Johannes Itten was one of the first people to define and identify strategies for successful color combinations. Through his research he devised seven methodologies for coordinating colors utilizing the hue's contrasting properties.

Contrast of hue
The contrast is formed by the juxtaposition of different hues. The greater the distance between hues on a color wheel, the greater the contrast.

Contrast of saturation
The contrast is formed by the juxtaposition of light and dark values and their relative saturation.

Contrast of light and dark
Contrast of light and dark The contrast is formed by the juxtaposition of light and dark values. This could be a monochromatic composition.

Contrast of warm and cool
The contrast is formed by the juxtaposition of hues considered ‘warm’ or ‘cool.’

Complementary Contrast
The contrast is formed by the juxtaposition of color wheel or perceptual opposites.

Simultaneous contrast
The contrast is formed when the boundaries between colors perceptually vibrate. Some interesting illusions are accomplished with this contrast.

Contrast of extension, also known as the contrast of proportion
The contrast is formed by assigning proportional field sizes in relation to the visual weight of a color.

PROJECT 1: ITTEN STUDIES
Create a color grid for each contrast. This will solidify your understanding of the concept, and add to your reference kit of color palettes.

Working in Illustrator, use the provided color grid template. Use multiple artboards, one for each contrast grid. Export the final as a pdf.
1. CONTRAST OF LIGHT/DARK

Chromatic light-dark contrast are illustrated in twelve equidistant steps from white to black and have been repeated for each of the twelve hues of the color circle, in brilliances equal to the corresponding grays. Pure yellow becomes the fourth step. Orange is the sixth step, red the eighth, blue the ninth, and violet at the tenth step in the scale of grays. The chart shows saturated yellow to be the lightest of the pure colors, and violet the darkest.

12 Step Scale
Create a Greyscale grid using colors from your 12 step color scale.
Experiment with contrast of light and dark using white, black and grey.
2. CONTRAST OF SATURATION

Saturation, or quality, relates to the degree of purity of a color. Contrast of saturation is the contrast between pure, intense colors and dull, diluted colors.

Place yellow, orange or blue in the center. The four corners are neutral gray in the same brilliance as the pure color (see example). Mixing gray with the pure color produces intermediate shades of low saturation.

The effect of ‘dull-vivid’ is relative. A color may appear vivid beside a dull tone, and dull beside a more vivid hue.

38-41 On a checkered pattern of 25 squares, luminous yellow, orange, red, or blue is placed in the center.

The four corners are neutral gray in the same brilliance as the pure color.

Graded admixture of gray with the pure color produces intermediate shades of low saturation.
3. CONTRAST OF HUE

The contrast is formed by the juxtaposition of different hues. The greater the distance between hues on a color wheel, the greater the contrast. Contrast of hue is illustrated by undiluted colors in their most intense luminosity.

4. strongest expression of contrast of hue

5. 4, with black and white

6. Colors of greatest luminosity

7. Same colors as 6, in tints and shades
4. COLD/WARM CONTRAST

These diverse impressions illustrate the versatile expressive powers of cold-warm contrast. It can be used to produce highly pictorial effects. In landscape, more distant objects always seem colder in color because of the intervening depth of air. Cold-warm contrast contains elements suggesting nearness and distance.

16 The strongest cold-warm contrast: red-orange / blue-green
17 Inversion of proportions of Fig. 16
18 Red-violet seems warm relative to blue
19 Red-violet seems cold relative to orange
20 Checkered composition contrasting cold and warm colors
21 Cold-warm modulation in red
22 Cold-warm modulation in green
CONTRAST OF WARM AND COOL (TEMPERATURE)

**Warm Color Scheme**
The hues of magenta, red, orange, yellow, and yellowgreen are generally referred to as the warm colors. These colors produce a synaesthetic experience of heat in most viewers. Studies have been conducted in which test subjects were placed in rooms painted in a warm color and their perceptions of the room's temperature was almost always much warmer than its actual temperature. The warmth that these colors radiate tends to make them seem warm, cozy, and inviting and they draw attention very easily. Psychologically warm colors are associated with happiness and comfort.

**Cool Color Scheme**
The hues of violet, blue, light blue, cyan, and sea green are generally referred to as the cool colors. As with the warm colors, the cool colors can shift your perception of temperature although they tend to make you feel colder instead of warmer. Compositions that use the cool colors often seem slick and professional, but the coldness these colors radiate often turns people off. Psychologically, cool colors are associated with sadness, depression, and melancholia.
5. COMPLEMENTARY CONTRAST

Two colors are complementary if their pigments, mixed together produce a neutral gray-black. There is always but one color complementary to a given color. In the color circle, complementary colors are diametrically opposite each other.

Examples of complementary pairs are:
- yellow, violet
- blue, orange
- red, green
6. SIMULTANEOUS CONTRAST

Simultaneous contrast results from the fact that for any given color the eye simultaneously requires the complementary color, and generates it spontaneously if it is not already present.

31-36 Each of six pure color squares contains a small neutral gray square, matching the background color in brilliance. Each gray square seems to be tinged with the complementary of the background. The simultaneous effect becomes more intense, the longer the principal color of a square is viewed.

37 Three small gray squares, surrounded by orange. Three grays barely distinct from each other have been used. The first gray is bluish, and intensifies the simultaneous effect; the second gray is neutral, and suffers simultaneous modification; the third gray contains an admixture of orange, and therefore fails to be modified.
7. CONTRAST OF EXTENSION

Contrast of extension involves the relative areas of two or more color patches. It is the contrast between much and little, or great and small.

42-44 Harmonious proportions of area for complementary colors:
Yellow : Violet = 1/4 : 3/4
Orange : Blue = 1/3 : 2/3
Red : Green = 1/2 : 1/2
45 Circle of primary and secondary colors in harmonious proportion
46 Equal proportions of red and green
47 A little red with a great deal of green makes the red highly active