# Introduction to Colour Theory

Colour theory is the study of how colours are perceived, combined, and used in multiple industries and everyday life. It is a fundamental principle in design, as it influences the way we interpret and respond to visual information. Colour theory helps designers create visually appealing and impactful designs that communicate effectively and evoke desired emotions. The foundation of colour theory lies in understanding the colour wheel and the interplay between its various components.
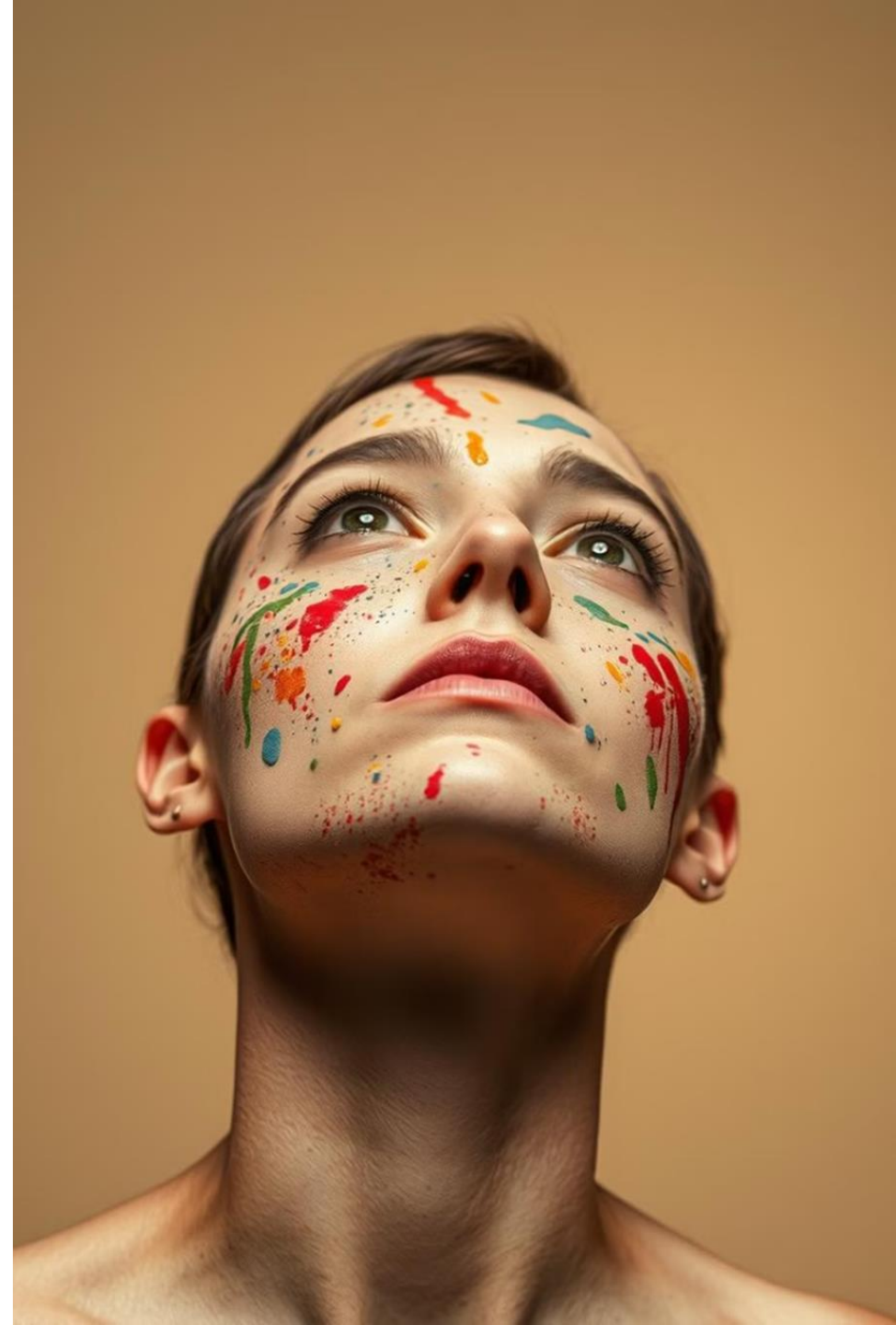
The Colour Wheel

