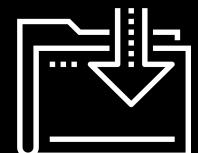




} Heroes of CSS

Web Development Boot Camp
Lesson 1.3



Admin Items

Homework Assignment Tips

01

Really work hard on this assignment! This assignment introduces you to fundamental concepts that we'll build upon during the rest of the course.

02

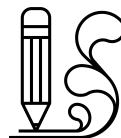
Review in-class material, especially activities.

03

Work with your peers! It's much better than screaming at your computer alone.

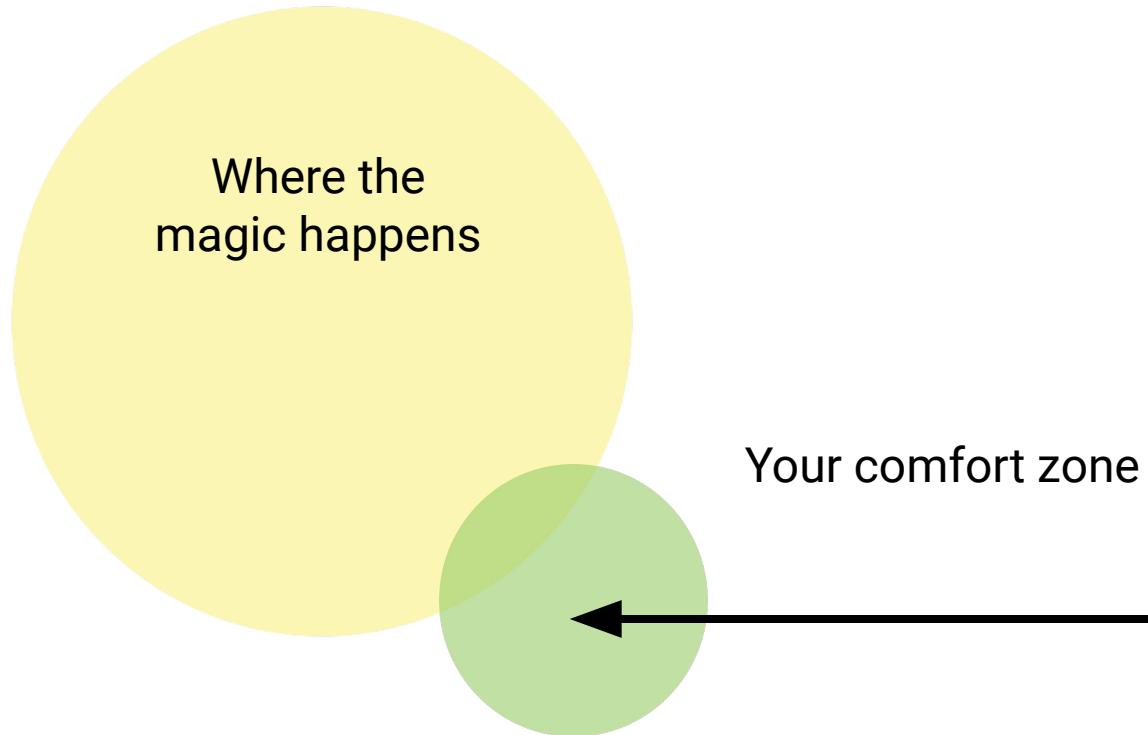
04

Ask questions on Slack! Your peers, TAs, and instructors are all here to help.



Most Important of All

Just submit *something* (even if it seems pretty crummy)!





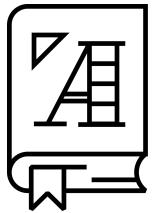
Don't expect to understand everything at once. Today is all about getting immersed.

CSS Recap

Critical Question:

What is CSS?

HTML and CSS Definitions



HTML: Hypertext Markup Language (Content)

CSS: Cascading Style Sheets (Appearance)

HTML/CSS are the “languages of the web.” Together they define both the content and the aesthetics of a webpage, handling everything from the layouts, colors, fonts, and content placement. (JavaScript is the language that deals with logic, animation, etc.)

