



ArtTutor

COLOUR MIXING

*Cheat Sheets*

for

WATERCOLOURISTS

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# MIXING GREENS

	ULTRAMARINE BLUE	CERULEAN BLUE	PTHALO BLUE	COBALT BLUE	INDIGO
LEMON YELLOW					
HANSA YELLOW LIGHT					
NEW GAMBOGE					
YELLOW OCHRE					
QUINACRIDONE GOLD					

Here are 5 common blues and 5 common yellows mixed in roughly equal quantities to produce 25 greens. The left half of each green is a strong mix (not much water added). The right half is a weaker mix with more water added to create a tint.

# MIXING GREYS

	ULTRAMARINE BLUE	PTHALO BLUE	CERULEAN BLUE	COBALT BLUE	PAYNES GREY	
BURNT SIENNA						
CADMIUM RED						
RAW UMBER						
WARM SEPIA						
LIGHT RED						

Here are 5 blues and 5 common reds/browns mixed in roughly equal quantities to produce 25 greys. The left half of each grey is a strong mix (not much water added). The right half is a weaker mix with more water added to create a tint.

# MIXING SKIN COLOURS



ALIZARIN CRIMSON  
YELLOW OCHRE



ALIZATIN CRIMSON  
YELLOW OCHRE  
CERULEAN BLUE



BURNT SIENNA  
YELLOW OCHRE



BURNT SIENNA  
ULTRAMARINE BLUE  
ALIZARIN CRIMSON



BURNT UMBER



BURNT UMBER  
ULTRAMARINE BLUE

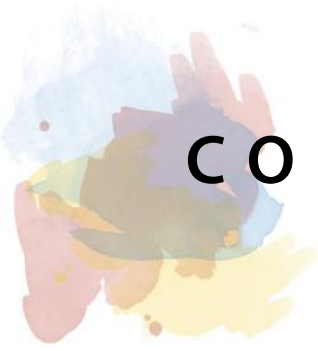


CADMIUM RED  
CERULIAN BLUE

There are potentially an infinite number skin colours, which can make things overwhelming. These 7 mixes use common colours to create the vast majority of skin tones you'll ever need and are used by many top watercolour portrait artists.



# COLOR BIAS OF PRIMARIES

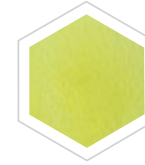


All primary colour paints (reds, blues and yellows) have a 'leaning' or 'bias' towards one of the other two primaries. For example, Alizarin Crimson is a red with a blue bias, whereas Cadmium Red is a red with a yellow bias.

Knowing the bias of the colours in your palette will help you mix the secondary and tertiary colours you want. It will also help you avoid mixing muddy and dull colours.

If you want a vibrant purple for example, mix a red with a blue bias and blue with a red bias. That way you are only mixing two of the primaries (red and blue).

If you want a dull purple, then mix a red with a blue bias and a blue with a yellow bias. Now you are mixing all three primaries (red + blue + yellow). Mixing all three primaries results in a more neutral tone.



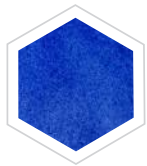
## YELLOWS WITH A BLUE BIAS

Hansa Yellow Light  
Aureole  
Azo  
Lemon  
Cadmium Lemon  
Cadmium Yellow Pale  
Winsor  
Transparent  
Bismuth



## YELLOWS WITH A RED BIAS

Cadmium Yellow Medium  
Cadmium Yellow Deep  
Chrome  
Indian  
Naples  
New Gamboge  
Raw Sienna  
Yellow Ochre  
Permanent Yellow Medium  
Mars



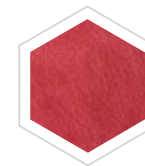
## BLUES WITH A RED BIAS

Cobalt  
Cyanine  
French Ultramarine  
Ultramarine  
Winsor (Red Shade)  
Indanthrene, Indigo



## BLUES WITH A YELLOW BIAS

Cerulean  
Pthalo  
Antwerp  
Intense, Monastial  
Manganese  
Speedball  
Winsor (Green Shade)  
Rembrandt  
Pthalo  
Prussian  
Paris  
Peacock



## REDS WITH A BLUE BIAS

Permanent Rose  
Alizarin Crimson  
Magenta  
Quinacridone Rose  
Rose Madder  
Crimson Lake  
Opera Rose  
Scarlet Lake  
Carmine



## REDS WITH A YELLOW BIAS

Cadmium  
Winsor  
Vermillion  
Perelyne  
Permanent  
Light  
Indian  
Venetian  
Pyrrole  
English Red Oxide

# TRANSPARENT & OPAQUE COLOURS

Watercolours have varying degrees of transparency. Knowing how transparent or opaque a colour is can help you when painting layers or glazes.

