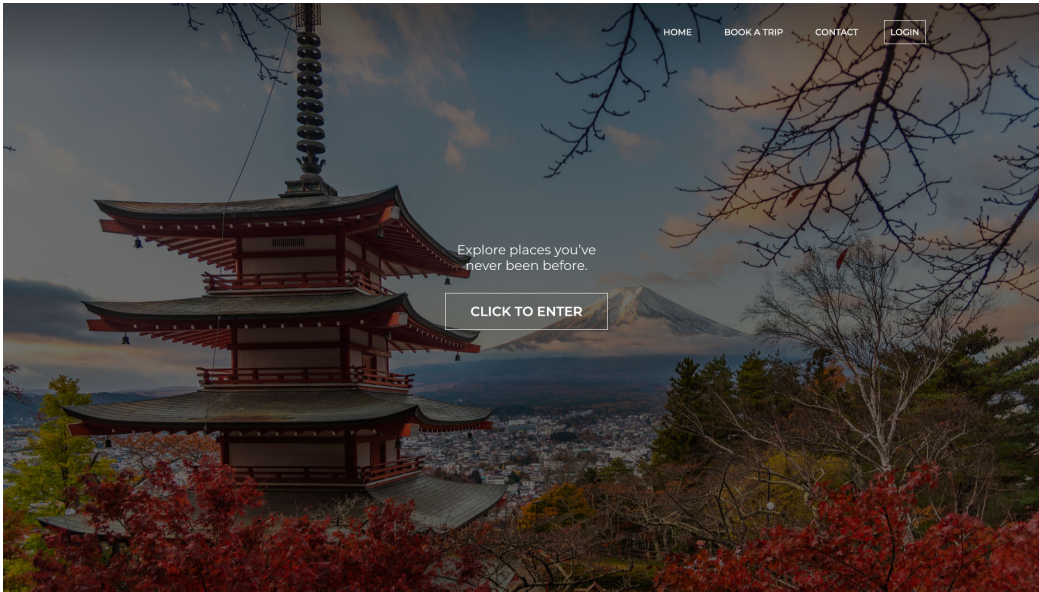


Working with Responsive Background Images



Having a large photo that covers the entire background of a webpage is currently a popular webpage layout. However, large background images are another resource that takes up a lot of bandwidth when loading a webpage.

Similar to how other image files are selected based on screen size, with background images, we can leverage media queries in the CSS stylesheet to download only the version that is appropriate for a specific display size. According to several studies, to ensure that only one image downloads per breakpoint, all background images must be enclosed in a media query. For example, if a default background image is located outside of the media queries in the stylesheet — as it might be in mobile-first design — that would mean this background image would always load, regardless of screen size.

However, before we can define media queries for different viewport breakpoints, we first must examine the CSS code syntax to add background images to our website.

CSS Syntax: Setting Background Images to Fit the Viewport

As with responsive images, there are several syntaxes and properties associated with background images. To place and scale a background image, this course will focus on adding the **background-image** and **background-size** properties, combined with defining the width and height of the viewport, to the CSS stylesheet.

The CSS syntax we'll use to add responsive background images to a webpage includes the following:

- **background-image**: specifies the image to use as the background of an element
- **background-size**: sets the size of the element's background image.
- **width**: defines the width of the viewport — value can be defined as a percentage (%) or in pixels (px)
- **height**: defines the height of the viewport — value can be defined as a percentage (%) or in pixels (px)

Background-size Property Value

With the background-size property, the background image can be left to its original size, stretched, or constrained to fit the available viewport. Therefore, a variety of different syntaxes can be used with the background-size property, each associated with a different use case.

To do this, we assign the value **cover** to the background-size property (background-size: cover). The keyword cover instructs the browser to automatically scale the background image to the size of the viewport.

Let's evaluate the following syntax. This syntax tells the browser to display the image "grandtetons-cropped-bkg-min.jpg," covering 100% of the width of the viewport. The viewport height in this example is set to 400px.

```
.bkgd {  
    background-image:url('https://cdn-d.mindedgeonline.com/1678/grandtetons-cropped-bkg-min.jpg');  
}
```

```
background-size: cover;
width: 100%;
height: 400px;
}
```

Media Queries and Background Images

Now that we understand the basic CSS syntax, let's examine how to get a single image to load at a given breakpoint.

Consider the following CSS code. Notice, there is one background image outside the media query for mobile layouts and one background image inside a media query for desktop layouts. However, with this syntax, both images will download at desktop dimensions. As we've discussed with image files, this is not optimum.

```
.bkgd {
  background-image:url('https://cdn-d.mindedgeonline.com/1678/grandtetons-cropped-bkg-
min.jpg');
  background-size: cover;
  width: 100%;
  height: 400px;
  border: 1px solid black;
}

.bkgd h1 {
  color: black;
  font-size: 2rem;
  font-family: Arial, Helvetica, sans-serif;
  text-align: center;
  padding-top: 50px;
}

.bkgd p {
  color: black;
  font-size: 2rem;
  font-family: Arial, Helvetica, sans-serif;
  text-align: center;
  padding-top: 50px;
}

@media (min-width: 600px) {
  .bkgd {
    background-image:url('https://cdn-d.mindedgeonline.com/1678/grandtetons-bkg-
min.jpg');
    background-size: cover;
    width: 100%;
    height: 400px;
  }
}
```

