

THE  
NEW

**Color-aid<sup>®</sup>**



**BOOKLET**

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**Sixth Edition (Revised 2006)**

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## The 314 Color-aid System

**This booklet describes the colors in The New Color-aid system and how they relate to one another. The system is designed to open new color possibilities to art students, to designers, to individuals specifying color for artwork and to everyone who needs a wide selection of colors.**

- The Color-aid FULL SET consists of 314 interrelated colored papers offered in different sizes. (See page 17).
- All colors except black and white are identified on the reverse side.
- The coating (colored side) is water resistant and can be cleaned with a lint-free cloth dampened with water. Use soap for greasy stains. Do not use turpentine, mineral spirits or other strong solvents such as rubber cement thinner or acetone.
- The lightfastness of the colors are improved. They will remain unchanged for a long time and this will be extended if the colors are kept out of bright light. A slight yellowing of the oil in the vehicle is unavoidable and over time may especially affect the pale violets and blues.
- The colors are matched closely to a standard, but periodically minor adjustments may be made to improve the system.

Table 1

<b>HUE &amp; T</b> 112 colors	001 <b>Rw-HUE</b>	033_YG-T1	068_Bc-T3	103 <b>RC-HUE</b>	130_C-LT	<b>DS</b> 5 colors	179_RO-P3-2	214_Y-P4-2	249_G-P3-3	284 <b>V-S2</b>
	002_Rw-T1	034_YG-T2	069_Bc-T4	104_Rc-T1	131_B-LT		180_RO-P3-3	215_Y-P4-3	250 <b>BG-S1</b>	285_V-P2-1
	003_Rw-T2	035_YG-T3	070 <b>B-HUE</b>	105_Rc-T2	132_V-LT		181 <b>O-S1</b>	216_YGw-S1	251_BG-P1-1	286_V-P2-2
	004_Rw-T3	036_YGc-HUE	071_B-T1	106_Rc-T3	133_RV-LT	182_O-P1-1	217_YGw-P1-1	252_BG-P1-2	287_V-P2-3	
	005_Rw-T4	037_YGc-T1	072_B-T2	107_Rc-T4	134_R-LT	183_O-P1-2	218_YGw-S2	253 <b>BG-S2</b>	288 <b>RV-S1</b>	
	006 <b>RO-HUE</b>	038_YGc-T2	073_B-T3	108 <b>R-HUE</b>	<b>GRAY</b> 19 colors	184 <b>O-S2</b>	219_YGw-P2-1	254_BG-P2-1	289_RV-P1-1	
	007_RO-T1	039_YGc-T3	074_B-T4	109_R-T1		185_O-P2-1	220_YGw-P2-2	255_BG-P2-2	290_RV-P1-2	
	008_RO-T2	040 <b>Gw-HUE</b>	075 <b>Bw-HUE</b>	110_R-T2		186_O-P2-2	221_YGw-S3	256_BG-P2-3	291_RV-P1-3	
	009_RO-T3	041_Gw-T1	076_Bw-T1	111_R-T3	<b>EX</b> 10 colors	187_O-P2-3	222_YGw-P3-1	257 <b>BG-S3</b>	292 <b>RV-S2</b>	
	010_RO-T4	042_Gw-T2	077_Bw-T2	112_R-T4		188 <b>O-S3</b>	223_YGw-P3-2	258_BG-P3-1	293_RV-P2-1	
	011 <b>O-HUE</b>	043_Gw-T3	078_Bw-T3	<b>LT</b> 12 colors		189_O-P3-1	224_YGw-S4	259_BG-P3-2	294_RV-P2-2	
	012_O-T1	044_Gw-T4	079_Bw-T4		135 <b>BLACK</b> (1)	190_O-P3-2	225_YGw-P4-1	260_BG-P3-3	295_RV-P2-3	
	013_O-T2	045 <b>G-HUE</b>	080_Bw-T5		136 <b>GRAY</b> 1.5	191_O-P3-3	226_YGw-P4-2	261 <b>C-S1</b>	296 <b>M-S1</b>	