HTML/CSS Analogy

HTML Alone	HTML and CSS
Like writing papers in Notepad.	Like writing papers in Microsoft Word.
Used to write unformatted text (i.e, content only).	Used both to write the content <i>and</i> format it (color, font, alignment, layout, etc.).
	

Basic HTML Page (No CSS)

Awesome Header

Smaller Awesome Header

Even Smaller Awesome Header

 Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.
 Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.



Menu Links

- Google
- Facebook
- Twitter

Basic HTML Page (No CSS)

Awesome Header

Smaller Awesome Header

Even Smaller Awesome Header

 Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.
 Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.



Boring

Menu Links

- Google
- Facebook
- Twitter

Critical Question: How Do We Style HTML?

Elements?

Classes?

IDs?

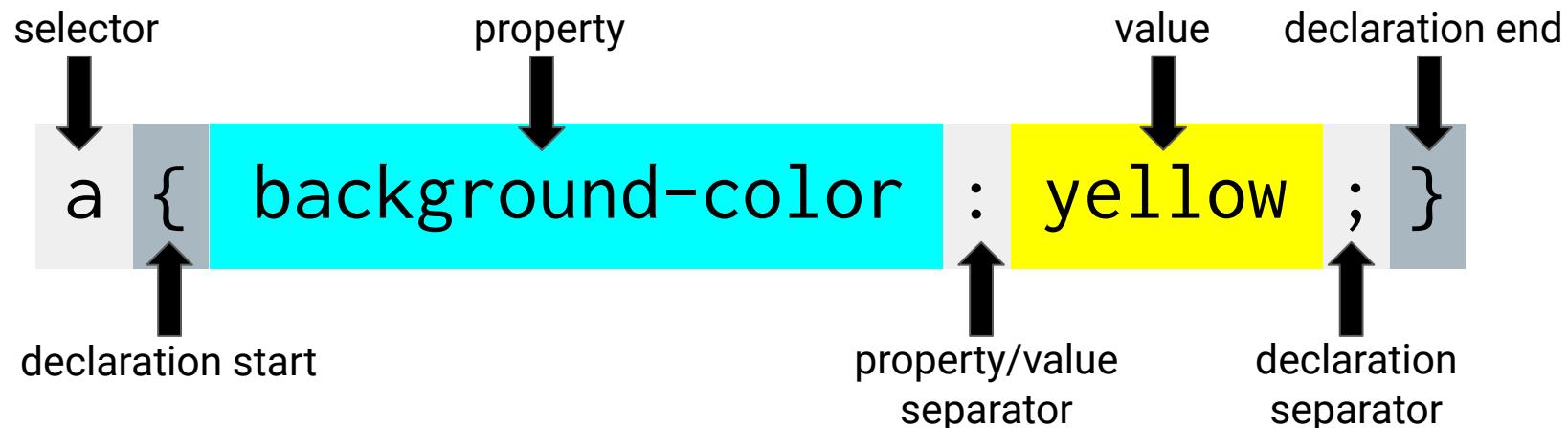


CSS Syntax

CSS works by hooking onto **selectors** added into HTML using **classes** and **identifiers**.

Classes use **.classname**, IDs use **#idname**, and elements use just their name.

Once hooked, we apply **styles** to those HTML elements using CSS.



Selectors

Element selector	Element name (p, a, div, span, etc.)	Applies to all <p> elements <pre>p { background-color: blue; }</pre>
Class selector	Period (.) + variable name (.myDiv, .phoneNumber, etc.)	Applies to all elements with class="classItem" <pre>.classItem { background-color: orange; }</pre>
ID selector	Hash (#) + variable name (#myDiv, #phoneNumber)	Applies to all elements with id="idItem" <pre>#idItem { background-color: green; }</pre>

CSS Selectors

```
p {  
    background-color: blue;  
}
```

```
.classItem {  
    background-color: orange;  
}
```

```
#idItem {  
    background-color: green;  
}
```



```
<p>  
    A paragraph with a blue background.  
</p>
```

```
<div class="classItem">  
    A div with an orange background.  
</div>
```

```
<div id="idItem">  
    A div with a green background.  
</div>
```

A paragraph with a blue background.

