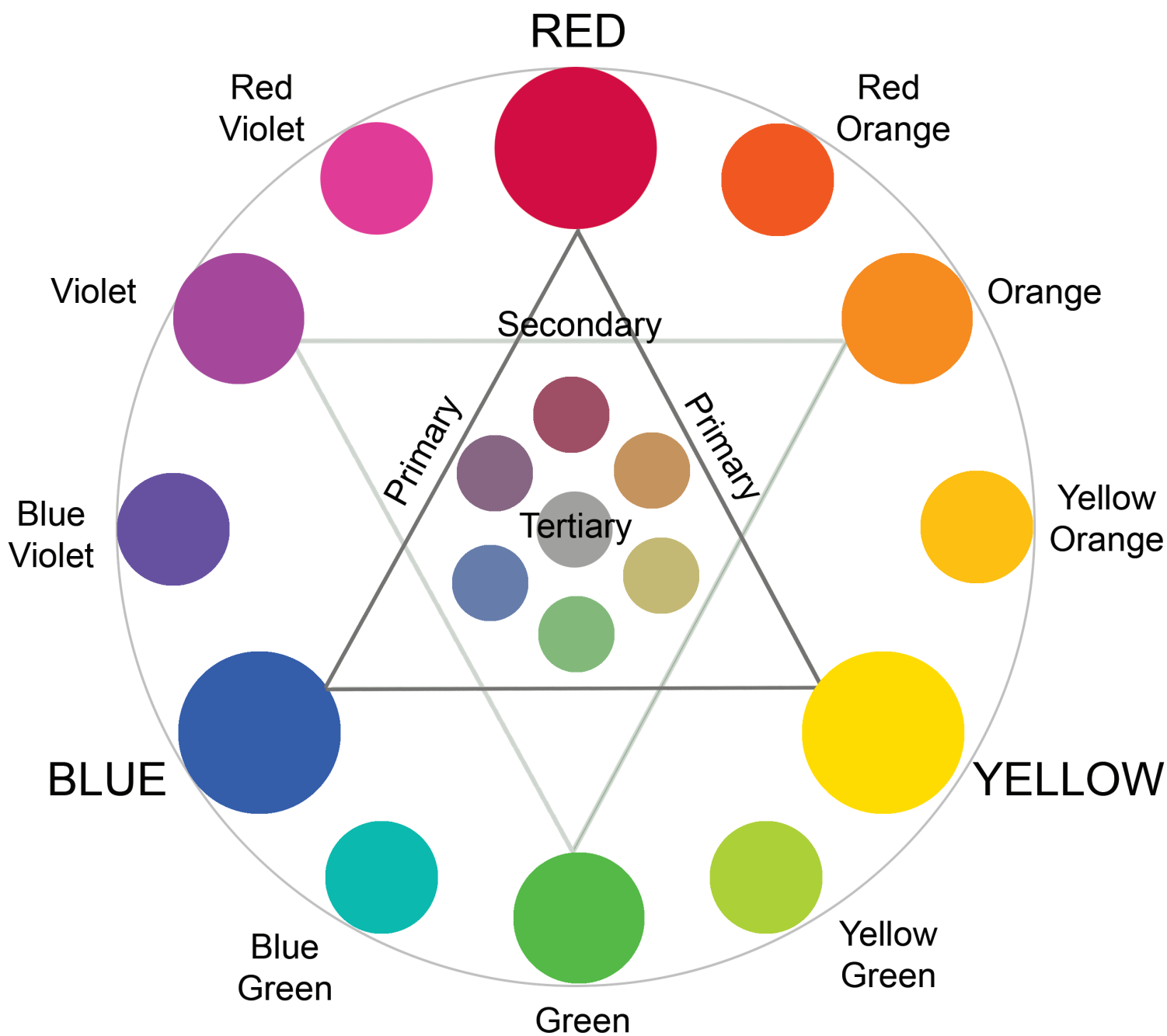


# 12 Color Standard Color



## **Understanding the Standard 12 Color Wheel**

Today as artist we use the color wheel to help us determine colors and mixes for our palette colors. The 12 color wheel is the standard wheel used today. This is not the only wheel used however. The printing industry follows the Munsell 10 color wheel. This is why some of the colors you see in book do not look exactly like the colors on the paintings you see in person. We will briefly discuss the Munsell system later but for now we need to understand the 12 color wheel.

