously produces white light.

The additive primaries are red, green, and blue.

This is the color model of light and is used for monitors & projectors.

Subtractive Color: CYMK



Defining color in terms of pigment (paint, ink)

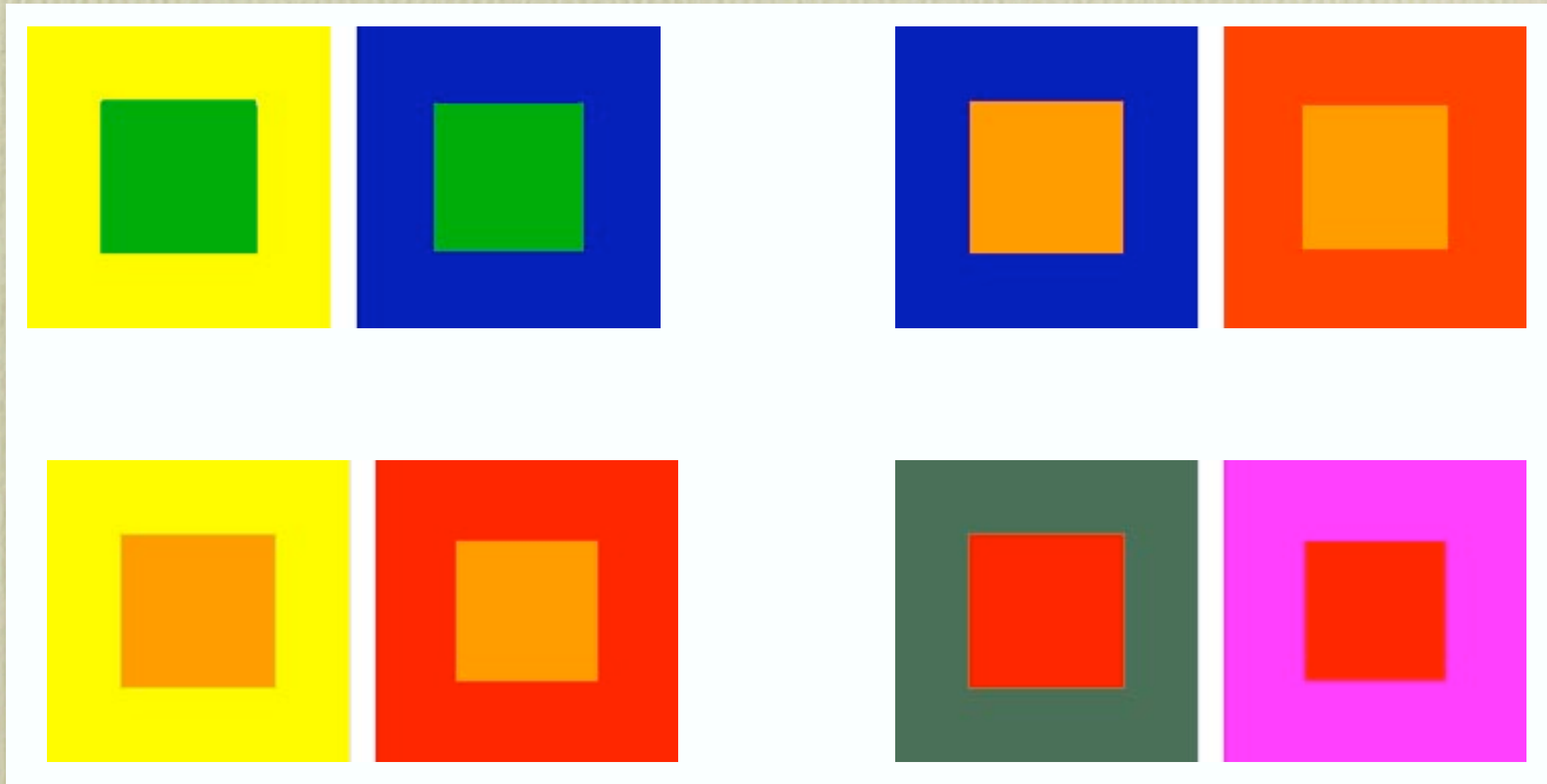
We see what is reflected from objects (in other words, we see the remainder after some wavelengths have been subtracted).

The subtractive primaries are magenta, yellow and cyan. The presence of all subtractive primaries simultaneously produces black.

Color Dynamics

Simultaneous Contrast

Colors adjacent to one another can influence each other. The small square is the same color in each pair of squares. The color of the larger square influences the appearance of the smaller square color.



Negative afterimages

Colors on the eye can effect the way the brain perceives other colors. The retina gets over stimulated with one color, and will automatically see the complementary color as an “afterimage.”

Try the following example. Stare at the white dot in the image below for 20 seconds. Then stare at the black dot on the next slide to see the negative afterimage.