	014_O-T3	046_G-T1	081 <b>BV-HUE</b>	137 <b>GRAY</b> 2	192 <b>YO-S1</b>	227_YGw-P4-3	262_C-P1-1	297_M-P1-1		
	015 <b>YO-HUE</b>	047_G-T2	082_BV-T1	138 <b>GRAY</b> 2.5	193_YO-P1-1	228_YG-S1	263_C-P1-2	298_M-P1-2		
	016_YO-T1	048_G-T3	083_BV-T2	139 <b>GRAY</b> 3	194 <b>YO-S2</b>	229_YG-P1-1	264 <b>C-S2</b>	299 <b>M-S2</b>		
	017_YO-T2	049_G-T4	084_BV-T3	140 <b>GRAY</b> 3.5	195_YO-P2-1	230_YG-P1-2	265_C-P2-1	300_M-P2-1		
	018_YO-T3	050 <b>Gc-HUE</b>	085_BV-T4	141 <b>GRAY</b> 4*	196_YO-P2-2	231_YG-S2	266_C-P2-2	301_M-P2-2		
	019 <b>Yw-HUE</b>	051_Gc-T1	086_BV-T5	142 <b>GRAY</b> 4.5	197 <b>YO-S3</b>	232_YG-P2-1	267_C-P2-3	302_M-P2-3		
	020_Yw-T1	052_Gc-T2	087 <b>V-HUE</b>	143 <b>GRAY</b> 5	198_YO-P3-1	233_YG-P2-2	268 <b>C-S3</b>	303 <b>M-S3</b>		
	021_Yw-T2	053_Gc-T3	088_V-T1	144 <b>GRAY</b> 5.5	199_YO-P3-2	234_YG-P2-3	269_C-P3-1	304_M-P3-1		
	022_Yw-T3	054_Gc-T4	089_V-T2	145 <b>GRAY</b> 6	200 <b>YO-S4</b>	235_YG-S3	270_C-P3-2	305_M-P3-2		
	023 <b>Y-HUE</b>	055 <b>BG-HUE</b>	090_V-T3	146 <b>GRAY</b> 6.5	201_YO-P4-1	236_YG-P3-1	271_C-P3-3	306_M-P3-3		
	024_Y-T1	056_BG-T1	091_V-T4	147 <b>GRAY</b> 7	202_YO-P4-2	237_YG-P3-2	272 <b>B-S1</b>	<b>LP</b> 8 colors		
	025_Y-T2	057_BG-T2	092_V-T5	148 <b>GRAY</b> 7.5	203_YO-P4-3	238_YG-P3-3	273_B-P1-1			
	026 <b>Yc-HUE</b>	058_BG-T3	093 <b>RV-HUE</b>	149 <b>GRAY</b> 8	204 <b>Y-S1</b>	239 <b>G-S1</b>	274_B-P1-2			
	027_Yc-T1	059_BG-T4	094_RV-T1	150 <b>GRAY</b> 8.5	205_Y-P1-1	240_G-P1-1	275_B-P1-3			
	028_Yc-T2	060 <b>C-HUE</b>	095_RV-T2	151 <b>GRAY</b> 9	206 <b>Y-S2</b>	241_G-P1-2	276 <b>B-S2</b>			
	029_YGw-HUE	061_C-T1	096_RV-T3	152 <b>GRAY</b> 9.5	207_Y-P2-1	242 <b>G-S2</b>	277_B-P2-1			
	030_YGw-T1	062_C-T2	097_Rw-T4	153 <b>WHITE</b> (10)	208_Y-P2-2	243_G-P2-1	278_B-P2-2			
	031_YGw-T2	063_C-T3	098 <b>M-HUE</b>	*Gray 4 has an 18% reflectance. Use as the Photographer's Gray Card.	209 <b>Y-S3</b>	244_G-P2-2	279_B-P2-3			
	032 <b>YG-HUE</b>	064_C-T4	099_M-T1		171 <b>RO-P1-1</b>	210_Y-P3-1	245_G-P2-3	280 <b>V-S1</b>		
		065 <b>Bc-HUE</b>	100_M-T2		172 <b>RO-P1-2</b>	211_Y-P3-2	246 <b>G-S3</b>	281_V-P1-1		
		066_Bc-T1	101_M-T3		173 <b>RO-S2</b>	212 <b>Y-S4</b>	247_G-P3-1	282_V-P1-2		
	067_Bc-T2	102_M-T4	174 <b>RO-P2-1</b>		213_Y-P4-1	248_G-P3-2	283_V-P1-3			
			175 <b>RO-P2-2</b>							
			176 <b>RO-P2-3</b>							
			177 <b>RO-S3</b>							
			178 <b>RO-P3-1</b>							

- Either incandescent or standard fluorescent lamp light will distort the appearance of colors. Most major companies produce Deluxe Daylight fluorescent lamps that will reduce the color distortion. For accurate color determination, use a full spectrum fluorescent lamp with a Color Temperature between 5000°, and 6500° Kelvin and a Color Rendering Index of 91 or above.