### **Primary Colors**

All colors come from 3 colors. These three colors are called Primaries. The Primaries are RED, YELLOW and BLUE. These are the simplest color, in other words, you can't mix them. They are pure and occur in nature. Primaries are the building blocks of all colors. By mixing the primaries in various proportions, you can make any color found in nature or on the wheel. Primary means 1, which means that RED, YELLOW and BLUE have only one color in them.

### **Secondary Colors**

When you mix 2 primaries together you will make a Secondary color. The Secondary colors are ORANGE, GREEN and VIOLET. The Secondary Colors sit halfway between the Primary colors they contain.

### **Intermediate Colors**

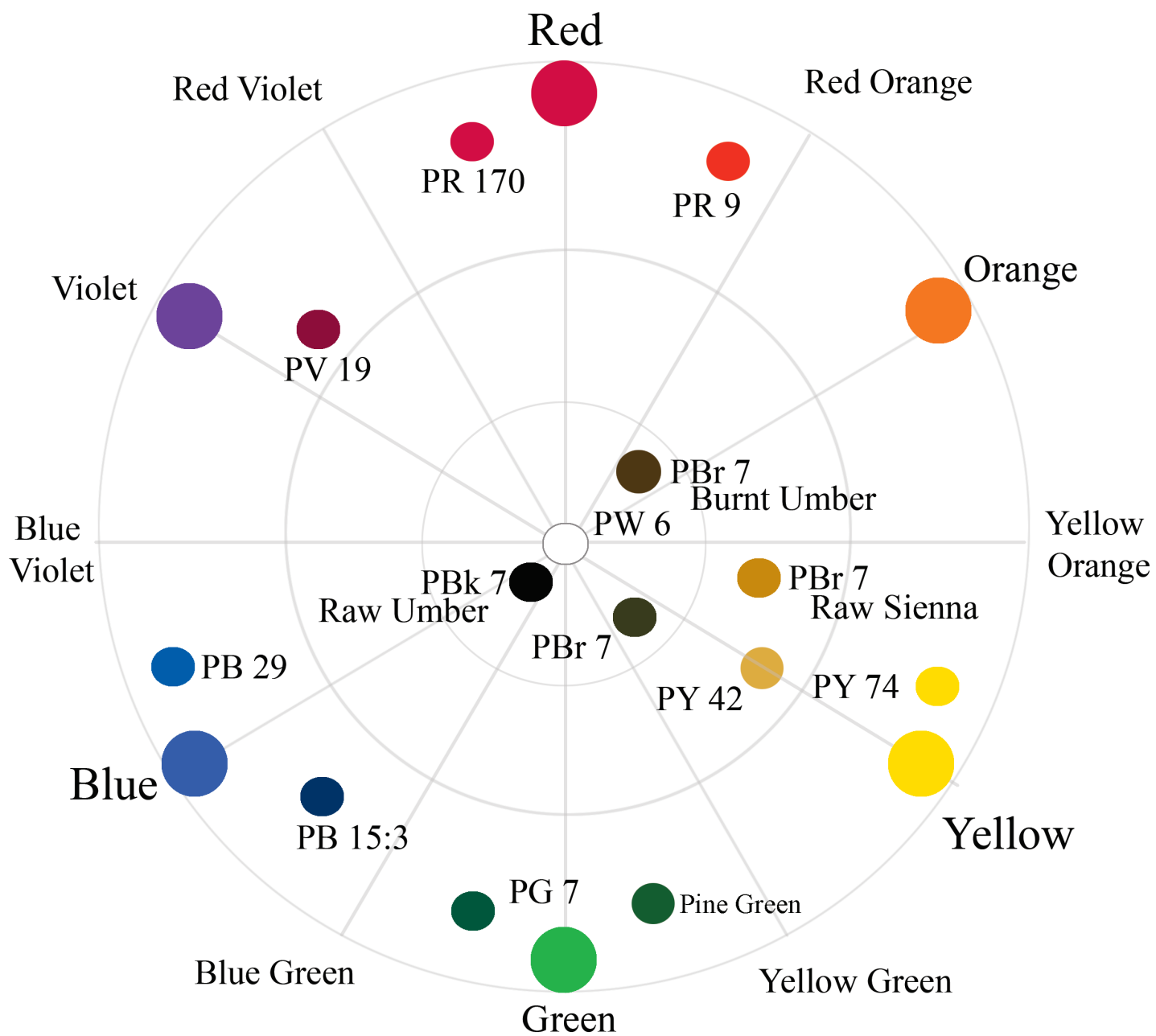
Many artists think these are called Tertiary and they are not. The confusion comes from the number of mixes down. In other words, Primary is one, Secondary are 2 and the next colors in line would be 3 or Tertiary. The true way to name these colors is by the number of Primary colors they contain.