The colour wheel is a circular diagram (created by Sir Isaac Newton) that shows the relationships between different colours. It's a fundamental tool for understanding colour theory and is often used by artists and designers. The colour wheel is divided into 12 main colours: three primary colours (red, yellow, and blue), three secondary colours (orange, green, and purple), and six tertiary colours created by mixing a primary colour with a neighboring secondary colour (blue–green, red–orange, yellow–green).
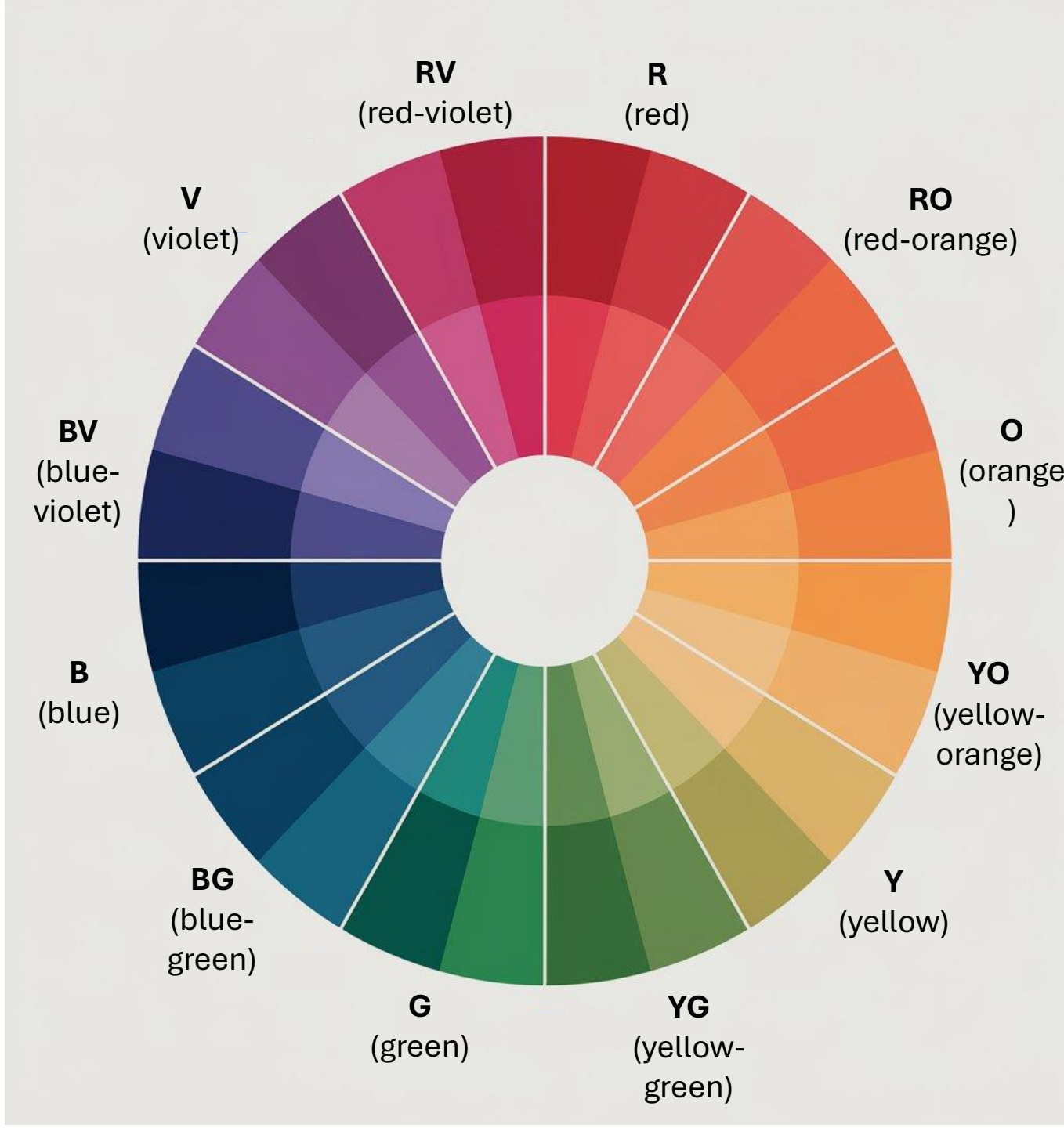
The Colour Wheel