A div with an orange background.

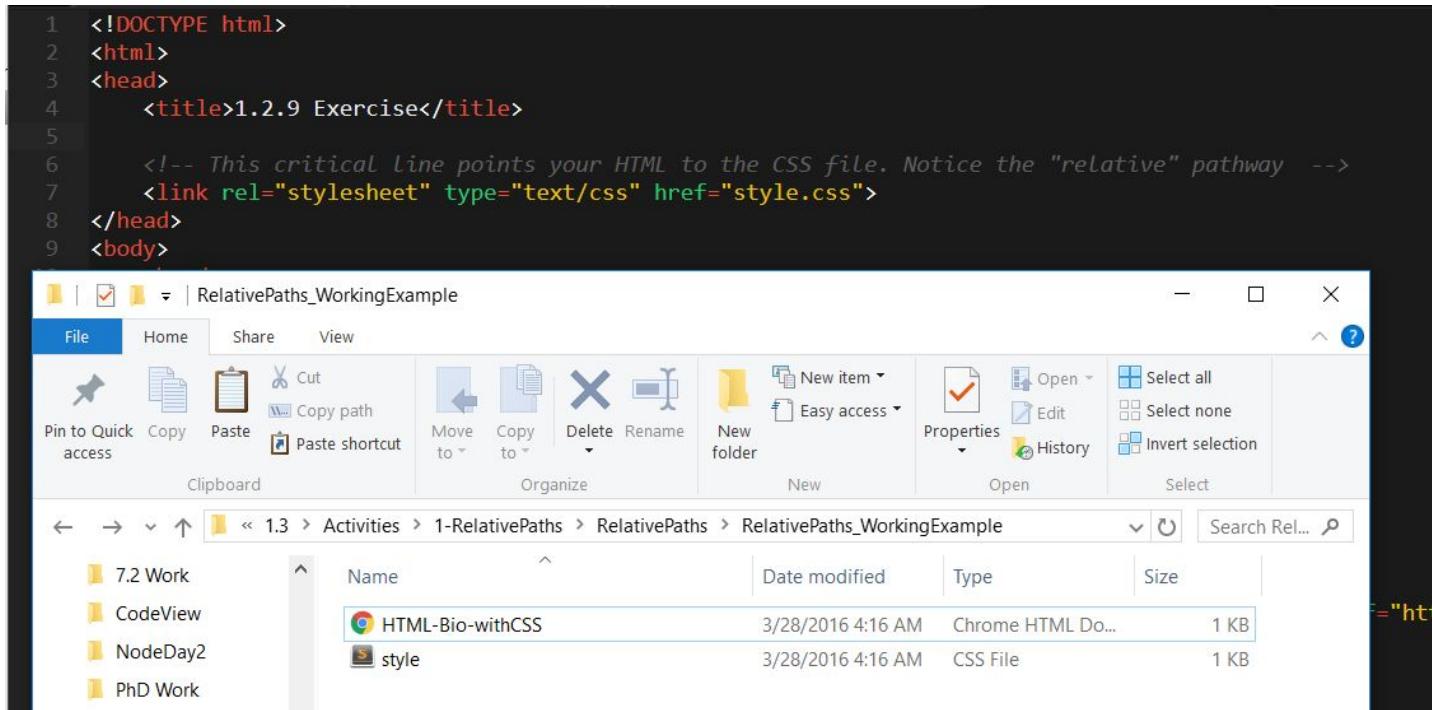
A div with a green background.

Questions?