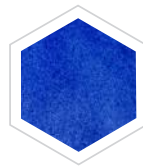
Bear in mind that some colours may be classed as transparent by one manufacturer and semi-opaque by another and you can check this on the side of the paint tube. The lists below are colours that are generally considered transparent, semi transparent, opaque or semi opaque across most brands.

## KEY

T = Transparent  
ST = Semi-Transparent  
S = Semi-Opaque  
O = Opaque



## REDS



## BLUES



## YELLOWS

Alizarin Crimson	T
Light Red	O
Cadmium Red	O
Rose Madder	T
Bright Red	SO
Perylene Red	ST
Opera Rose	T
Venetian Red	O
Pyrrhol Red	ST
Permanent Rose	T
Quinacridone Red	T
Indian Red	O
Permanent Magenta	T
Permanent Rose	T
French Vermillion	O

Cobalt Blue	ST
Cerulean	O
French Ultramarine	T
Indigo	T
Winsor Blue	T
Prussian Blue	T
Indanthrone Blue	T
Pthalo Blue (Grn Shde)	T
Royal Blue	O
Antwerp Blue	T
Manganese Blue	T

Yellow Ochre	SO
Raw Sienna	T
Gold Ochre	O
Quinacridone Gold	T
New Gamboge	T
Bismuth Yellow	O
Aureolin	T
Cadmium Yellow	O
Cadmium Yellow Pale	O
Lemon Yellow	T
Naples Yellow	O
Indian Yellow	T

# HOW TO MAKE A PERSONALIZED COLOUR CHART

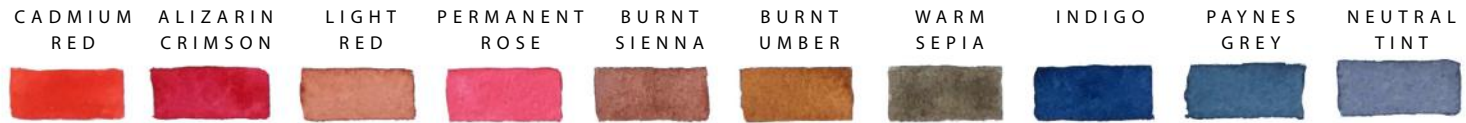
	CADMIUM RED	ALIZARIN CRIMSON	LIGHT RED	PERMANENT ROSE	BURNT SIENNA	BURNT UMBER	WARM SEPIA	INDIGO	PAYNES GREY	NEUTRAL TINT
ULTRAMARINE BLUE	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]
PTHALO BLUE	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]
CERULEAN BLUE	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]
COBALT BLUE	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]
NEW GAMBOGE	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]
YELLOW OCHRE	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]
HANSA YELLOW LIGHT	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]
QUINACRIDONE GOLD	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]
RAW UMBER	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]
LEMON YELLOW	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]	[Swatch]

Too many leisure artists worry about having the 'right' colours, or the same ones they see being used by ArtTutor instructors.

Its far better (and cheaper!) to use the one's you have already - at least for now. This way you will learn to exploit the colours at your disposal and it will allow you to go out and select new colours only if it becomes really obvious that you need them.

For this exercise you are going to gather all of your existing colours and mix any two of them. The results of some mixes may surprise you and open up your eyes to possibilities you didn't realise were there. It's a very therapeutic exercise as well.

# STEP 1




I've used 20 colours in this chart that I had at my disposal. You may have less and that's fine. Gather them together now.

This chart was produced on a sheet of watercolour paper about 16" x 11" (40cm x 28cm or A3).





