Download only one Background Image Based on Viewport Size

To get around the problem of downloading all images for a given screen size, the CSS syntax must place each background image inside of its own media query. Therefore, the code should be rearranged as follows: (Notice the mobile-first structure)

```
.bkgd {
  width: 100%;
  height: 400px;
  border: 1px solid black;
}

.bkgd h1 {
  color: black;
  font-size: 2rem;
```

```

    font-family: Arial, Helvetica, sans-serif;
    text-align: center;
    padding-top: 50px;
}

.bkgd p {
    color: black;
    font-size: 2rem;
    font-family: Arial, Helvetica, sans-serif;
    text-align: center;
    padding-top: 50px;
}

@media (max-width: 599px) {
    .bkgd {
        background-image: url('https://cdn-d.mindedgeonline.com/1678/grandtetons-cropped-bkg-
min.jpg');
    }

}

@media (min-width: 600px) {
    .bkgd {
        background-image: url('https://cdn-d.mindedgeonline.com/1678/grandtetons-bkg-
min.jpg');
        width: 100%;
        height: 400px;
    }

}

```

Give it a Try: Responsive Background Images and Media Queries

Instructions:

- Click 'run code'
- Resize your browser to see how the background image adjusts according to the viewport width

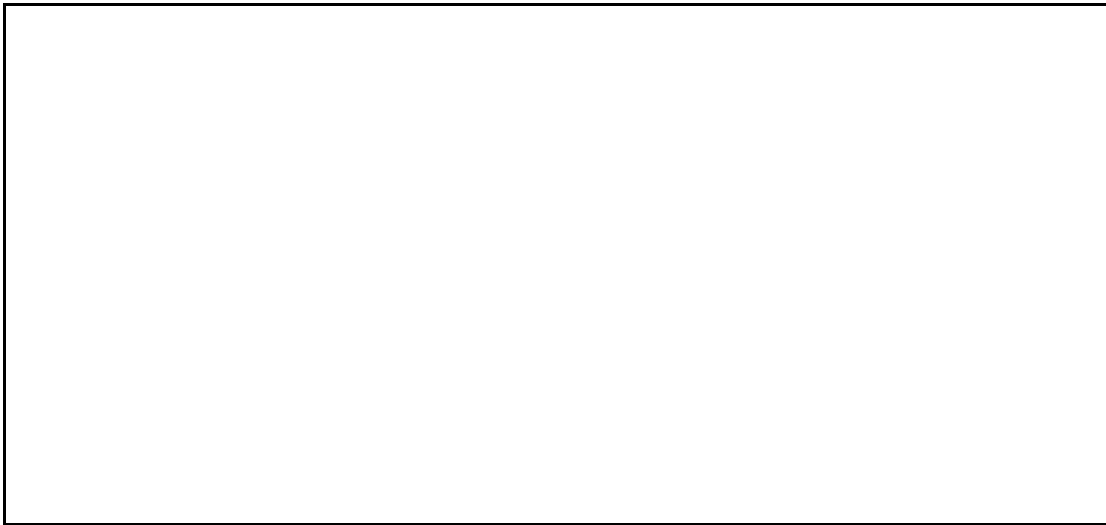
Run Code Save Export Reset

index.html styles.css

```

1  <!doctype html>
2  <html>
3  <head>
4  <meta name="viewport" content="width=device-width, initial-scale=1">
5  <link rel="stylesheet" href="/styles.css" />
6  </head>
7  <body>
8      <div class="bkgd">
9          <h1>Background Images</h1>
10         <p>I am a background image</p>
11     </div>
12 </body>
13 </html>
14
15
16

```



Theme Select:

rubyblue

Background Images: Recommended Size and Resolution

The recommended image size for a full size background image is 1920px x 1080px (or smaller) with a minimum resolution of 72 dpi, and ratio of 16:9.

A good rule of thumb is to keep full size background images to a maximum of 250KB to 350KB.



Review Checkpoint

To test your understanding of the content presented in this assignment, please click on the Questions icon below. If you have trouble answering any of the questions presented here, you are always free to return to this or any assignment to re-read the material.



1. True or False?

To ensure that only one image downloads per breakpoint, all background images must be enclosed in a media query.

a. True

Correct. This statement is true. According to several studies, to ensure that only one image downloads per breakpoint, all background images must be enclosed in a media query. For example, if a default background image is located outside of the media queries in the stylesheet — as it might be in mobile-first design — that would mean this background image would always load, regardless of screen size.

b. False

Incorrect. Try again.

2. Which keyword instructs the browser to automatically scale the background image to the size of the viewport?

a. Cover

Correct. The keyword cover instructs the browser to automatically scale the background image to the size of the viewport. The value is assigned to the background-size property.

b. Stretch

Incorrect. Try again.

c. Background-size

Incorrect. Try again.

d. Padding

Incorrect. Try again.