

Hickethier Color Mixing System

Intro to Process Color Mixing

Color mixing is the foundation of the Hickethier Color System. The system is made up of 64 basic colors from which almost any color can be mixed. Alfred Hickethier (1903-1967) was a German painter who was concerned about color reproduction in printing. His studies of pre-existing color theories led him to develop a standardized system for the reproduction of colors, referred to here as the Hickethier Color System. In the Hickethier Color System, Hickethier assigned each of the primary colors a number: White 000 is the absence of all color; Black 999 is the presence of all color. In the three-digit sequence of the color mixing system, yellow is always the first digit, magenta (red) is always the second digit, and cyan (blue) is always the third digit. Therefore, a color sequence code of "990 (orange)" can be mixed with using 9 parts of yellow, 9 parts of magenta, and 0 parts of cyan. The 64-color Hickethier System is arranged in a grid that is 8-by-8 and the system is then divided into four quadrants. Using the Hickethier system in the classroom allows for a precise mixing of color that results in the same color each time an identical color is needed for mixing.

In the Liquid Acrylic Color Mixing Set and the Tempera Color Mixing Set, the primary colors are specially formulated so that they are as pure a color as possible. The pigments are dispensed from a medical dispensing bottle that assures as exact a measurement as possible from a dropping device. Each drop from the bottle will produce the same size drop for mixing. A color mix of orange (described above) 990, in the Hickethier Color System means to use 9 drops of yellow, 9 drops of magenta, and 0 drops of cyan to create that color. Adding white in a color combination is defined as "+ __ W"; "+ 6W" means to add an additional 6 drops of white. Black is included in the color mixing set to enable you to create gray tones.

In this kit, there is a pack of 100 — 2" x 2" squares of multimedia paper, a laminated poster template, cotton swabs, sets of liquid acrylic mixing colors, and pads of palette paper for mixing.

Instructions for Mixing:

(First Quadrant) Arrange 16 paper squares in a grid pattern that is four rows by four columns. This is a quadrant. Across the top row, mark each square as follows: 000; 003 + 6W; 006 + 3W; 009. Across the second row, mark each square as follows: 030 + 6W; 033 + 12W; 036 + 5W; 039. Across the third row, mark each square as follows: 060 + 3W; 063 + 5W; 066 + 6W; 069. Across the fourth row, mark each square as follows: 090; 093; 096; 099. Note that on the laminated poster template the number of drops has been rounded up to whole drops for the purpose of the activity.

Hand out the marked paper squares to your student groups. On the mixing palette paper, the students will drop the combination of colors, mixing the color completely and then painting the color onto the appropriate square completely. The formula followed will be the same for each color square. For instance, for the square marked 000, they will not add any color — this is white. For the square marked 003, they will add no drops of yellow, no drops of magenta, and three drops of cyan. This process is followed using the method that the first number in the three-digit series is always yellow, the second number is always magenta (red), and the third digit is always cyan (blue). Note that in this quadrant, you will not be using yellow.

Let the color squares dry completely, then attach the squares (in the order marked for the first template quadrant; refer to the poster template) using the glue dots provided in the kit.

Repeat each of the above student instructions to create the second through fourth quadrants.

(Second Quadrant) Arrange 16 paper squares in a grid pattern that is four rows by four columns. This is a quadrant. Across the top row, mark each square as follows: 600 + 3W; 603 + 5W; 606 + 6W; 609. Across the second row: 630 + 5W; 633 + 6W; 636 + 8W; 639. Across the third row: 660 + 6W; 663 + 8W; 666 + 9W; 669. Across the fourth row: 690; 693; 696; 699.

(Third Quadrant) Arrange 16 paper squares in a grid pattern that is four rows by four columns. This is a quadrant. Across the top row, mark each square as follows: 300 + 6W; 303 + 12W; 306 + 5W; 309. Across the second row: 330 + 12W; 333 + 18W; 336 + 6W; 339. Across the third row: 360 + 5W; 363 + 6W; 366 + 8W; 369. Across the fourth row: 390; 393; 396; 399.

(Fourth Quadrant) Arrange 16 paper squares in a grid pattern that is four rows by four columns. This is a quadrant. Across the top row, mark each square as follows: 900; 903; 906; 909. Across the second row: 930; 933; 936; 939. Across the third row: 960; 963; 966; 969. Across the fourth row: 990; 993; 996; 999.

Having arranged all of the color squares on the poster template, you have created a custom color mixing guide. With excellent accuracy, using the Liquid Acrylic Color Mixing Set, you are now able to mix the colors specified.

Variations:

(1) For a different twist in color mixing, have the students refer to the laminated poster template to select their favorite color. Using the process described above, ask the students to write the color formula onto the bottom of a 2" x 2" square, then have them mix that color.

(2) For another variation, have a series of formulas already written onto 2" x 2" paper squares, put them in a box, have the students draw a square from that box, and ask them to mix that color.

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Pure White 0 0 0	003 + 6w	006 + 3w	Pure Cyan 0 0 9	300 + 6w	303 + 12w	306 + 4.5w	3 0 9
030 + 6w	033 + 12w	036 + 4.5w	0 3 9	330 + 12w	333 + 18w	336 + 6w	3 3 9
060 + 3w	063 + 4.5w	066 + 6w	0 6 9	360 + 4.5w	363 + 6w	366 + 7.5w	3 6 9
Pure Magenta 0 9 0	0 9 3	0 9 6	0 9 9	3 9 0	3 9 3	3 9 6	3 9 9
600 + 3w	603 + 4.5w	606 + 6w	6 0 9	Pure Yellow 9 0 0	9 0 3	9 0 6	9 0 9
630 + 4.5w	633 + 6w	636 + 7.5w	6 3 9	9 3 0	9 3 3	9 3 6	9 3 9
660 + 6w	663 + 7.5w	666 + 9w	6 6 9	9 6 0	9 6 3	9 6 6	9 6 9
6 9 0	6 9 3	6 9 6	6 9 9	9 9 0	9 9 3	9 9 6	Pure Black 9 9 9