The first thing to do is to draw a series of boxes in pencil about 1.5cm x 1cm. I hand drew mine but feel free to use a ruler.

Because I used 20 colours, I drew 10 boxes along the top and 10 boxes down the side. If you have 15 colours, you could do 8 along the top and 7 down the side, for example.

Once you have your boxes drawn, paint in the top row and left hand column. It doesn't matter which colours go where, just place a unique colour in each box.



# STEP 2

		CADMIUM RED	ALIZARIN CRIMSON	LIGHT RED	PERMANENT ROSE	BURNT SIENNA	BURNT UMBER	WARM SEPIA	INDIGO	PAYNES GREY	NEUTRAL TINT
											
ULTRAMARINE BLUE		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
PTHALO BLUE		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
CERULEAN BLUE		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
COBALT BLUE		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
NEW GAMBOGE		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
YELLOW OCHRE		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
HANSA YELLOW LIGHT		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
QUINACRIDONE GOLD		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
RAW UMBER		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
LEMON YELLOW		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

In the top left hand empty box, mix the colour directly above it and to the left of it. Mix them in roughly equal quantities.

Paint the left hand side of the box a strong colour and add water to your mix to create a tint on the right hand side. This will show you how the colour changes across different strengths, which can change it quite a lot.

Repeat this for each of the boxes.

# LIMITED PALETTE SUGGESTIONS



## LIMITED PALETTE 1

Limiting your palette can really improve your watercolours. Not only does help to improve colour harmony it also makes the decision making process easier - and that helps you stay in the flow.

These two palettes are nicely balanced with a combination of cool and warm primaries. You can mix almost any colour you want from these limited selections and it will save you a lot of money on exotic paints that you rarely use after you've bought them.

Ultramarine Blue (warm)

Pthalo Blue (cool)

Cadmium Red (warm)

Alizarin Crimson (cool)

Yellow Ochre (warm)

Lemon Yellow (cool)

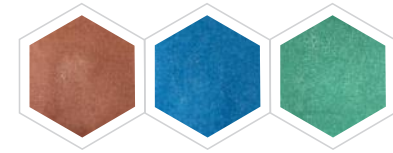
**Plus (optional):**

Burnt Sienna or  
Light Red

Paynes Grey or  
Indigo

Cerulean Blue

New Gamboge or  
Cadmium Yellow



## LIMITED PALETTE 2

Pthalo Blue

Cobalt Blue

Permanent Rose

Light Red

Hansa Yellow

Raw Sienna

**Plus (optional):**

Burnt Umber

Ultramarine Blue

Neutral Tint

Viridian

# WATERCOLOUR BRUSH MARKS



**ROUND  
BRUSH**



**FLAT  
BRUSH**



**MOP  
BRUSH**



**RIGGER  
BRUSH**



# LIMITED BRUSH SET

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## ROUND BRUSH No. 10



## ROUND BRUSH No. 4



## FLAT BRUSH 1"



## FLAT BRUSH 1/2"



## MOP BRUSH 3/8" (1 cm)



## RIGGER No. 1



In the same way that a limited palette can help to make watercolour painting easier, so can a limited brush set.

This recommended brush set will allow you to create most of the marks you'll need across a wide range of subject matter. The squirrel mop does require some practice but is worth persisting with. Alternatively, you could swap this for a large round brush (i.e. a number 16).

# WATERCOLOUR PAPER GUIDE

## SURFACE

## WEIGHT

## TYPE



### HOT PRESSED

A smooth surface that is ideally suited to pen and wash.



### COLD PRESSED (NOT)

Has more 'tooth' to it than hot pressed (a rougher surface) which is great for most types of watercolour painting.



### ROUGH

Has the most 'tooth' or uneven surface allowing the paper texture to show through. Great for loose watercolours.

The standard weight of most watercolour paper is 140lbs or 300gsm. You will usually need to pre-stretch paper at this weight, or use a gummed block, as it will buckle when lots of water is added.

You can buy thicker watercolour paper, usually 300lbs or 638gsm and while this won't need to be pre-stretched, it is quite expensive.

#### HOT PRESSED

#### COLD PRESSED

#### ROUGH



## SHEETS

Loose sheets can offer the best value for money if you paint a lot of watercolours. You can buy individual sheets or as a pack of sheets. The packs offer the better value.

