Subtractive Color

by Sophia

WHAT'S COVERED

In this lesson, you will learn about subtractive color and how it's used in visual communications. Specifically, this lesson will cover:

1. Subtractive Color Process

The **subtractive color process** is the mixing of color with **pigment**; therefore, subtractive color is seen when light is absorbed or reflected by pigment.

Many visual communications professions depend on this method. It is particularly important to those practices that use paint and ink, such as any type of fine art, printing, or t-shirt creation.

TERMS TO KNOW

Subtractive Color Process

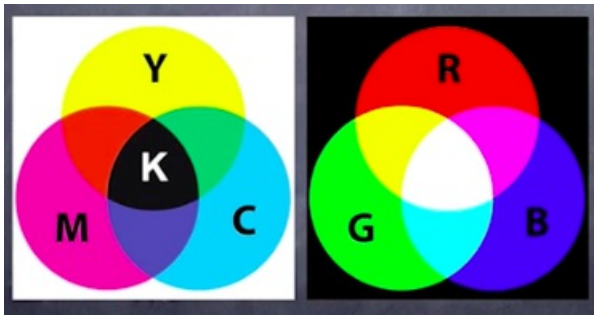
The mixing of color with pigment; subtractive color is seen when light is absorbed or reflected by pigment.

Pigment

Coloring matter, usually powdered, mixed with a liquid base in order to produce paint or ink.

2. Subtractive Color vs. Additive Color

In order to easily distinguish and understand the difference between subtractive and additive colors, here is a subtractive color chart next to an additive color chart.



The subtractive color chart works just like you'd imagine with paints or pigments. Pigment is a coloring matter, usually powdered, mixed with a liquid base in order to produce paint or ink.

> ↗ EXAMPLE Imagine you're painting, and you keep mixing more and more paints. Eventually, you get that kind of murky brown, and then black. This is subtractive color because even though you're adding color, you're really removing it and turning it to black.

On the other hand, additive color does not involve working with pigments like paint or ink. Additive color involves light.

> ↗ EXAMPLE On phone or computer screens, adding more colors gives you white instead of black.

---

3. CMYK and PMS

You might have noticed that the chart above has the letters**CMYK**, and that it doesn't have the primary colors that you're used to seeing (red, blue, and yellow). That is because subtractive color specification systems are used in the various professions that deal with printing. CMYK stands for the ink colors cyan, magenta, yellow, and black.

These inks are what is known as the "four color process" in the commercial printing industry. They are mixed on the printed page to produce the illusion of full color. You have black (K), then you add cyan (C), magenta (M), and then yellow (Y). These colors mix to create more colors until you start to get a feel for the image being represented.

You might see something like this in a newspaper or a quick print that's not super high quality. If you print at a finer quality, the images will get crisper, and you'll see less of the residual mixing.

Another subtractive color specification system is referred to as**PMS**, which stands for Pantone Matching System™. This system is used in the commercial printing industry to specify, match, and mix flat colored inks. You might see something like this at your local home improvement store in the paint section.

Base colors are used to mix new colors, typically with the aid of a computer. All the colors are cataloged and identified; each color has its own code or number. This is so you're able to find the color you want and so the computer can mix it appropriately.

TERMS TO KNOW

CMYK

Cyan, magenta, yellow, and black; these inks are what is known as the "four color process" in the commercial printing industry. They are mixed on the printed page to produce the illusion of full color.

PMS

Pantone Matching System™; this system is used in the commercial printing industry to specify, match, and mix flat color inks.

SUMMARY

In this lesson, you learned that the **subtractive color process** occurs when colors are mixed with pigment. **The difference between subtractive and additive colors** is as easy as black and white: When

working with subtractive colors, the more colors you mix, the more black the mix becomes. When working with additive colors, the more light you add, the more white the mix becomes. You also learned that **CMYK** stands for cyan, magenta, yellow, and black. These inks are the "four color process" used in the commercial printing industry. This industry also uses **PMS**, or the Pantone Matching System™, to specify, match, and mix flat color inks.

Keep up the learning and have a great day!

Source: SOURCE: THIS WORK IS ADAPTED FROM SOPHIA AUTHOR MARIO E. HERNANDEZ

TERMS TO KNOW

CMYK
Cyan, magenta, yellow, and black; these inks are known as the "four color process" in the commercial printing industry, and are mixed on the printed page to produce the illusion of full color.

PMS
Pantone Matching System™; this system is used in the commercial printing industry to specify, match, and mix flat color inks.

Pigment
Coloring matter, usually powdered, mixed with a liquid base in order to produce paint or ink.

Subtractive Color Process
The mixing of color with pigment; subtractive color is seen when light is absorbed or reflected by pigment.