Understanding the colour Wheel

The colour wheel is a useful tool for understanding colour relationships and harmonies. For instance, the wheel helps identify complementary colours, which are colours located opposite each other on the wheel and create a high level of contrast. It also shows analogous colours, which are colours that sit next to each other on the wheel and create a harmonious and calming effect.

Applying the colour Wheel

The colour wheel is necessary for creating visually appealing designs. By understanding the relationships between colours, designers can make informed choices about colour combinations and create balanced and harmonious palettes. This knowledge is especially important when creating websites and presentations, where colour plays a crucial role in capturing attention, conveying messages, and creating a desired aesthetic.

Primary, Secondary, and Tertiary colours

For those that haven't read White Rabbit's Colours to their kids, primary colours are the foundational colours from which all other colours are derived. Red, yellow, and blue are primary colours. They cannot be created by mixing other colours and they form the basis for all other colours on the colour wheel. Secondary colours are created by mixing two primary colours. Orange, green, and purple are secondary colours. For example, mixing red and yellow creates orange. Tertiary colours are created by mixing a primary colour with a neighboring secondary colour. For example, mixing red and orange creates red-orange. These tertiary colours offer a wider range of options for creating unique and nuanced colour palettes.

| Primary Colours	Secondary Colours	Tertiary Colours
Red	Orange	Red-orange
Yellow	Green	Yellow-green
Blue	Purple	Blue-purple

Complementary colours

Complementary colours are colours that are located opposite each other on the colour wheel. They create a high level of contrast and visual excitement. Examples of complementary colour pairs include red and green, blue and orange, and yellow and purple. This type of colour combination can be used to create a strong visual impact, draw attention to specific elements, and enhance the overall dynamism of a design.

