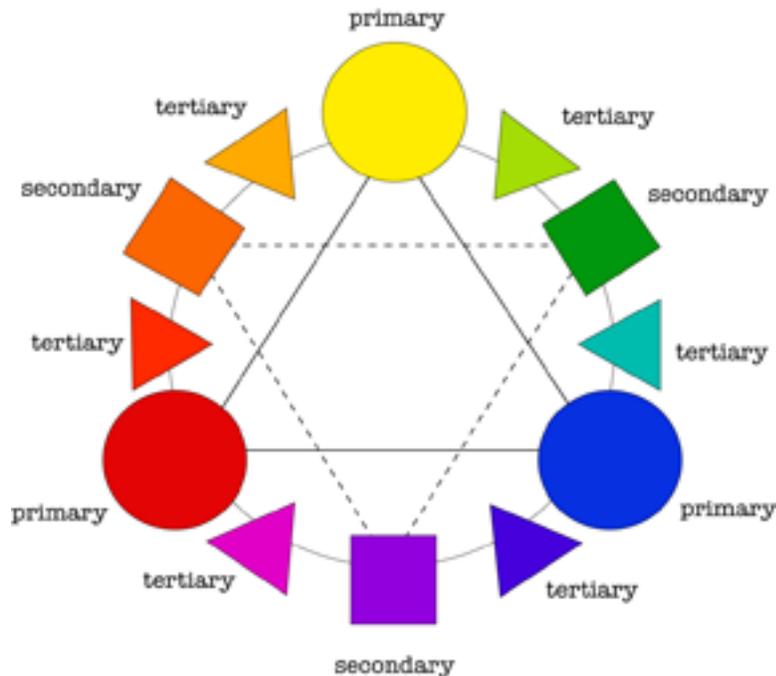


## COLOR THEORY

### Color Coding: The Color Wheel

A color wheel is a tool that helps artists and others learn and visualize color relationships; it shows how primary colors can combine to create many other colors.



### **Pigment Color**

An artist's traditional color wheel has 12 colors: 3 primary, 3 secondary, and 6 tertiary. Some materials let certain colors pass through them, and absorb other colors. These materials are called dyes or pigments. The primary colors of pigment are red, blue, and yellow. Mixing these primary colors of pigment gives us the three secondary colors: red+blue=violet, red+yellow=orange, and yellow+blue=green. Then, the primary colors mixed with the secondary give us the tertiary. They are: red- violet, red-orange, yellow-orange, yellow-green, blue-green, and blue-violet.

### **Light Color**

The primary colors of light are red, blue, and green, and the secondary are yellow, cyan, and magenta. It is very important to know that mixing pigment and mixing light are very different. Red and green paint, for example, make brown paint, but red and green light make yellow light. When beams of light are mixed without any absorption, an additive process occurs. The more we mix the beams, the closer they get to being white light. However, when we put light through a color filter, a subtractive process occurs. Some wavelengths of light are being absorbed (subtracted) and we only see the wavelengths that are selectively given off. The Additive and Subtractive Models are explained further below.