Relative File Paths

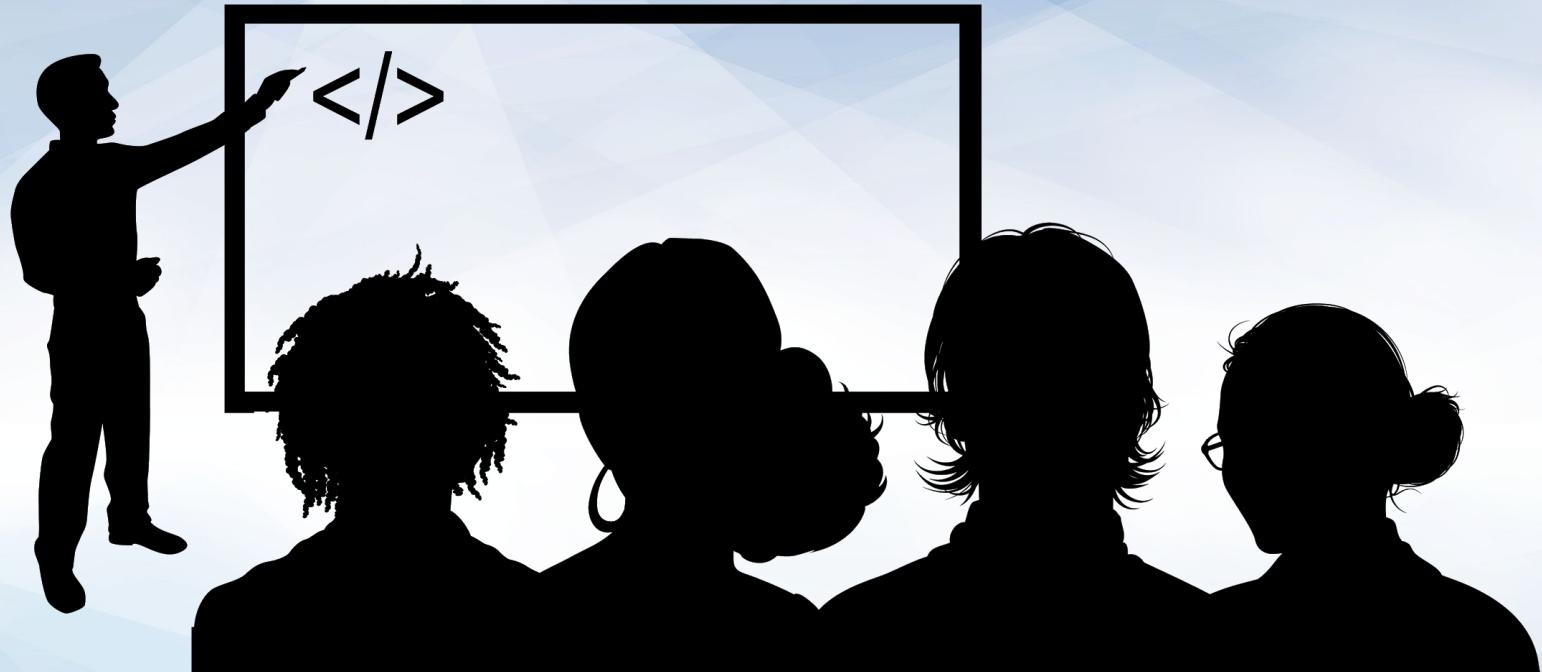
Relative File Paths

Relative file paths connect us with other files in our working directory.
In this case, style.css is in the same folder as our HTML document.



The screenshot shows a Windows File Explorer window titled "RelativePaths_WorkingExample". The address bar indicates the path: "1.3 > Activities > 1-RelativePaths > RelativePaths > RelativePaths_WorkingExample". The left sidebar shows several folders: "7.2 Work", "CodeView", "NodeDay2", and "PhD Work". The main pane displays two files: "HTML-Bio-withCSS" (a Chrome HTML Document, 1 KB) and "style" (a CSS File, 1 KB). The "style" file is highlighted with a blue selection bar. The status bar at the bottom right shows the URL "http://127.0.0.1:5000/1.3/Activities/1-RelativePaths/RelativePaths/RelativePaths_WorkingExample/HTML-Bio-withCSS".