1 Complementary colours

These colours create high contrast and visual excitement, making them suitable for attracting attention, highlighting specific elements, and creating a sense of energy. Complementary colours can be used in a variety of ways, such as using one colour as the dominant colour and the other as an accent colour.
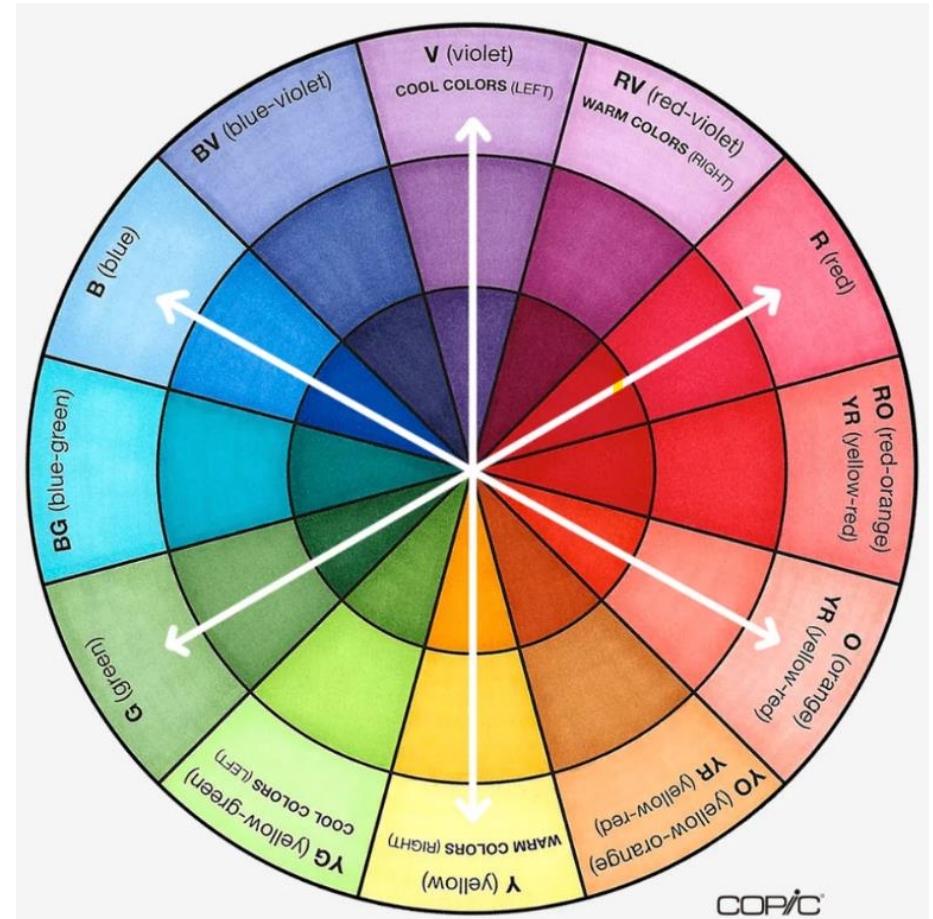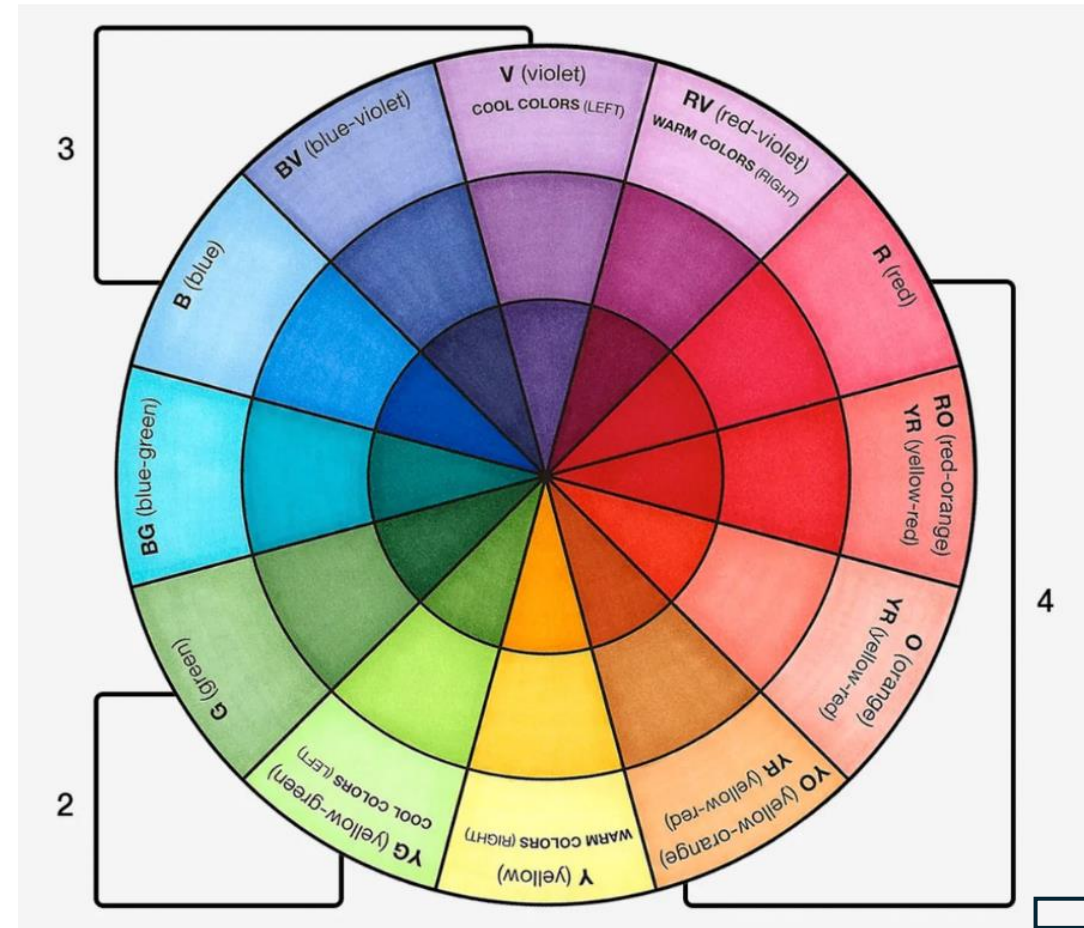
Analogous colours

