## CSS Units

CSS provides different types of units to define dimensions like width, height, font size, margins, and paddings. These units are classified into absolute and relative units.

### ****Viewport in CSS****

The viewport is the visible area of a web page that the user can see on their screen. It changes based on the device's screen size and resolution. Viewport units help create responsive designs by adjusting elements according to the size of the user's screen.

#### ****Viewport Units****

**vw (Viewport Width):** 1vw is equal to 1% of the viewport's width.

**vh (Viewport Height):** 1vh is equal to 1% of the viewport's height.

**vmin:** The smaller value between vw and vh.

**vmax:** The larger value between vw and vh.

**Example:**

.full-screen {

width: 100vw; /\* Takes full width of the viewport \*/

height: 100vh; /\* Takes full height of the viewport \*/

background-color: lightblue;

}

### ****1. Absolute Units****

These units are fixed and do not change based on screen size.

**px (Pixels):** The most commonly used unit.

.box {

width: 200px;

height: 100px;

}

**cm (Centimeters) & mm (Millimeters):** Used for print layout.

.print {

width: 10cm;

height: 5mm;

}

**in (Inches):** Rarely used in web design.

.poster {

width: 3in;

}

### ****2. Relative Units****

These units depend on the parent element or viewport size.

**% (Percentage):** Relative to the parent element.

.container {

width: 50%;

}

**em:** Relative to the parent font size (1em = parent size).

.text {

font-size: 1.5em;

}

**rem (Root EM):** Relative to the root <html> font size.

.title {

font-size: 2rem;

}

## 1. Height & Width

**Example 1:** Set a fixed width and height for a div.

.div1 {

width: 200px;

height: 100px;

background-color: lightblue;

}

**Example 2:** Set a percentage-based width.

.div2 {

width: 50%;

height: 150px;

background-color: lightgreen;

}

**Example 3:** Use max-width and min-width.

.div3 {

max-width: 500px;

min-width: 200px;

height: 200px;

background-color: coral;

}

**Example 4:** Use vh and vw.

.div4 {

width: 80vw;

height: 50vh;

background-color: gold;

}

**Example 5:** Auto-adjust height.

.div5 {

width: 300px;

height: auto;

background-color: lightgray;

}

## 2. Text & Font

**Example 1:** Set font size and color.

.text1 {

font-size: 20px;

color: blue;

}

**Example 2:** Apply different font families.

.text2 {

font-family: Arial, sans-serif;

}

**Example 3:** Use font-weight for bold text.

.text3 {

font-weight: bold;

}

**Example 4:** Use text-align for alignment.

.text4 {

text-align: center;

}

**Example 5:** Set line-height for better readability.

.text5 {

line-height: 1.5;

}

## 3. Background Images

**Example 1:** Set a background image.

.bg1 {

background-image: url('image.jpg');

}

**Example 2:** Use background-size to cover the element.

.bg2 {

background-size: cover;

}

**Example 3:** Use background-position.

.bg3 {

background-position: center;

}

**Example 4:** Set background-repeat.

.bg4 {

background-repeat: no-repeat;

}

**Example 5:** Use multiple background images.

.bg5 {

background: url('image1.jpg'), url('image2.jpg');

}

## 4. Borders & Tables

**Example 1:** Add a simple border.

.border1 {

border: 2px solid black;

}

**Example 2:** Use border-radius for rounded corners.

.border2 {

border-radius: 10px;

}

**Example 3:** Apply a dashed border.

.border3 {

border: 2px dashed red;

}

**Example 4:** Create a basic table with borders.

table, th, td {

border: 1px solid black;

border-collapse: collapse;

}

**Example 5:** Style table headers with a background.

th {

background-color: lightgray;+

}