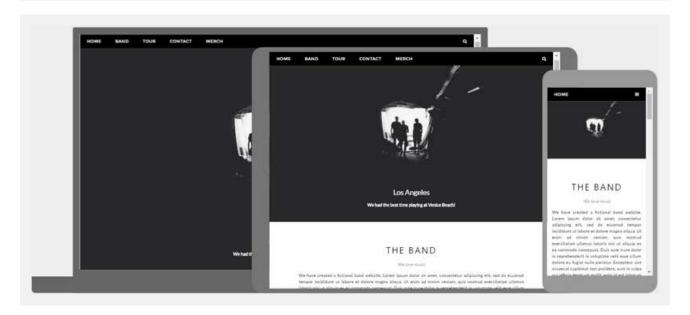w3schools.com
THE WORLD'S LARGEST WEB DEVELOPER SITE

HTML Responsive Web Design

What is Responsive Web Design?

Responsive Web Design is about using HTML and CSS to automatically resize, hide, shrink, or enlarge, a website, to make it look good on all devices (desktops, tablets, and phones):

Try it Yourself »

Note: A web page should look good on **any device**!

Setting The Viewport

When making responsive web pages, add the following `<meta>` element in all your web pages:

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```
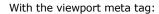
Try it Yourself »

This will set the viewport of your page, which will give the browser instructions on how to control the page's dimensions and scaling.

Here is an example of a web page *without* the viewport meta tag, and the same web page *with* the viewport meta tag:

Without the viewport meta tag: With the viewport meta tag:

Tip: If you are browsing this page on a phone or a tablet, you can click on the two links above to see the difference.

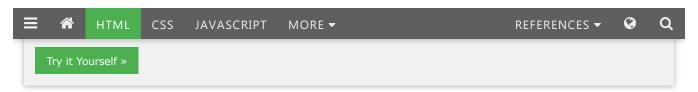# Responsive Images

Responsive images are images that scale nicely to fit any browser size.

Using the width Property

Example

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Notice that in the example above, the image can be scaled up to be larger than its original size. A better solution, in many cases, will be to use the `max-width` property instead.

Using the max-width Property

If the `max-width` property is set to 100%, the image will scale down if it has to, but never scale up to be larger than its original size:

Example

```
<img src="img_girl.jpg" style="max-width:100%;height:auto;">
```
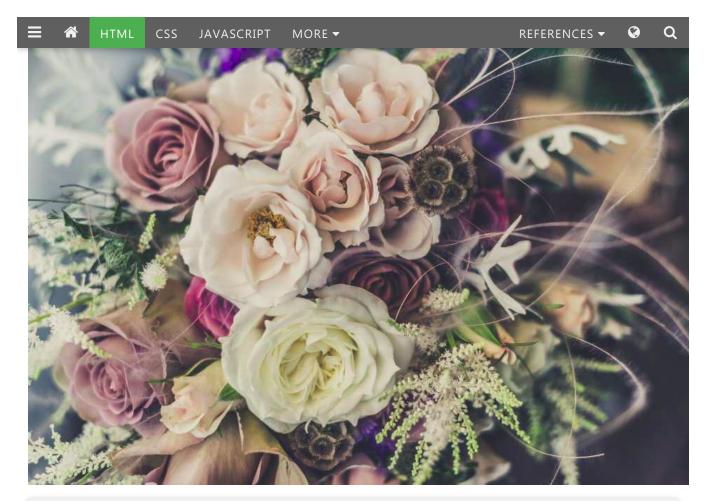
Try it Yourself »