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4     <title>1.2.9 Exercise</title>
5
6     <!-- This critical line points your HTML to the CSS file. Notice the "relative" pathway --&gt;
7     &lt;link rel="stylesheet" type="text/css" href="style.css"&gt;
8 &lt;/head&gt;
9 &lt;body&gt;</pre>
```



Instructor Demonstration Relative File Paths

Absolutely No Absolute Paths

Always use relative file paths!



If you deploy websites without them, **all of your links will fail.**



The same will happen if you move your project from one folder to another.

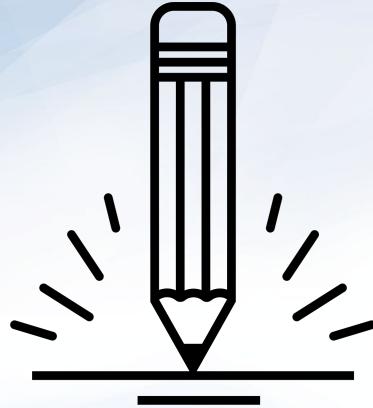


Remember, there is no such thing as a C: drive on the internet.

VERY, VERY BAD



```
<!-- BAD!!!! -->
<link rel="stylesheet" href="D:/trilogy/FullStack-Lesson-Plans/02-lesson-plans/01-
html-css-three-days/1-Class-Content/1.3/Activities/1-RelativePaths/RelativePaths/
RelativePaths_WorkingExample/style.css">
```



Activity:

Relative File Paths

Suggested Time:
10 minutes



Activity: Relative File Paths

01

Unzip the folder sent to you via Slack.

02

Edit the HTML files in all of the `RelativePaths` folders. Write relative paths that link the HTML documents with CSS stylesheets.

HINT: Check out the `RelativePaths_WorkingExample` folder.

Suggested Time: 10 Minutes



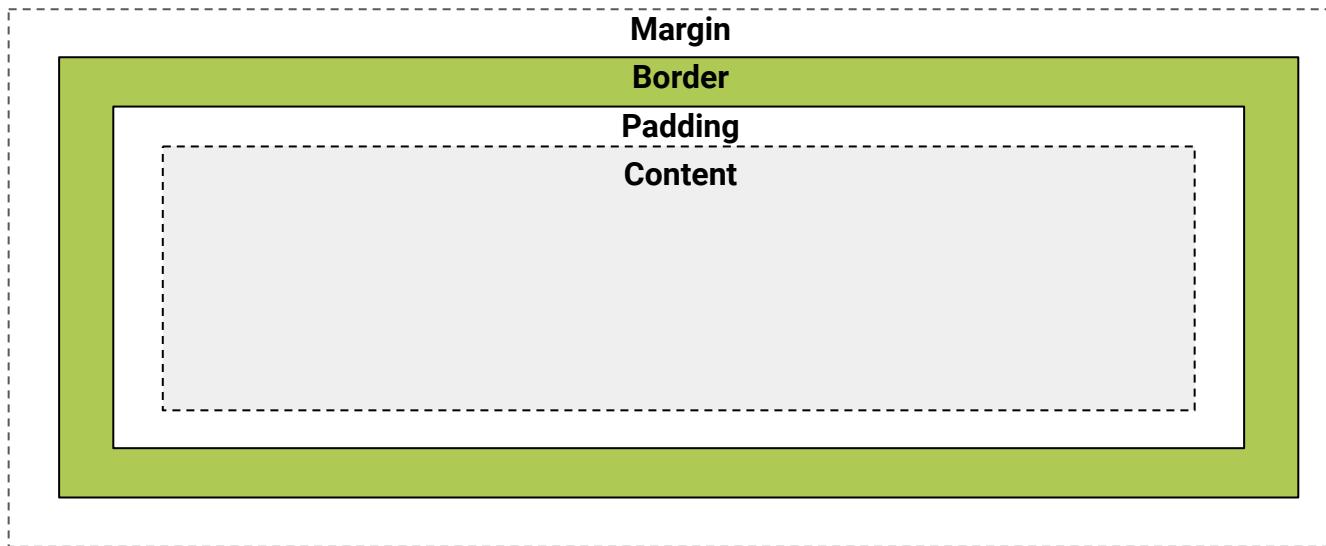
Box Model

Boxes Upon Boxes

In CSS, every element rests within a series of boxes.

Each box has customizable space properties: margin, border, and padding

Typical spacing value: 20px 10px 10px 20px (top, right, bottom, left)



Activity: Box Model