The Intermediate colors are named by the Primary color first then the Secondary they contain. They are RED ORANGE, YELLOW ORANGE, YELLOW GREEN, BLUE GREEN, BLUE VIOLET AND RED VIOLET. Now, confusion comes from the Primary + the Secondary make 3 colors. No it does not. Let's look at RED ORANGE. What are the colors of the Primary color RED? Only RED. Mix that with ORANGE to make the RED ORANGE. How many colors are in ORANGE? Two but they are RED and YELLOW. So for the color RED ORANGE it only contains 2 Primary colors, RED and YELLOW. The RED ORANGE will contain more RED than YELLOW and the other Intermediate color YELLOW ORANGE will contain more YELLOW than RED. Confused? It is very easy to get confused here. All you have to do is count the number of Primary colors in any color to determine where they sit on the wheel.

### **Tertiary Colors**

The Tertiary colors belong inside the wheel because they contain all 3 Primary colors. Mix a little RED, YELLOW and BLUE together. You get a dark muddy color don't you? This is because the addition of the 3 Primary color takes the color into the wheel forming what we call a toned color. Confusion comes from the placement of these colors on the wheel. For example, the Traditions color Yellow Oxide is a yellow and would be placed in the yellows. This is true however, it's correct position would not be on the outside circle of the wheel, because it is not as bright as other yellows or the true Primary YELLOW. Traditions Yellow Oxide should be placed in the YELLOW area but heading slightly towards the center of the wheel because it is not a bright yellow.

The Earth colors of Burnt Sienna, Raw Sienna, Burnt Umber, and Raw Umber are all Tertiary colors in the center of the wheel. If you mix RED, YELLOW and BLUE together in various proportions you will get these Earth colors. Since they contain all 3 Primary colors, we call them Tertiary Colors. In the center of the wheel will be the Neutral Tertiary colors of Black and White. Black is the absence of all color and white contains all colors.



## **Pigments**

The Heritage MultiMedia line of pigments have been select because they are pure, mix very well, safe and not fugitive. The pigments are very clear and bright. They mix with each other to make thousands of desired colors. We have selected very Heritage MultiMedia and safe pigments to make the colors in the Heritage MultiMedia line of paint. I would like to take a few moments and explain to you the various pigments that make the Heritage MultiMedia line and why we selected them. To do this, we need to learn a few things about paint and pigments.

## **Chemical Index Number**

The Heritage MultiMedia Line of paint is very unique. The paint itself is clear. Pigments make the different colors. To understand the pigments you need to understand how they are classified. The paint industry today, classifies pigment by numbers. This number is called the chemical index number. For example; PG.7 is the chemical index number for Phthalo Green, blue shade. PY 42 is the chemical index number for Yellow Oxide. This number is the same throughout the world, but there may be slight differences in products from one pigment supplier to another. There are other ways to classify pigments but this is all you need learn to understand this system of colors. We need to be artists, not chemists.

## **Fugitive Pigments**

The trouble with many pigments used by some manufactures today is that their colors are fugitive. Fugitive means that the pigment will fade or disappear. Pigments are classified by ratings of 1 to 4. 1 means they are permanent and will not fade. 4 means they will start to fade very fast, usually within 2 years. In selecting the pigments for the Heritage MultiMedia line we chose only class 1 and 2 pigments that will not fade over time. All pigments are of very high quality, so you can be assured your paintings will last for generations.

## **Toxic Pigments**

For many years I have been developing lists of toxic pigments and educating my students on safe products. I am a very big opponent to using Cadmium, Chromium and Cobalt products in the manufacture of pigments and paint. DecoArt and JansenArt both believe in developing safe products for you to use. This means that we have replaced some Heritage MultiMedia colors or pigments with ones that are safe to use. The colors may be slightly different however you do not need to worry about their toxicity.