Analogous colours are colours that are located next to each other on the colour wheel. They create a harmonious and balanced effect. This type of colour combination is often used to create a sense of unity and tranquility in a design. They consist of at least 2 colours to a maximum of 5.

2 Analogous colours

Analogous colours are often used to create a sense of unity and tranquility in a design. They can be used to create a sense of harmony and balance, and are particularly well-suited for creating backgrounds, branding, and mood-setting elements.

Split-Complimentary colours

Split-complementary colours are colours that are located on either side of its complement on the colour wheel. They create a beautiful and balanced palette. This type of colour combination is often used to create a sense of depth and dimension on your page. They can be used to create a sense of movement or make an element stand out.

3   Analogous colours

Analogous colours are often used to create a sense of unity and tranquility in a design. They can be used to create a sense of harmony and balance, and are particularly well-suited for creating backgrounds, branding, and mood-setting elements.
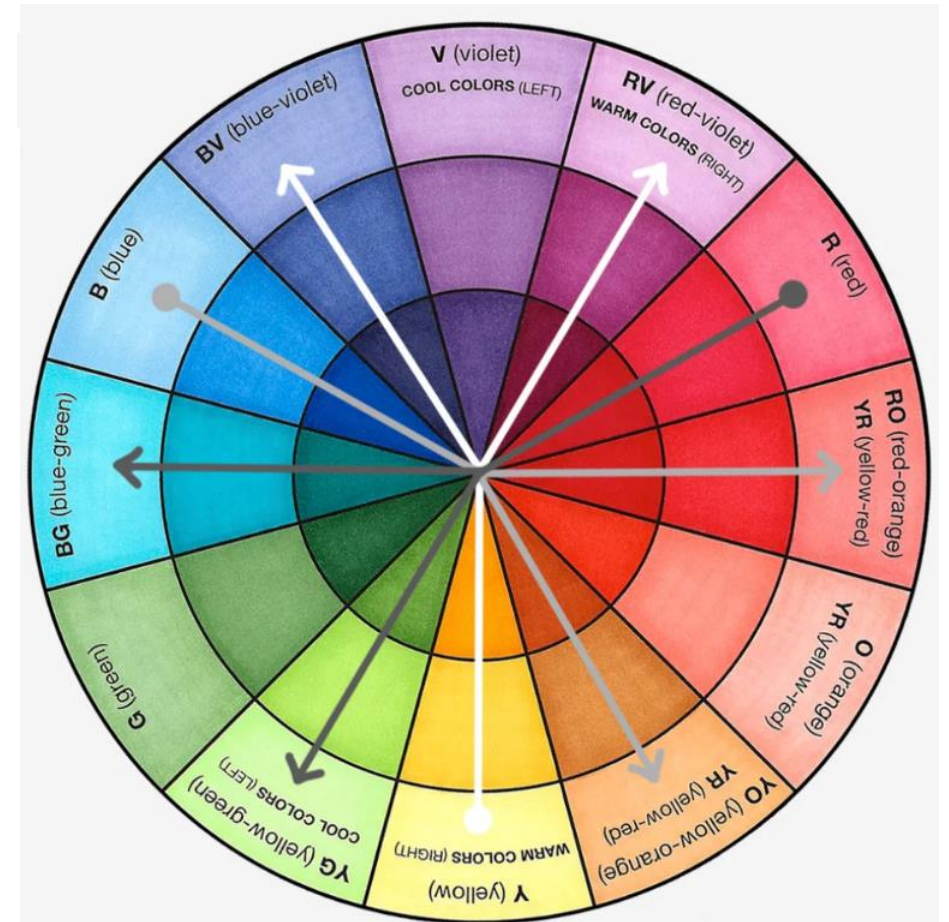
Colour Harmony and Contrast

