**CSS Color Properties Guide**

**1. Text Color (color property)**

* Defines the color of text inside an element.
* Example:
* p {
* color: red;
* }

**2. Background Color (background-color property)**

* Sets the background color of an element.
* Example:
* div {
* background-color: #ffcc00;
* }

**3. Border Color (border-color property)**

* Specifies the color of an element’s border.
* Example:
* div {
* border: 2px solid blue;
* border-color: green;
* }

**4. Opacity (opacity property)**

* Controls the transparency of an element (0 = fully transparent, 1 = fully visible).
* Example:
* div {
* opacity: 0.5;
* }

**5. RGBA (Red, Green, Blue, Alpha)**

* Allows setting colors with transparency.
* Example:
* div {
* background-color: rgba(255, 0, 0, 0.5);
* }

**6. HSLA (Hue, Saturation, Lightness, Alpha)**

* Alternative way to define colors with transparency.
* Example:
* div {
* background-color: hsla(120, 100%, 50%, 0.5);
* }

**7. Gradient Backgrounds**

* **Linear Gradient:**
* div {
* background: linear-gradient(to right, red, yellow);
* }
* **Radial Gradient:**
* div {
* background: radial-gradient(circle, red, yellow);
* }

**8. CurrentColor (currentColor keyword)**

* Uses the inherited text color for other properties.
* Example:
* div {
* color: blue;
* border: 2px solid currentColor;
* }

**9. Inherit, Initial, and Unset**

* inherit: Takes the color of the parent element.
* initial: Resets the color to the default value.
* unset: Removes any applied color.
* Example:
* p {
* color: inherit;
* }
* h1 {
* color: initial;
* }

**10. Color Formats in CSS**

| **Format** | **Example** | **Description** |
| --- | --- | --- |
| Named Colors | color: red; | Uses predefined color names. |
| HEX | color: #ff0000; | Red in hexadecimal. |
| RGB | color: rgb(255, 0, 0); | Red in RGB format. |
| RGBA | color: rgba(255, 0, 0, 0.5); | Red with transparency. |
| HSL | color: hsl(0, 100%, 50%); | Red in HSL format. |
| HSLA | color: hsla(0, 100%, 50%, 0.5); | Red with transparency. |

**11. Dark Mode & Color Schemes**

* Use prefers-color-scheme in CSS to adapt to system themes:
* @media (prefers-color-scheme: dark) {
* body {
* background: black;
* color: white;
* }
* }

**12. CSS Variables for Colors**

* Define reusable color values.
* Example:
* :root {
* --main-color: #ff5733;
* }
* h1 {
* color: var(--main-color);
* }

**13. Text Shadow & Box Shadow**

* **Text Shadow:**
* h1 {
* text-shadow: 2px 2px 4px gray;
* }
* **Box Shadow:**
* div {
* box-shadow: 5px 5px 10px rgba(0, 0, 0, 0.5);
* }

**14. CSS Color Functions**

* mix-blend-mode: Blends element colors.
* filter: brightness() & filter: contrast(): Adjusts brightness/contrast.
* Example:
* img {
* filter: brightness(120%);
* }