

The Hickethier Color Mixing System

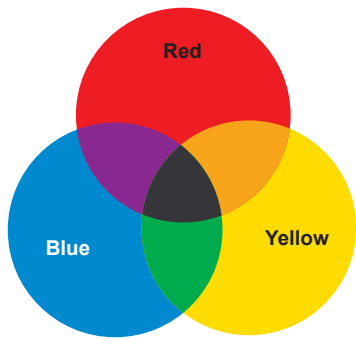
Experience the reinvented color wheel system co-developed by art teachers, Rock Paint Distributing, and Triarco Arts & Crafts.

Connect math skills in mixing color and developing a better understanding of color theory.

This color mixing technique allows for more effective use of class time and art materials, and will take the guesswork out of mixing and re-mixing paint.

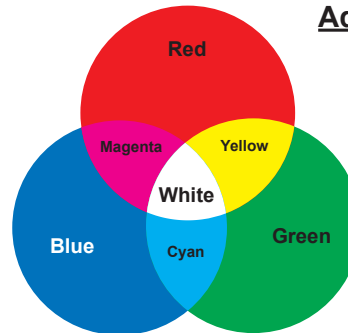
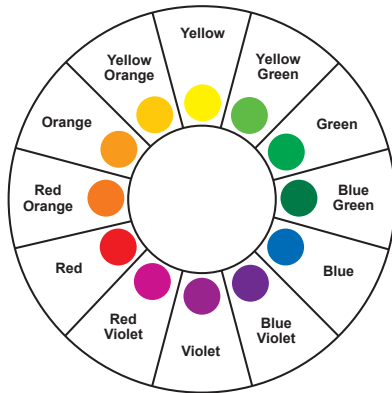
The Hickethier Color Mixing System is available in Acrylic and Tempera through Triarco Arts & Crafts.

ABOUT IT: Part One – Basic Color History



Subtractive Color – Art
Artistic Theory of Mixing *Pigments*

Traditional **Pigment** Primaries: Yellow, Red, Blue
Traditional **Process** Primaries: Yellow, Magenta, Cyan



Additive Color – Science
The Scientific Theory of Mixing *Light*
Traditional Primaries in Mixing *Light* are Green, Red, Blue

21st Century Color Wheel or, in the case of the Hickethier Chart, the color square.

LAYER 1				LAYER 2			
Pure White 0:0	0:0 + 0:1	0:0 + 0:2	0:0	0:0 + 0:1	0:0 + 0:2	0:0 + 0:3	0:0
0:0 + 0:1	0:0 + 0:2	0:0 + 0:3	0:0	0:0 + 0:1	0:0 + 0:2	0:0 + 0:3	0:0
0:0 + 0:2	0:0 + 0:3	0:0 + 0:4	0:0	0:0 + 0:1	0:0 + 0:2	0:0 + 0:3	0:0
Pure Magenta 0:1	0:1	0:1	0:1	0:1	0:1	0:1	0:1
0:0 + 0:1	0:0 + 0:2	0:0 + 0:3	0:0	Pure Yellow 0:0	0:0	0:0	0:0
0:0 + 0:2	0:0 + 0:3	0:0 + 0:4	0:0	0:0	0:0	0:0	0:0
0:0 + 0:3	0:0 + 0:4	0:0 + 0:5	0:0	0:0	0:0	0:0	0:0
0:0	0:0	0:0	0:0	0:0	0:0	0:0	Pure Black 0:0
LAYER 3				LAYER 4			

Using the Process Primaries provides more color mixing accuracy. Alfred Hickethier figured this out!

ABOUT IT: Part Two – The Hickethier Color Chart – The reasons why....

The Hickethier Color chart provides the following key assets:

Confidence • Economy • Efficiency/Time Saving • Accuracy • Ratio • Proportion • Harmony • Pattern

Let's take a look at the advantages of the chart and see how it works:

Confidence

If students understand ratio and proportion when mixing paints, then they will be able to be more independent when mixing colors.

Economy

You can save money with your budget by only ordering the colors you need:

• Yellow • Magenta • Cyan • Black • White

Efficiency/Time Saving

Saves students and teachers time and is a very effective way to provide students with a sense of ownership and control over their color mixing. Who doesn't want that?