## Description

If a large number of random colors are arranged so that they appear 'right' together, each color fitting smoothly with its neighboring colors in all directions, the colors will fill a three dimensional solid. This is because each color has three attributes, sometimes referred to as three dimensions. It is strange to think of a color as having 'dimensions' but the term is appropriate since when describing an object in space you must give its length, its width and its height, and when describing a color you need to give its hue, its saturation and its lightness. Just

saying a color is red is not sufficient, you need also to say whether it is a light or dark red, and if it is a saturated (vivid) or desaturated (grayed) red. The proportions of these three attributes pinpoint where a color belongs within the three-dimensional color solid. These attributes and other important facets of color, such as blackness and whiteness are described briefly here.

In order to give you a wide range of color choices, The New Color-aid system is organized to provide colors in all regions of this three

## Table 2

<b>CHROMATIC COLORS (295)</b>			
<b>Hue Symbols</b>			
R = red	Y = yellow	C = cyan	RV = red-violet
RO = red-orange	YG yellow-green	B = blue	M = magenta
O = orange	G = green	BV = blue-violet	w = warm
YO = yellow-orange	BG = blue-green	V = violet	c = cool
<b>Category Symbols</b>			
HUE = hue (full color)	S = shade	EX = extra hue	DS = dark shade
T = tint	P = pastel	LT = light tint	LP = light pastel
<i>Example: R-T2 = red, tint two; YGw-P4-1= warm yellow-green pastel four, one.</i>			
<b>ACHROMATIC COLORS (19)</b>			
BLACK (1), GRAY (1.5, 2, 2.5, ➤ 9.5), WHITE (10)			

dimensional color space. It is very useful to have organized colors available when working on color exercises, such as those that Josef Albers taught and are a part of most color courses. The carefully chosen 314 colors include 295 chromatic colors and 19 achromatic colors. Table 1 lists the colors in the order in which you will find them in your Color-aid pack. Table 2 describes the hue and category notations used in Table 1, as well as throughout this booklet. Table 3 gives the number of colors in each category.

Each chromatic color is designated by a notation giving information about its hue, lightness and saturation category. The hue section of the notation is based on the initials of common color names, followed in some cases by a notation indicating whether it is warm (w) or cool (c). The second part of the notation indicates the color category; that is, whether it is a full color (HUE), a tint (T), a shade (S), or a tone

(P). Since both the word tint and tone start with a 'T' these toned down, or muted, colors are referred to as Pastels.

**HUE, T, S and P** are referred to as the Color-aid color categories and are defined as follows:

- **HUE:** chromatic colors perceived as having minimal whiteness and blackness. These are the most saturated (strongest, most vivid) colors within the Color-aid range of colors. They are often referred to as 'full' colors.
- **T:** chromatic colors perceived as having varying degrees of whiteness with minimal blackness perceived.
- **S:** chromatic colors perceived as having varying degrees of blackness with minimal whiteness perceived.
- **P:** chromatic colors perceived as having varying degrees of both whiteness and blackness. Because of this these colors are the most abundant.

Within each of these groups the colors are numbered in sequence with increasing degrees of whiteness, blackness or both. The Pastels have two numbers, one to indicate their shade and a second number to indicate the degree of whiteness. These pastel colors cover the important

Table 3

Section	Category Symbols	Number of Colors per category
1. Hue and Tint	HUE and T	24 and 88
2. Extra Hue	EX	10
3. Light Tint	LT	12
4. Shade and Pastel	S and P	42 and 106
5. Dark Shade	DS	5
6. Light Pastel	LP	8
7. Gray	BK, GRAY, W	1,17,1



grayed central region of the color solid near the neutral axis. There are also four special sections included in the pack of colors: ten extra hues at their highest saturation (**EX**), a group of very light tints (**LT**), a group of very light pastels (**LP**), and a group of very dark shades (**DS**).