Show Different Images Depending on Browser Width

The HTML `<picture>` element allows you to define different images for different browser window sizes.
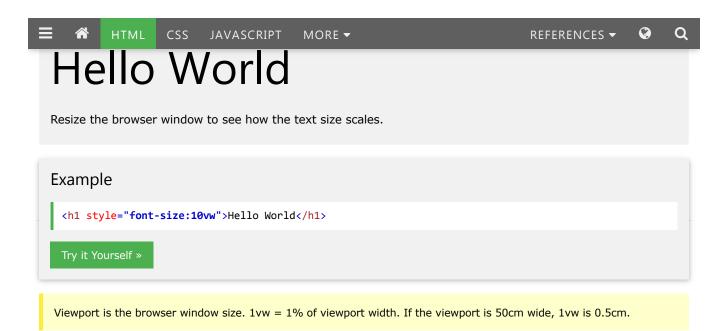
Resize the browser window to see how the image below change depending on the width:

Example

```
<picture>
  <source srcset="img_smallflower.jpg" media="(max-width: 600px)">
  <source srcset="img_flowers.jpg" media="(max-width: 1500px)">
  <source srcset="flowers.jpg">
  <img src="img_smallflower.jpg" alt="Flowers">
</picture>
```

Try it Yourself »

Responsive Text Size

The text size can be set with a "vw" unit, which means the "viewport width".

That way the text size will follow the size of the browser window:

Hello World

Resize the browser window to see how the text size scales.

Example

```html
<h1 style="font-size:10vw">Hello World</h1>
```

Try it Yourself »

Viewport is the browser window size. 1vw = 1% of viewport width. If the viewport is 50cm wide, 1vw is 0.5cm.
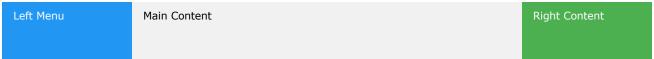
Media Queries

In addition to resize text and images, it is also common to use media queries in responsive web pages.

With media queries you can define completely different styles for different browser sizes.

Example: resize the browser window to see that the three div elements below will display horizontally on large screens and stacked vertically on small screens:

Left Menu	Main Content	Right Content

Example

```html
<style>
.left, .right {
  float: left;
  width: 20%; /* The width is 20%, by default */
}

.main {
  float: left;
  width: 60%; /* The width is 60%, by default */
}

/* Use a media query to add a breakpoint at 800px: */
@media screen and (max-width: 800px) {
  .left, .main, .right {
    width: 100%; /* The width is 100%, when the viewport is 800px or smaller */
  }
```
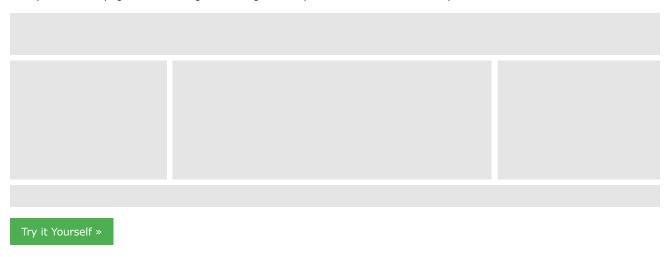
Try it Yourself »

Tip: To learn more about Media Queries and Responsive Web Design, read our RWD Tutorial.

Responsive Web Page - Full Example

A responsive web page should look good on large desktop screens and small mobile phones.

Try it Yourself »