Colour harmony refers to the pleasing and balanced use of colour in a design. It is achieved by creating a sense of unity and coherence between different colours. There are various colour harmonies that designers use, including complementary, analogous, triadic, and tetradic harmonies. Colour contrast refers to the difference in value, saturation, and hue between different colours. It is used to create visual interest, draw attention to specific elements, and improve readability.

1 Colour Harmony

Achieving colour harmony in a design can be achieved through various techniques, such as using a limited colour palette, incorporating complementary colours, or employing analogous colours. A harmonious colour scheme enhances the overall aesthetic appeal of a design and creates a visually pleasing experience.

2 Colour Contrast

Colour contrast is essential for creating legible text, highlighting important elements, and adding visual interest. For instance, a website with high contrast between the text colour and the background colour will be easier to read. Similarly, using contrasting colours can help draw attention to specific areas or call to action buttons.

Colour Psychology and Emotions

Colour psychology is the study of how colours influence human behavior, emotions, and perceptions. Different colours have different psychological associations and can evoke a range of emotions. For example, blue is often associated with calmness, peace, and trust, while red is associated with passion, energy, and excitement. Understanding the psychological impact of colours can be incredibly valuable for designers. It helps them choose colour palettes that effectively communicate their message, evoke desired emotions, and create a memorable experience for their audience.

Positive Emotions

Colors like yellow, orange, and green are often associated with happiness, warmth, and optimism. They can be used to create a sense of cheerfulness, energy, and excitement in a design.

Calming Emotions

Colors like blue, purple, and green are often associated with calmness, tranquility, and serenity. They can be used to create a sense of peace, relaxation, and focus in a design.

Energizing Emotions

Colors like red, orange, and yellow are often associated with energy, excitement, and passion. They can be used to create a sense of vibrancy, action, and urgency in a design.

Colour Theory in Web Design

Colour theory plays a crucial role in web design. It influences the overall aesthetic appeal, the user experience, and the effectiveness of communication. Designers carefully consider colour palettes, contrasts, and harmonies to create websites that are visually engaging, informative, and user–friendly. Websites that effectively use colour theory are more likely to attract visitors, create a positive user experience, and achieve their intended goals.

Branding

Colours play a crucial role in establishing a brand identity. Websites use colour to create a consistent and memorable brand experience across all platforms.

User Interface

Colour is used to guide users through a website, highlight important elements, and create a visually appealing user interface. Colours should be chosen carefully to enhance usability and readability.

