RESPONSIVE WEB DESIGN
RESPONSIVE WEB DESIGN

FLEXIBLE IMAGES

USE RELATIVE SIZING

img{
    width: 50%;
}
RESPONSIVE WEB DESIGN

FLEXIBLE IMAGES

SRCSET

THIS ATTRIBUTE FOR THE IMG ELEMENT ALLOWS US TO GUIDE THE BROWSER IN CHOOSING THE BEST IMAGE AND IMAGE SIZE FOR THE WEBSITE.

RETINA DISPLAYS

<img src="photo.png" srcset="photo@2x.png 2x" alt="trees">

THE ABOVE CODE SUPPLIES A PHOTO.PNG AS THE NORMAL PHOTO FOR THE BROWSER TO USE AND AN ALTERNATIVE FOR RETINA/HIGH DENSITY DISPLAYS.
RESPONSIVE WEB DESIGN

FLEXIBLE IMAGES

SRCSET

THIS ATTRIBUTE FOR THE IMG ELEMENT ALLOWS US TO GUIDE THE BROWSER IN CHOOSING THE BEST IMAGE AND IMAGE SIZE FOR THE WEBSITE.

YOU CAN SPECIFY THE SIZE OF EACH SUPPLIED IMAGE BY ADDING A WIDTH DESCRIPTOR ALONG WITH THE SIZE OF THE IMAGE ELEMENT.

```html
<img src="lighthouse-200.jpg" sizes="50vw"
srcset= "lighthouse-100.jpg 100w, lighthouse-200.jpg 200w,
lighthouse-400.jpg 400w, lighthouse-800.jpg 800w,
lighthouse-1000.jpg 1000w, lighthouse-1400.jpg 1400w,
lighthouse-1800.jpg 1800w" alt="a lighthouse">
```

THE ABOVE EXAMPLE RENDERS AN IMAGE THAT IS HALF THE VIEWPORT WIDTH (SIZES="50vw") AT WHATSOEVER SIZE THE BROWSER THINKS IS BEST FOR THE DEVICE
RESPONSIVE WEB DESIGN

FLEXIBLE IMAGES

SRCSET

```html
<img src="lighthouse-200.jpg" sizes="50vw"
srcset= "lighthouse-100.jpg 100w, lighthouse-200.jpg 200w,
lighthouse-400.jpg 400w, lighthouse-800.jpg 800w,
lighthouse-1000.jpg 1000w, lighthouse-1400.jpg 1400w,
lighthouse-1800.jpg 1800w" alt="a lighthouse">
```

<table>
<thead>
<tr>
<th>Browser width</th>
<th>Device pixel ratio</th>
<th>Image used</th>
<th>Effective resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>400px</td>
<td>1</td>
<td>200.png</td>
<td>1x</td>
</tr>
<tr>
<td>400px</td>
<td>2</td>
<td>400.png</td>
<td>2x</td>
</tr>
<tr>
<td>320px</td>
<td>2</td>
<td>400.png</td>
<td>2.5x</td>
</tr>
<tr>
<td>600px</td>
<td>2</td>
<td>800.png</td>
<td>2.67x</td>
</tr>
<tr>
<td>640px</td>
<td>3</td>
<td>1000.png</td>
<td>3.125x</td>
</tr>
<tr>
<td>1100px</td>
<td>1</td>
<td>1400.png</td>
<td>1.27x</td>
</tr>
</tbody>
</table>
RESPONSIVE WEB DESIGN

FLEXIBLE IMAGES

SRCSET

```html
<img src="400.png"
    sizes="(min-width: 600px) 25vw, (min-width: 500px) 50vw, 100vw"
    srcset="100.png 100w, 200.png 200w, 400.png 400w,
            800.png 800w, 1600.png 1600w, 2000.png 2000w" alt="an example image">
```

MEDIA QUERIES IN THE SIZES ATTR SPECIFY THE SIZE OF THE IMAGE AT DIFFERENT SCREEN SIZES.

HERE, WHEN THE BROWSER WIDTH IS GREATER THAN 600PX, THE IMAGE IS 25% OF THE VIEWPORT WIDTH; WHEN IT IS BETWEEN 500PX AND 600PX, THE IMAGE IS 50% OF THE VIEWPORT WIDTH; AND BELOW 500PX, IT IS FULL WIDTH.
RESPONSIVE WEB DESIGN

ZOOM

<meta name="viewport" content="width=device-width, initial-scale=1.0">

PAGES OPTIMIZED FOR A VARIETY OF DEVICES MUST INCLUDE A META VIEWPORT TAG IN THE HEAD OF THE DOCUMENT. A META VIEWPORT TAG GIVES THE BROWSER INSTRUCTIONS ON HOW TO CONTROL THE PAGE'S DIMENSIONS AND SCALING.

width=device-width match the screen's width in device-independent pixels. initial-scale=1 establishes a 1:1 relationship between CSS pixels and device-independent pixels.
RESPONSIVE WEB DESIGN

ZOOM

localhost:8080/layout/vp-no.html

viewport not set
This page does NOT have the meta viewport set.
This is a test to show how the meta viewport tag affects a page. To simplify this example as much as possible, font boosting has been disabled.
Note: each box on the background is 50px wide.

localhost:8080/layout/vp.html

viewport set
This page DOES have the meta viewport set.
This is a test to show how the meta viewport tag affects a page. To simplify this example as much as possible, font boosting has been disabled.
Note: each box on the background is 50px wide.