Responsive Web Design - Frameworks
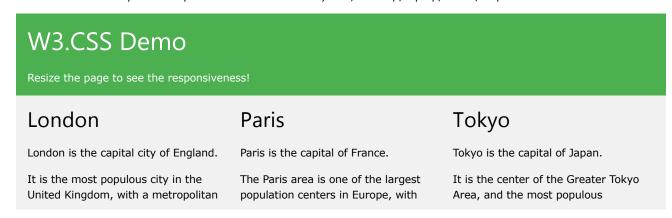
There are many existing CSS Frameworks that offer Responsive Design.
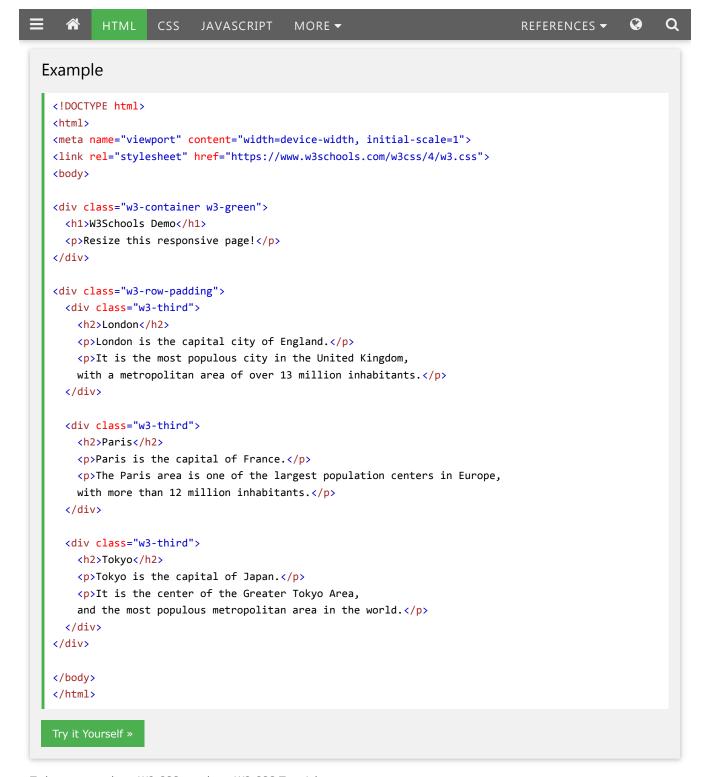
They are free, and easy to use.

Using W3.CSS

A great way to create a responsive design, is to use a responsive style sheet, like W3.CSS

W3.CSS makes it easy to develop sites that look nice at any size; desktop, laptop, tablet, or phone:

W3.CSS Demo

Resize the page to see the responsiveness!

London

London is the capital city of England.

It is the most populous city in the United Kingdom, with a metropolitan

Paris

Paris is the capital of France.

The Paris area is one of the largest population centers in Europe, with

Tokyo

Tokyo is the capital of Japan.

It is the center of the Greater Tokyo Area, and the most populous

Example

```html
<!DOCTYPE html>
<html>
<meta name="viewport" content="width=device-width, initial-scale=1">
<link rel="stylesheet" href="https://www.w3schools.com/w3css/4/w3.css">
<body>

<div class="w3-container w3-green">
  <h1>W3Schools Demo</h1>
  <p>Resize this responsive page!</p>
</div>

<div class="w3-row-padding">
  <div class="w3-third">
    <h2>London</h2>
    <p>London is the capital city of England.</p>
    <p>It is the most populous city in the United Kingdom,
    with a metropolitan area of over 13 million inhabitants.</p>
  </div>

  <div class="w3-third">
    <h2>Paris</h2>
    <p>Paris is the capital of France.</p>
    <p>The Paris area is one of the largest population centers in Europe,
    with more than 12 million inhabitants.</p>
  </div>

  <div class="w3-third">
    <h2>Tokyo</h2>
    <p>Tokyo is the capital of Japan.</p>
    <p>It is the center of the Greater Tokyo Area,
    and the most populous metropolitan area in the world.</p>
  </div>
</div>

</body>
</html>
```

Try it Yourself »

To learn more about W3.CSS, read our W3.CSS Tutorial.

Bootstrap

Another popular framework is Bootstrap, it uses HTML, CSS and jQuery to make responsive web pages.

```html
<!DOCTYPE html>
<html lang="en">
<head>
<title>Bootstrap Example</title>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css">
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.2.0/jquery.min.js"></script>
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"></script>
</head>
<body>

<div class="container">
  <div class="jumbotron">
    <h1>My First Bootstrap Page</h1>
  </div>
  <div class="row">
    <div class="col-sm-4">
      ...
    </div>
    <div class="col-sm-4">
      ...
    </div>
    <div class="col-sm-4">
    ...
    </div>
  </div>
</div>

</body>
</html>
```

Try it Yourself »

To learn more about Bootstrap, go to our Bootstrap Tutorial.

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