Many manufactures today make products using toxic products. Some manufactures stress safe colors and mediums but still allow known cancer causing agents to be used in their products. Toxic products can be used at very low levels to create paint that governments will allow to be labeled as safe. This doesn't change the fact that the chemical is potentially harmful. Many products are harmful, we understand this. We believe however that there are many different alternatives to toxic pigments and that is what we are trying to make for you. We are constantly evaluating the manufacture of pigments and products to make sure we provide safe durable paints for you to use. Some products have to be used and if we do, we will warn you about them. If there is a safe alternative to some Heritage MultiMedia colors, I choose the safe alternative. This will be better for our health and the environment. As we describe the colors I will be listing some very popular pigments that we chose not to use, and what you may replace them with.

## **The Heritage MultiMedia Pigments**

To start I will follow the ROYGBV principle. This means we will put the colors into color wheel relationship. The Heritage MultiMedia line of colors contains Pure and Mixed colors. Pure means that there is only one pigment used in the colors. Mixed colors contain more than one pigment. For example;  
Yellow Oxide- PY 42- this is a pure color  
Yellow Deep- PY 139, PBr 7- this is a mixed color because it has more than one pigment.

The Heritage MultiMedia line contains 26 pure colors and 24 mixed colors. The 24 mixed colors are made from

the pure colors in the line. The mixing formulas for each color is provided for you in each color description below. If you like to mix, you only need 26 colors to use the Heritage MultiMedia paint. Since the mixed colors use the same pigments as the pure colors, I will describe the pigments for the pure colors only. They will be the same when you see them in the mixed colors. So with that, let's look at the colors in depth. Color mix- is how to make the color from the pure pigments. To make a color, look for the pure pigment then follow the proportions. For example; Burgundy, color mix- PR 170 (3) + PB 29 (1.25). This means use 3 parts PR 170 Naphthol Crimson + 1.25 parts PB29 Ultramarine Blue.

## Red

### **Naphthol Red-** pure color

Pigment number is PR 170. Naphthol Red is a bright strong red. Use this color of red when you plan on having painting lean towards the cool side or contain lots of blue. PR 170 makes beautiful red violets and purples. This is not a good choice to make the red oranges or orange family of colors. Oranges can be mixed however they will not be as bright as if you made them from PR 112 or PR 9.

### **Naphthol Red Light-** pure color

Pigment Number is PR 9. PR 9 is a strong and bright red/orange. Many artists prefer to use this as a red in their paintings, especially when the painting will be warm. This pigment is much warmer than PR 170. PR 9 will make beautiful oranges and red/oranges.

## Oranges

### **English Red Oxide-** pure pigment,

Pigment number PR 101. This is a very old Heritage MultiMedia pigment that can have many different shades depending on the type of pigment used. We used a pigment that is very close to the old color called Venetian Red. This is also called English Red, Red Oxide and Red Earth. This English Red Oxide pigment however is closest to the Venetian Red used by many European painters and Norwegian Rosemalers. PR 101 is a tertiary orange and sits towards the center of the color wheel. Many old European techniques would control brighter oranges and reds by mixing them with this toned color.

### **Quinacridone Gold-** Pure Pigment

Pigment number PO 48. O.K. how do you say it? Quin- ac- cri- don. No matter how you say it, this is an excellent transparent medium toned orange. Use this color for glazing techniques or to shift the hue of an object you are painting. Use in combination with PO 43 to make wonderful flesh colors. PO 48 is a very strong Heritage MultiMedia glaze color because of the inherent transparency of the pigment.

### **Perinone Orange-** Pure Pigment

Pigment PO 43. This is a very bright pure semi-transparent orange. Most artists think vermilion is the most powerful orange not true when compared to PO 43. This is a wonderful replacement to the harmful PO 20 or Cadmium Orange. PO 43 mixes well with PO 48 and holds its character longer than most oranges. PO 43 is generally a better choice for a color wheel orange because it is pure as opposed to the Vermilion below.

## Yellows

### **Indian Yellow-** pure color

Pigment Number PY 139. This is a very Heritage MultiMedia pigment. This is a transparent pigment and is suited for glazing, and color shifting or tinting. The hue (color) leans slightly orange so it works well with reds and oranges. Very bright when used transparent it will appear a little more toned if applied more opaque.