Accuracy

Students are more satisfied with their results because they can easily recreate the colors they want when they need more paint.

Ratio

Students will understand ratio when mixing with this system. Ratio is a noun that means: the quantitative relation between two amounts showing the number of times one value contains, or is contained within, the other. **We also use the words “recipe” and “formula.”**

Proportion

Students will learn how to adjust the amounts of each part of the color mixing formula so that the parts have a suitable relationship to each other. Proportion is a noun that means: a part, share, or number considered in comparative relation to a whole.

Harmony/Unity

The Hickethier chart provides a sense of unity and harmony to artwork – it is easy to stay within a color palette or limited color scheme.

Patterns

The Hickethier chart provides some pretty cool interrelationships of colors on the chart – **See the next handout!**

ABOUT IT: Part Three – The Hickethier Color Chart – How it works:

Vocabulary: Complimentary • Ratio • Proportion • Layer • Formula/Recipe • X/Y Axis

Questions:

- What do the different numbers mean?
- Which layer has no yellow?
- Which layer has no white?
- How do you find a color's compliment? (32 compliments in total! – 999 – # of color formula number)
- Try using an X/Y Axis like on a grid in math
- What does the + w mean? (**T** = twice as much white or **H** = half as much white; add up the three digit number and you'll see)
- About how many squares out of 64 need white? (About ½ or 27 need white mixed in!)
- How many mixtures require two times the paint amount in white? (8 in total)
- How many mixtures require ½ the paint amount in white or a little white added? (18 in total)

Understanding the interrelationships of colors on the chart and the chart.

X Letter Pattern, **H Letter** Pattern, and an **I Letter** Pattern indicate complementary colors - to check use the 999 – color square code #. There are at least three different ways to find compliments – *vertically, diagonally, and horizontally*; opposite squares are compliments!

Or use math to determine your complimentary colors (999 – color code = complimentary color). If your color code is 609, you subtract it from 999 and it equals your complimentary color of 390.

Quick Lesson Ideas:

- Create a personal palette – find the color(s) you like best on the chart, write down the “code,” try mixing the color for accuracy.
- Name 3 or 4 colors a friend might find most in your clothes closet at home.
- What color car would you want?
- Pick a favorite cartoon and redo the color scheme.
- Mix a color and mix its complimentary color.

Lesson Plan Credits:

- **Johanna Peterson** – Eau Claire Public Schools
- **Terry Clayton** – Triarco Arts & Crafts
- **John Molina** – Triarco Arts & Crafts
- **Debra West** – Tomah Public Schools
- **Bill Benson** (Retired) – University of Wisconsin – Eau Claire

Hickethier Color Mixing Chart



\overline{Y} \overline{M} \overline{C} = if formula is $\frac{6}{Y} \frac{0}{M} \frac{9}{C}$ use: 6 parts **Yellow**
0 parts **Magenta**
9 parts **Cyan**

LAYER 1

LAYER 2

Pure White 0 0 0	003 + 6w	006 + 3w	0 0 9
030 + 6w	033 + 12w	036 + 4.5w	0 3 9
060 + 3w	063 + 4.5w	066 + 6w	0 6 9
Pure Magenta 0 9 0	0 9 3	0 9 6	0 9 9

300 + 6w	303 + 12w	306 + 4.5w	3 0 9
330 + 12w	333 + 18w	336 + 6w	3 3 9
360 + 4.5w	363 + 6w	366 + 7.5w	3 6 9
3 9 0	3 9 3	3 9 6	3 9 9

600 + 3w	603 + 4.5w	606 + 6w	6 0 9
630 + 4.5w	633 + 6w	636 + 7.5w	6 3 9
660 + 6w	663 + 7.5w	666 + 9w	6 6 9
6 9 0	6 9 3	6 9 6	6 9 9

Pure Yellow 9 0 0	9 0 3	9 0 6	9 0 9
9 3 0	9 3 3	9 3 6	9 3 9
9 6 0	9 6 3	9 6 6	9 6 9
9 9 0	9 9 3	9 9 6	Pure Black 9 9 9

LAYER 3

Alfred Hickethier (1905-1967)

LAYER 4

Complimentary colors can be determined by subtracting the chosen color from 999.

Example: 999 - Color Formula 609 = 390
390 is the complimentary color to 609

Hickethier Color Cube