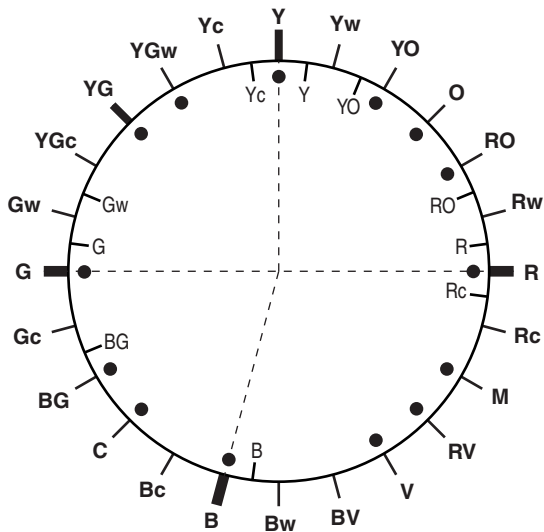
In addition to identifying the colors, this notational system can be used to designate color areas in line drawings or in sketches for artworks to be completed later. The notational system also allows you to communicate about color clearly with other people familiar with Color-aid colors. For ease of use the 314 colors are divided into 7 sections that are listed in Table 3 and described below:

1. Hue and Tint Section consists of the 24 hues (**HUE**), each followed by from 2 to 5 tints (**T**) depending on the hue. Light hues, such as yellow, produce fewer distinct tints than dark

hues, such as violet. Each tint of a particular color carries the same hue notation, followed by the **T** and the tint number. For example, **V-T3** stands for Violet-Tint 3. The number of tints for each hue are given in Table 1. Figure 1 shows how the 24 hues are arranged on the color circle.

2. Extra Hue Section consists of 10 additional hues (**EX**) that are intermediate between the 24 major hues. Their positions are indicated on the inner circumference of the color circle in Figure 1.

3. Light Tint Section consists of 12 very light tints (**LT**). These pale colors are lighter than the lightest tint of that hue. For example, **R-LT** is lighter than **R-T4**. These Light Tints can therefore be used for extending the tint scales. Note that not all the Light Tints will match the hue of the corresponding tint series exactly.



**Figure 1.** Outer 24 hue symbols are used for the Hue and Tint section. The 14 hue symbols with a dot at their stems are used in the Shade and Pastel sections. The 10 inner hue symbols are used in the Extra Hue section. R, Y, G and B represent the unitary hues, so called for they are not perceived as mixtures. All other hues can be described in terms of two adjacent unitary hues. For example, BG is perceived as a combination of unitary green and unitary blue regardless of what the colorant composition might be.

4. Shade and Pastel Section consists of monochromatic planes (two-dimensional surfaces within the color solid) based on the 14 hues marked with a dot (•) on the color circle in Figure 1. Each plane contains from 8 to 12 colors with the same hue notation. The number of Shades in a plane varies since there are fewer distinct steps between black and the dark hues such as Violet (**V**) and Blue (**B**) than between black and the lighter hues. Each Shade is followed by from 1 to 3 Pastels. The darker Shades contain more pastel steps than the lighter ones. Figure 2 shows the Shade and Pastel planes for the various hues and indicates how they should be arranged.

5. Dark Shade Section consists of 5 very dark colors, Dark Shades (**DS**), that form extensions of a few Shades. Each Dark Shade can be used to extend at least two of the Shade scales because as a chromatic color approaches black, the ability to discern hue differences diminishes

significantly. Figure 4 shows the hues that can satisfactorily be extended with these Dark Shades. They can also be used to extend adjacent hues.

6. Light Pastel Section consists of 8 Light Pastels (**LP**), that are lighter than the lightest of the Pastel sets and can be used as extensions of the Pastel scales of major hues. They can also be thought of as muted versions of the Light Tints. They carry the hue notations for the scales to which they are related.

7. Gray Section consists of 17 grays that form a scale from black (**BK**) to white (**W**), making a total of 19 achromatic colors. They do not have a hue notation but are assigned a number representing their place in a half-step scale starting with 1 for Black and ending with 10 for White.