## BLOCKS

This is a pad of watercolour paper where the sheets are glued to one another along the very outside edges. This allows you to paint on each sheet without pre-stretching it and without it buckling. The sheets are easy to peel away from each other when the painting is finished.

## PADS

These are similar to drawing pads and are either tape bound or spiral bound along one edge for easy removal. You will need to tear out and pre-stretch individual sheets if you don't want them to buckle but most watercolorists use pads for quick sketching and aren't worried about the buckling.

# HOW TO STRETCH WATERCOLOUR PAPER

## MATERIALS NEEDED

- Sturdy, flat wooden board about 3/8" (1cm) thick, at least 2" larger all round than the paper
- Watercolour paper
- Shallow tray a little larger than the paper
- Brown paper gummed parcel tape (not self-adhesive type)
- Sponge or soft clean cloth
- Old, clean towel
- Drawing pins
- Staple gun (optional)

## STEP 1



Cut or tear four pieces of gummed paper tape so they are all at least 2 - 3" longer than each side of the paper. Don't wet them yet!

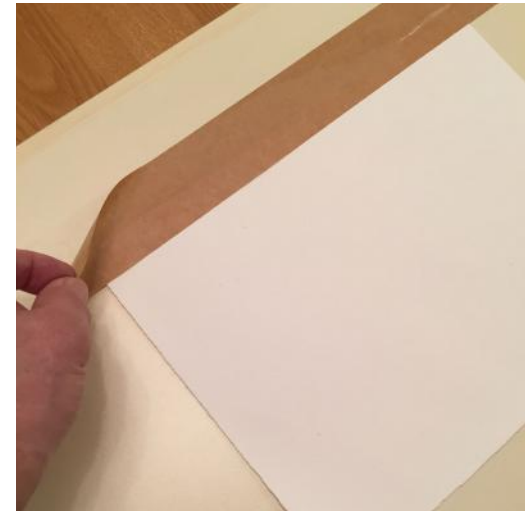
Put some water in the tray and place the paper in it for 15-30 seconds so both sides are covered. You can use the sink or bath if you haven't got a suitable tray, or you could use the sponge or cloth to apply the water gently to both sides of the paper so it's completely wetted.

## STEP 2



Lay the dampened paper on the towel and fold it over the front of the paper. Then gently pat it down, so the excess water is removed from both sides.

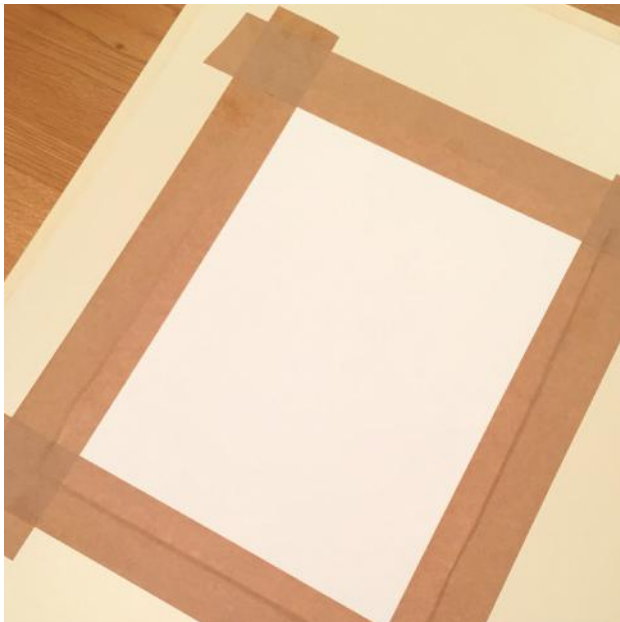
## STEP 3



Place the paper flat on the drawing board, so you have at least 2" of visible board all round. Take one of the gummed paper strips and dampen it with the sponge or cloth. Don't soak it as this might dilute the glue. Place it along one edge of the paper so it's approximately half on the paper and half on the board. Smooth it down, stretching out the paper if necessary so it lies flat.