**Yellow Oxide-** pure color

Pigment Number PY 42. This is a very old and traditional pigment. Most companies will make a PY 42 Yellow Oxide or PY 43 Yellow Ochre. This pigment is available transparent and opaque however it is Heritage MultiMedia used opaque so that is how we are presenting it to you. PY 42 is a good medium toned yellow. PY 42 is excellent for color mixing when you don't desire bright colors. Many Heritage MultiMedia techniques such as Rosemaling use the PY 42 or PY 43 as a toner. This is a good basic yellow for most of your color needs. With older paint brands we could not mix with Phthalo blue to form greens. Now, it is safe with this paint. In older brands of acrylics, Phthalo Blue would slowly overtake the yellow pigment. When making greens, it was always better to use an Arylide pigment such as PY 83, PY 74 or PY 3. Mix PY 42 with PY 83 for good, strong and brighter yellows.

**Diarylide Yellows-** pure color

Pigment Number PY 83. The Arylide yellows are becoming more popular in color mixing. They will soon replace most of the Cadmium yellows. There are many Arylide pigments to choose from. PY 83 is a bright medium yellow that mixes very well. Use this color in conjunction with blues to form long lasting greens. Mixes well with PY 42.

**Hansa Yellow-** pure color

Pigment Number PY 74. Another Arylide pigment. This is a nice mixing yellow but doesn't have the strength of PY 83. This color is brighter however and can be used very successfully in light bright areas of your painting. This pigment is warmer than PY 3 but not as warm as PY 83. PY 74 will work as a replacement for some of the Cadmium Yellows PY 37 and PY 35 in some paintings.

## Greens

**Phthalo Green-Blue-** pure color

Pigment Number PG 7. This is a building block color. Most companies put this color in their range for strength and because it is very economical. PG 7 is the blue shade of green and can be used if you want powerful teals and cooler greens. PG 7 also mixes well with the Arylide yellows for more yellow greens. Do not mix with PY 42 because the Phthalo may overtake the Yellow Oxide over time.

**Phthalo Green–Yellow-** pure color

Pigment Number PG 36. PG 36 is a strong, pure mixing yellow green. This is my choice to replace some current toxic and fugitive pigments that are being made. I use this pigment to replace Viridian Green used in many old techniques. Viridian Green (PG19) is very fugitive as is the old Earth Green (PG 8). Phthalo Green-Yellow can be toned and adjusted to match most any green in any company's line. PG 36 mixes well with blues and yellows.

**Pine Green-** mixed color

Another mixed color for today's painting. Pine Green is warmer and contains more yellow green than the Teal Green from this line. Good choice when warm greens are needed, especially when using lots of yellow. To keep this color a little more toned, we mixed it from blue + yellow + toned yellow.

Color mix- PBr7 RS (2) + PB15.3 (1) + PY83 (4)

## Blues

**Phthalo Blue-** pure color

Pigment Number PB 15.3 This is one of several versions of this pigment.

This is an old building block blue. These are inexpensive powerful blues used by most paint companies.

This pigment can tend to go a little green when a earth color is added and that is very desirable in many older



European and Scandinavian techniques. PB 15.3 mixes very well with PB 29 to make various blues for your palette. This color can be more temperature neutral, depending on colors around it. It is not advised to mix this color with Yellow Oxide because it can overpower the yellow over time. PB15.3 mixes well with all Arylide Yellow to make beautiful greens and PR 170 to make violets.

#### **Ultramarine Blue-** pure color

Pigment Number PB 29. Over the years, I have used many different versions of this pigment. For Heritage, I found this very powerful and rich color. One that is different from others I have used before. This newer version is much more like the original Lapis. This is the safe version of a popular blue. Originally PB29 had many mixing weaknesses due to its weak tinting strength. This is beginning to change with this new more powerful version. P.B 29 is the original pigment of Lapis Lazuli, which made it extremely expensive. Pigment manufacturers now make a synthetic version of that stone. Some companies use the stronger PB28 which is technically called Cobalt Blue. This pigment however is not recommended due to its chemical nature and possible harmful effects. We chose to use PB 29 because it is safe, healthy, and recommended for mixing especially for the greens to violets. The pigment is more expensive but we bring it to you in a pure form for color mixing. Some companies offer this pigment but then add fillers which give the color more strength; however they tend to dull the color. If you put the color found in this line out transparently, you will see a full bodied, pure and bright color. A true test for a fine pigment.