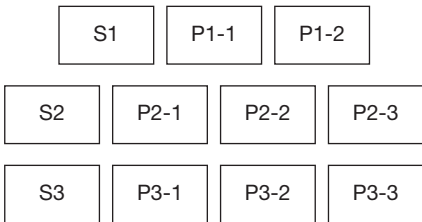


Figure 2.1. R, RO, O, YG, G, BG, C and M

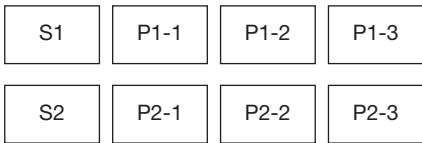


Figure 2.3. B, V and RV

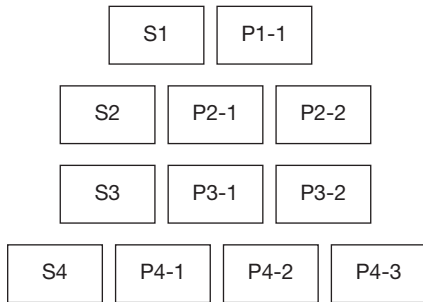
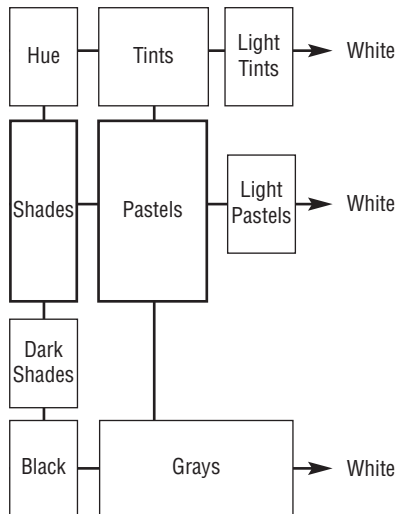


Figure 2.2. YO, Y and YGw

Figure 2. Shade / Pastel Planes for the various hues.

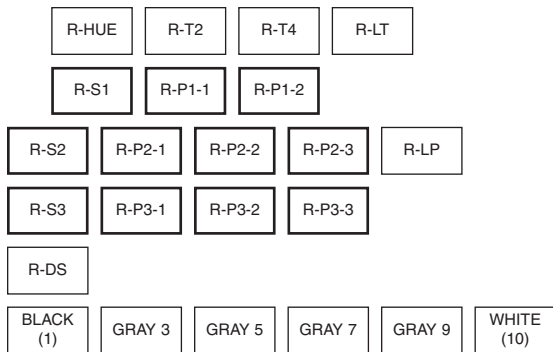
Using the hue notations it is possible to construct 24 monochromatic tint scales that begin with the full color and end with white. Fourteen monochromatic planes can be formed using colors from six of the sections including the Hues, Tints, Light Tints, Shades, Pastels, Light Pastels, Dark Shades and optional gray scale. Figure 3 is a diagram showing how all 7 color sections relate to one another. The charts in Figure 4 display the fourteen monochromatic planes. The rectangles with heavy outlines in Figures 3 and 4 show how the Shade and Pastel sections relate to the other colors. Notice that for better uniformity some tints are omitted and in 3 cases two hues are combined on one chart. The extra tints will be useful in other ways, such as in the extended tint scales mentioned above. Note also that some hues do not include a Light Tint (LT), Light Pastel (LP) or Dark Shade (DS)



**Figure 3.** Schematic diagram of the 14 monochromatic planes. When arranging colors place the Shade and Pastel sections first.

**Figure 4.** The Color-aid monochromatic color planes. Black, the grays and white can be used on all monochromatic color planes.

**Figure 4.1. RED**



**Figure 4.2. RED-ORANGE**

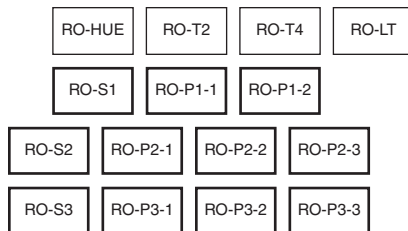


Figure 4.3. ORANGE

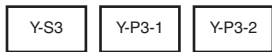
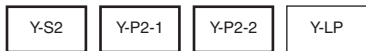
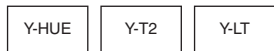
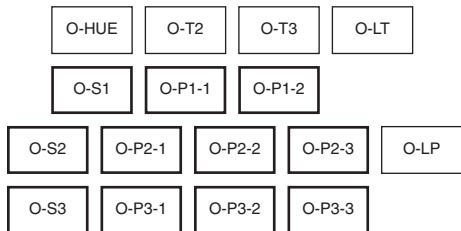


Figure 4.5. YELLOW

Figure 4.4. YELLOW-ORANGE

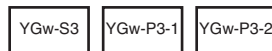
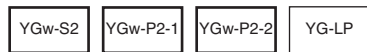
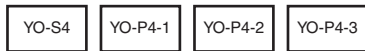
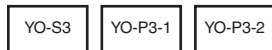
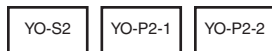
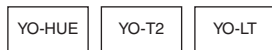