User Experience

Colour can significantly influence a user's perception of a website. Warm colours can create a sense of welcome and trust, while cool colours can convey professionalism and sophistication.
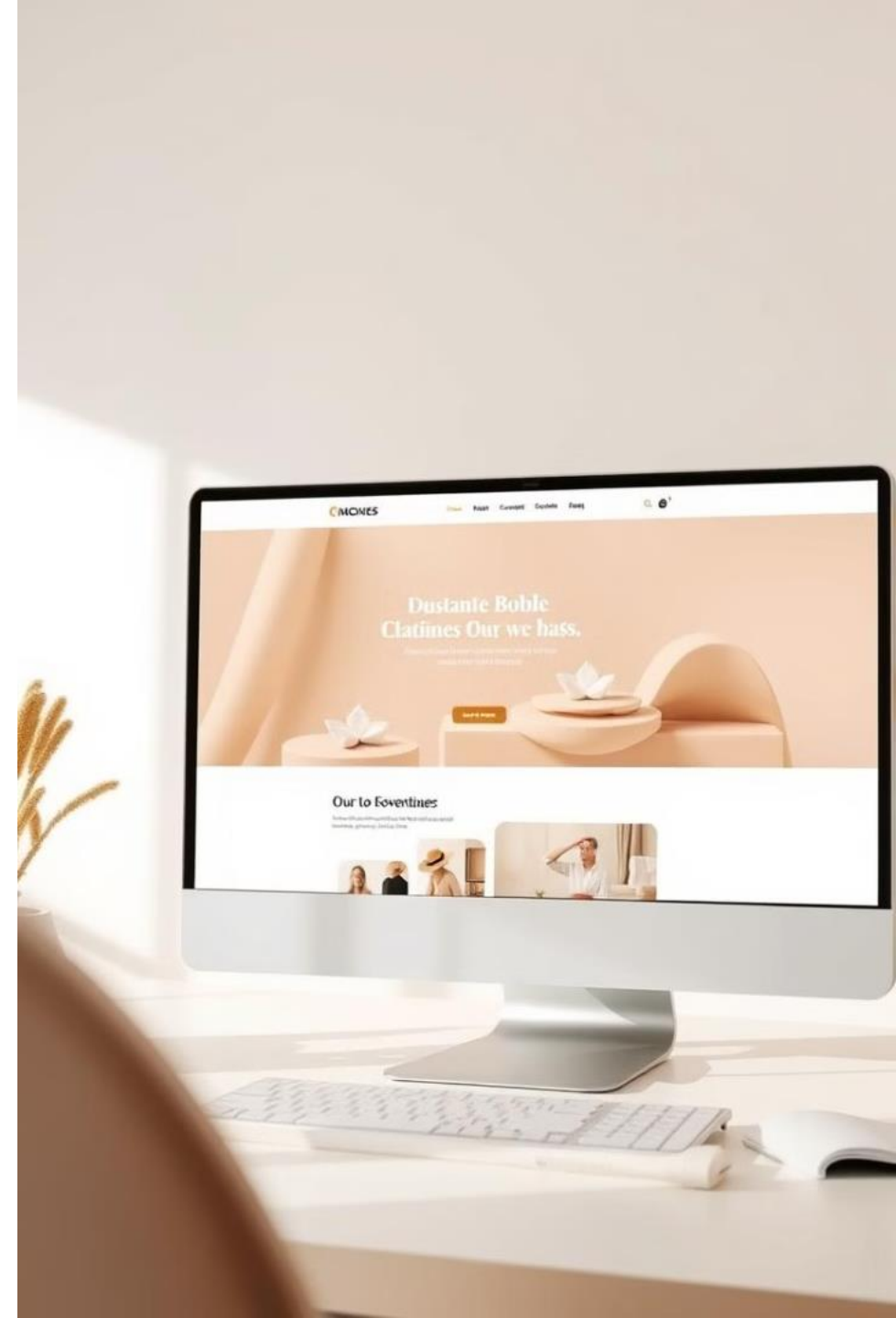
Cheat Sheet

Primary Colours	Secondary Colours	Complimentary Colours	Split– Complimentary
Red	Orange	Red–Orange	Blue-Green-Orange
Yellow	Green	Yellow–Green	Red-Yellow-Blue
Blue	Purple	Blue–Purple	Yellow-Purple-Red
			Blue-Orange-Yellow
			Green-Red-Purple
			Orange-Purple-Green
Analogous Colours			
Y- yellow-green, yellow, yellow-orange	B – blue-purple, blue, blue-green	R – red-orange, red, red-purple	O – yellow-orange, orange, red-orange
YO – yellow, yellow-orange, orange	BP – purple, blue-purple, blue	RP – red, red-purple, purple	P – red-purple, purple, blue-purple
YG – green, yellow-green, yellow	BG – blue, blue-green, green	RO – orange, red-orange, red	G – blue-green, green, green-yellow