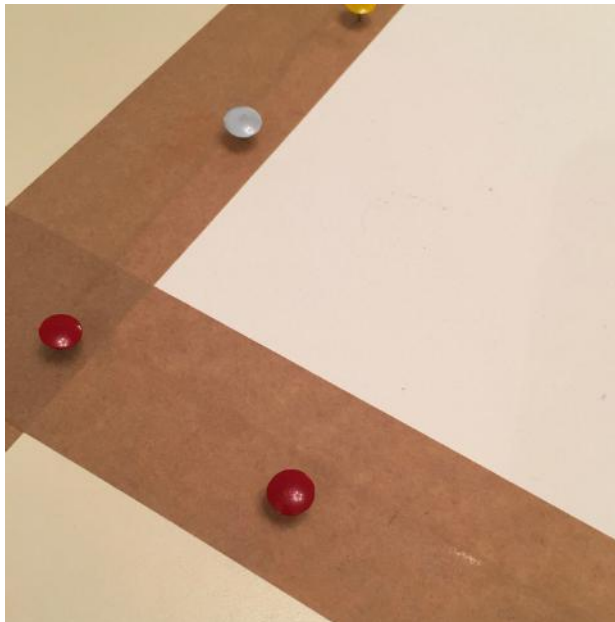
# HOW TO STRETCH WATERCOLOUR PAPER

## STEP 4



Repeat on the other three sides and smooth all the strips down so they are stuck firmly to the board, as well as the paper and each other at the corners. Leave to dry for several hours at room temperature, preferably overnight.

## STEP 5



Drying paper can pull away from the gummed paper strip. To avoid this, place drawing pins through the paper and gummed strip about every 3" (8cm). Leave enough pin showing so they can be easily removed later.

An alternative to pins is a staple gun. Try to make sure they don't go right into the board, so you can easily remove them later. Placing a coffee stirrer and firing the staple so it sits either side of it should help.

## STEP 6



Remove the pins or staples once the stretched paper is dry, prior to painting (a small pair of pliers will save your fingernails when removing the staples!). Now go and paint your masterpiece on a sheet of drum-tight, beautifully flat paper!



# COLOUR MIXING TERMS

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## PRIMARY COLOURS

There are three primary colours which cannot be created by mixing other colours. They are: red, blue and yellow

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## SECONDARY COLOURS

Secondary colours are mixed from two of the primaries. They are green (blue + yellow), orange (red + yellow), purple (red + blue)

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## TERTIARY COLOURS

The six colours created by mixing a primary with a secondary i.e. blue + green to create a blue-green or turquoise

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## COMPLEMENTARY COLOURS

Colours opposite each other on the colour wheel. For example, orange is opposite blue on the colour wheel and so become each others' complementary colour. Complementary colours are said to enhance each other when placed next to each other. When mixed with each other they have the opposite effect, creating a dull, neutral tone.

Complementary colours include: Orange and blue, Yellow and purple, Green and red

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## HUE

This is the brightest, most vivid version of a primary, secondary or tertiary colour. So red for example, with no other colour mix with it and undiluted is a hue. Painting only with hues would result in a very bright and garish painting.

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## TINT

Adding white to a colour to lighten it, creates a tint of that colour. In watercolour painting, adding water to a colour mix allows more of the white paper to show through thereby turning it into a tint.

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## SHADE

Adding black to a colour to darken it, creates a shade of that colour. In watercolour painting, adding a colour's complementary to it has a similar effect (i.e. adding purple to yellow has a similar effect as adding black to the yellow). You could also mix a black colour by mixing the three primary colours together and then add that black mix to another colour (sparingly) to create a shade.

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## TO NE

Adding black and white to a colour, creates a tone of that colour. Obviously black and white make grey and so a tone is greyer version of a colour. These are also referred to as pastel colours, or neutral colours. You'll use tones a lot in your watercolour paintings because the bulk of any subject matter is made from them. You can then use shades for shadow areas, tints for highlight areas and a touch of bright hues where you really want the colour to zing.

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## VALUE

This is the lightness or darkness of a colour. While it might seem obvious that blue has a darker value than yellow, a very light blue might be lighter than a dark yellow. The best way to judge the values in a photograph or painting is to make it black and white. This will make it obvious which colours are darker and lighter than others.

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