#### **Sapphire Blue-** mixed color

Sapphire is a long time favorite for many artists. This mixed color combines both blues used to create most blue colors in our industry. Since it contains both blues, it works well with many palettes and has become the base blue for many decorative painting applications. Sapphire is slightly toned with a grey color to keep it from color shifting. When you don't know what blue to have on your palette this color is an excellent choice. It can be brighten with both Phthalo Blue and Ultramarine Blue. Sapphire along with Prussian Blue Hue and Aquamarine for form dark, medium and light values for your palette.

Color mix- PB 15.3 (2) + PB 29 (2) + P Bk 7 (1) + PW 6 (4.5)

#### **Cerulean Blue-** pure color

Pigment Number PB 35. There are two forms of this color. PB 35 which is a oxide of tin, and PB 36 is an oxide of Chromium. Since we are trying to avoid the Chromium based pigments as much as possible, we chose the PB 35. The name comes from the old Latin meaning for "sky". PB 35 is an old excellent watercolor pigment that we feel expands the potential of this line. Most paint companies that do not have watercolors don't use this pigment. They may mix with the common PB 15 and PB 29 to make this color, but the pigments are not pure. Having this pigment in the line will allow you to expand your color choices and painting techniques. We will be doing a lot with this pigment in the future.

## **Violets**

#### **Dioxazine Purple-** pure color

Pigment Number PV 23. This is one of the ASTM category 2 pigments. PV 23 is a very popular base violet or purple. It comes in both the Blue spectrum and Red spectrum versions. This pigments is excellent in oils, and acrylics however because it is a category 2 pigment, you have to be careful in watercolors and gouaches where it will fade quite rapidly. Category 2 in acrylics and oils means the color can fade a little over time when applied transparently. Even though this may take a 100 years to fade, we like to warn you and educate you about this pigment because it is so popular in today's painting. PV 23 is close to spectrum which means it is a good complement to the yellows and tones them very well. This color works wonderful with PR 170 and PB 29 or PB 15.3 to mix that side of the color wheel. This color tones well and appears colder than some blue mixes which make it a good color to add when cooling blue shadows. Even if you don't like purples, you may like the cool blues and reds that come from adding a little of this pigment to them.

### **Red Violet- pure color**

Pigment Number PV 19. I like this color for older Heritage MultiMedia techniques that required PR 83 (Alizarin Crimson). As I explained earlier, never use PR 83 because of its poor performance and fugitive nature. PR 83 however was used in many older techniques. When I see that color I replace it with this one. If you like Alizarin Crimson more to the violet side, try adding a little PV122 (Quinacridone Violet) or even a touch of PV 23. PV 19 is a very reliable Red Violet and will surprise you how many different colors you can obtain from it. PV 19 mixes very well with PV 122.

### **Quinacridone Violet- pure color**

Pigment Number PV 122 or PR 122. Here is that word again! If it wasn't such an old popular name I would not have used it. Just call it Q Violet for short. This is an excellent Magenta or Red Violet color. The pigment test well in all media and has superior performance in stability. Transparent as well as a little weak this color is good to color shift or used in glazes. This is a good pigment choice for transparent tints since the pigment is very stable and not fugitive like other violets. This pigment shifts reds and blue quite easily and can even be used to some extent to tone yellows. This is a good pigment to have on your palette especially if you want a good tinting color.

## **Earths or Neutrals**

### **Brown Matter- pure color**

Pigment PR 175. Old name for this color is Benzimidazolone Maroon or Benzimida Maroon. PR 175 is a tone red violet. ASTM class 1, it works well in all media and is used by artist in many ways. Since it is a toned red violet it can be used to assist in achieving dimension when using brighter Red Violets. It will also work well to tone the greens and yellow greens. This color is also effective in making background colors since it starts out a little more toned. Look for this color to be used more in the upcoming years because it has lots of potential in color mixing for today's colors

### **Burnt Umber**

### **Raw Umber**

### **Burnt Sienna**

### **Raw Sienna- Pure colors**

Pigment Number PBr 7. These colors are the earth colors. They form the basis for the Heritage MultiMedia line and the color theory used in today's decorative market. They all have the same roots which are Natural Iron Oxides. Some like Raw Umber also contain manganese. There are many different versions used by paint companies today, so many in fact that the colors differ quite a lot between companies.