Figure 4.6.  
WARM YELLOW-  
GREEN

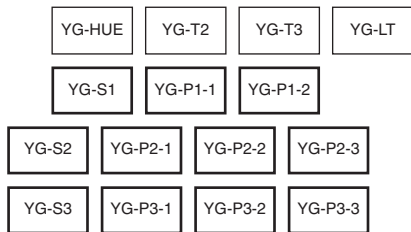


Figure 4.7. YELLOW-GREEN

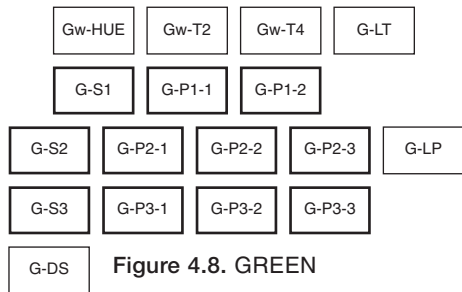


Figure 4.8. GREEN

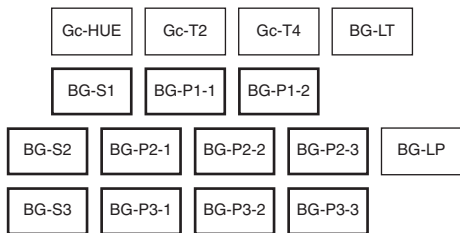


Figure 4.9. BLUE-GREEN

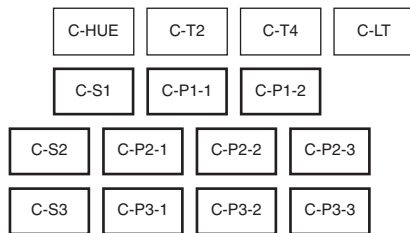
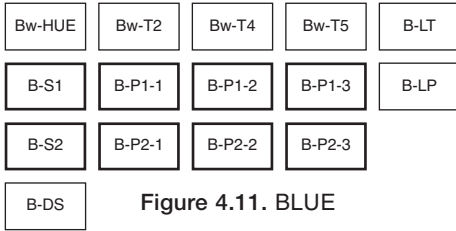
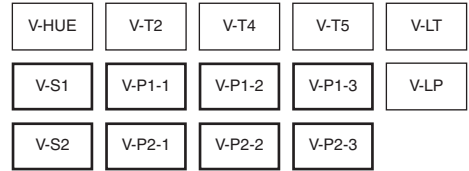


Figure 4.10. CYAN

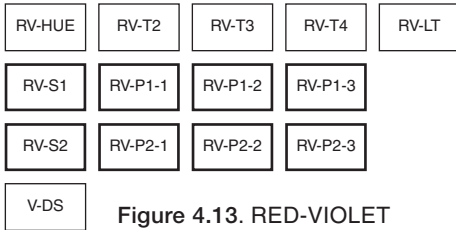




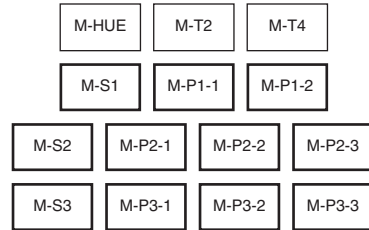
**Figure 4.11. BLUE**



**Figure 4.12. VIOLET**



**Figure 4.13. RED-VIOLET**



**Figure 4.14. MAGENTA**

The New **Color-aid**® full line of products  
(See next page for full list)

**COLOR-AID CORPORATION.**

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## The New **Color-aid**® full line of products

### FULL SETS (314 colors)

- A. Full Set, 6" x 9"
- B. Full Set, 4 1/2" x 6"
- C. Full Set, 3" x 4 1/2"
- D. Full Set, 2" x 3"

Note: All full sets include instruction booklet.

### ABRIDGED SETS

- E. Harmony Set  
(158 colors- 6" x 9", instructions)
- F. Gray Set  
(19-step gray scale- 9" x 12", instructions)
- G. Hue Set  
(34 hues, 3 achromatics- 6" x 9")

### REFERENCES

- H. Swatch Book  
(314 colors- 2" x 4 1/2", screw bound)
- I. Color Chart  
(314 actual-color chips on 4 cards- 8 1/2" x 11")

### SHEETS (314 colors)

- J. 24" x 36" (large size, when available)
- K. 18" x 24" (standard size)
- L. 9" x 12" (small size)

### OTHER PRODUCTS (not shown)

- M. Portfolio (314 colors- 18" x 24",  
2 folios, color chart, instruction booklet)
- N. DuoTac  
(two sided adhesive film- 18" x 24")  
(two sided adhesive film- 24" x 36")

### CUSTOM PRODUCTS

- Full Set and Harmony Set- 9" x 12"
- Custom Sets (150 colors or less call for details.)

**COLOR-AID CORPORATION.**

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