

The Color Wheel

In the mid-1600s, the scientist Sir Isaac Newton was studying light. Using a glass prism, he discovered that white light is not plain at all but can be split into many colors — red, orange, yellow, green, blue, indigo, and violet. This was the first time anyone had proven that color is part of the very nature of light.

Newton went further. Instead of keeping the colors in a straight rainbow, he joined the ends together into a circle of colors. By doing this, he showed that the spectrum was continuous, with red blending back into violet. This was the birth of the first color wheel, created in 1666.

The color wheel was important because it gave artists and scientists a visual map of how colors relate to one another. It showed that colors are not random but are ordered and predictable. For the first time, people could see how mixing certain colors would create new ones.

On the wheel we begin with the primary colors — red, yellow, and blue. These three cannot be created by mixing any other paints together. They are called “primary” because they are the foundation for all other colors.

By mixing two primary colors, we get the secondary colors: red and yellow make orange, yellow and blue make green, and blue and red make violet. These new colors are placed between their parent colors on the wheel.

If you take a primary color and mix it with a nearby secondary color, you get a tertiary color. These are named by combining the two words, like yellow-orange, red-violet, or blue-green. With primaries, secondaries, and tertiaries, the wheel now has twelve main colors.

But color is not only about mixing. Artists also look at four qualities of each color. The hue is its place around the wheel. The saturation shows whether the color is bright and pure or dull and grayish. The value tells us how light or dark it is. Finally, the temperature shows whether the color feels warm, like red and orange, or cool, like blue and green.

Over time, artists realized that the color wheel could guide them in creating harmony and contrast. Colors across from one another, like blue and orange, are called complementary colors and make each other stand out. Colors side by side, like yellow, yellow-orange, and orange, are called analogous colors and create calm and unity. These relationships are why the wheel is still a vital tool for art and design today.

Today, as you paint your own color wheel, you are not only practicing mixing paints. You are taking part in a tradition that began with Newton’s prism in the 17th century. Just as he sought to understand the order of creation, you too will see how colors fit together into a beautiful and logical whole — a tool every artist carries for life.