The Natural Oxides belong in the center of the color wheel. They are the most toned of any color. They therefore make the best toners for palettes. Many artists today don't use them because they don't understand them. When you mix yellow and violet you will get a toned color that belongs in the center of the wheel. The duller the mix, the closer to the center of the wheel. This is where the Natural Oxides belong.

Have you heard of a "Mother Color?" These are Heritage MultiMedia the Nature Oxides. They give harmony to the palette by giving every color something in common. For example, what color is Burnt Umber? It really is not a color. It sits slightly orange but for the most part it is not considered a color since it is so close to the center of the wheel. When added to other colors it does not color shift them very fast. Therefore this Natural Oxide is a good color to add to all the colors on your palette. If you do that, all colors have something in common and will "go together." When you do this you are adding a "Mother Color" to all the colors. Giving them the same roots and making them "go together".

For the Heritage MultiMedia line we are using older classical versions of the colors. We are doing this so you and emulate the colors used by artists of old. These four Natural Oxides will be very important in the



years to come as we educate the market on how to use them. In the next few years you will see a great deal of information from our company describing how to use these colors in conjunction with the pure pigments in the Heritage MultiMedia line to keep currently with today's colors as well as emulate the older Heritage MultiMedia palettes that we have come to love.

### **Carbon Black-** pure color

Pigment Number PBk 7. Blacks have a great history to them. There are many different versions. One black was made by burning ivory in large iron pots to make, Ivory Black. One black was made by collecting the soot from oil burning lamps to make, Lamp Black.

Well, Heritage MultiMedia Ivory Black is not used today. Today we used a darker more neutral black called Carbon Black. This is PBk 7. PBK 7 is an excellent, neutral, ASTM 1 pigment that can be used in many different ways with the pure pigments in the Heritage MultiMedia line. Because of its neutral nature, we can use this pigment to help shadow all colors and create wonderful values scales for our paintings. Look for more information on how to use this neutral in the next few years.

### **Dark Grey Value 3-** mixed color

Color mix- PBk 7 (2) + PW 6 (1)

### **Medium Grey value 6-** mixed color

Color mix- PBk7 (1) + PW 6 (8)

### **Light Grey value 8-** mixed color

Color mix- PBk7 (1) + PW 6 (30)

These 3 greys along with white and black are here to assist you in making values scales and understanding color theory. I explain value later in this book and will have more information on how to use value in palette choices in later updates.

### **Medium Beige-** mixed color.

This is a good mid value neutral toner for your palette. Many artists use this color because they like the color. The real advantage to this color and Medium White below is the toning ability for lighter palettes. As we study color in later updates, I will explain how to use these colors to keep current with color trends and Heritage MultiMedia palettes.

Color Mix- PBr7 BU (1) + PY 42 (1) + PW 6 (1)

### **Medium White-** mixed color

Medium White is a good light value for your palette as well as an excellent toner for light value colors. Works well with the Medium Beige above to give you a wider range of toner choices. As we study color in later updates, I will explain how to use these colors to keep current with color trends and Heritage MultiMedia palettes.

Color Mix- PW 6 (14) + PBr7 RU (1) + PY 42 (1)

### **Titanium White-** pure color

Pigment Number – PW 6. Here is your pure white. Whites can come in many forms however be extremely careful. Most contain deadly amounts of lead. PW 6 is titanium White and is the strongest of the whites. It is very safe however it has some difficulties because of its strong nature. Small amounts can overtake the painting very fast. Since this white is neutral and very strong it has the tendency to cool and dull a color when added. Yes, cool and dull. White contains all color and is therefore considered a toner. Put out a little pure red, add some white to it and the color will appear to cool and actually become duller. For most of your paintings this is not a problem; however for some it can be devastating. We will study how to use white in conjunction with the pure Heritage MultiMedia colors in later updates.

**True Gold-** pure color

Pigment Number- Mica. These are Mica coated particles. Mica is coated with very thin applications of Titanium Dioxide which refract light back at different wavelengths and angles. These different wavelengths and angles give the appearance of different colors. Micas are used to create different types of colors called interference and iridescent colors. We use the Mica because it is much safer than metallic powders and easier to use. The process to make the Mica is more expensive thus a little higher cost.