```
#box {  
  
background-color: #1E5792;  
width: 400px;  
height: 440px;  
margin: 10px 30px 20px 50px;  
color: #fff;  
padding: 25px 10px 30px 20px;  
border-style: solid;  
border-width: 22px;  
border-color: #113152;  
  
}
```

How wide is the blue #box?

How tall is the blue #box?

Total element width = content width + left padding + right padding + left border + right border + left margin + right margin

Total element height = content height + top padding + bottom padding + top border + bottom border + top margin + bottom margin

Suggested Time: 10 Minutes



Activity: Boxes Upon Boxes

Answer:

Width: 474 px (no margin), 554 px (with margin)

Height: 539 px (no margin), 569 px (with margin)

```
#box {  
  
background-color: #1E5792;  
width: 400px;  
height: 440px;  
margin: 10px 30px 20px 50px;  
color: #fff;  
padding: 25px 10px 30px 20px;  
border-style: solid;  
border-width: 22px;  
border-color: #113152;  
  
}
```

How wide is the blue #box?

How tall is the blue #box?

Total element width = content width + left padding + right padding + left border + right border + left margin + right margin

Total element height = content height + top padding + bottom padding + top border + bottom border + top margin + bottom margin

Suggested Time: 10 Minutes

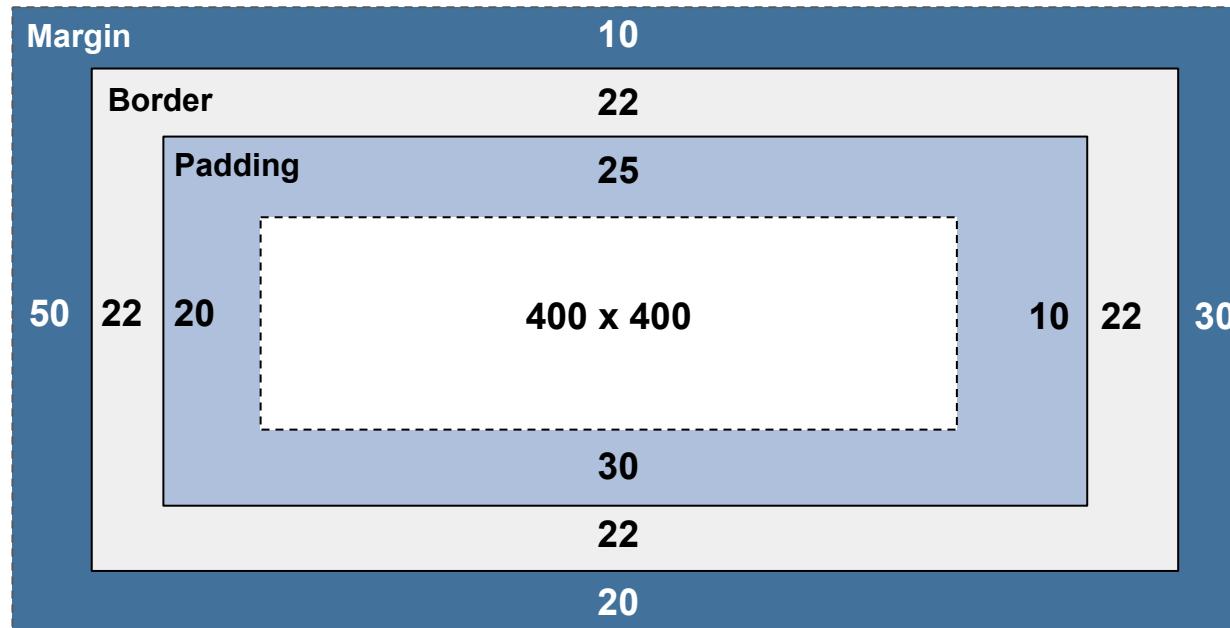


Activity: Box Model

Answer:

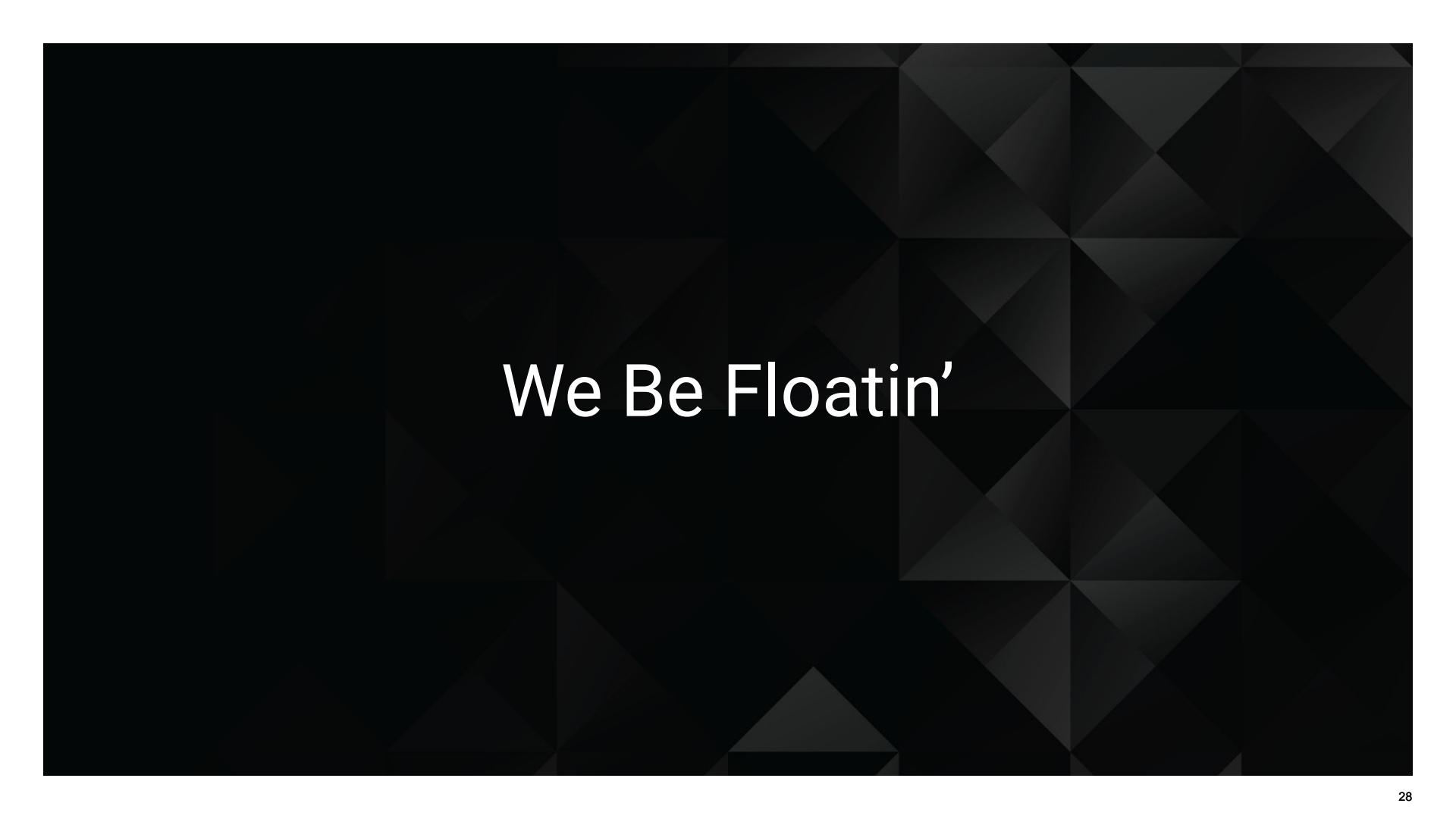
Width: 474 px (no margin), 554 px (with margin)

Height: 539 px (no margin), 569 px (with margin)



Suggested Time: 10 Minutes





We Be Floatin'



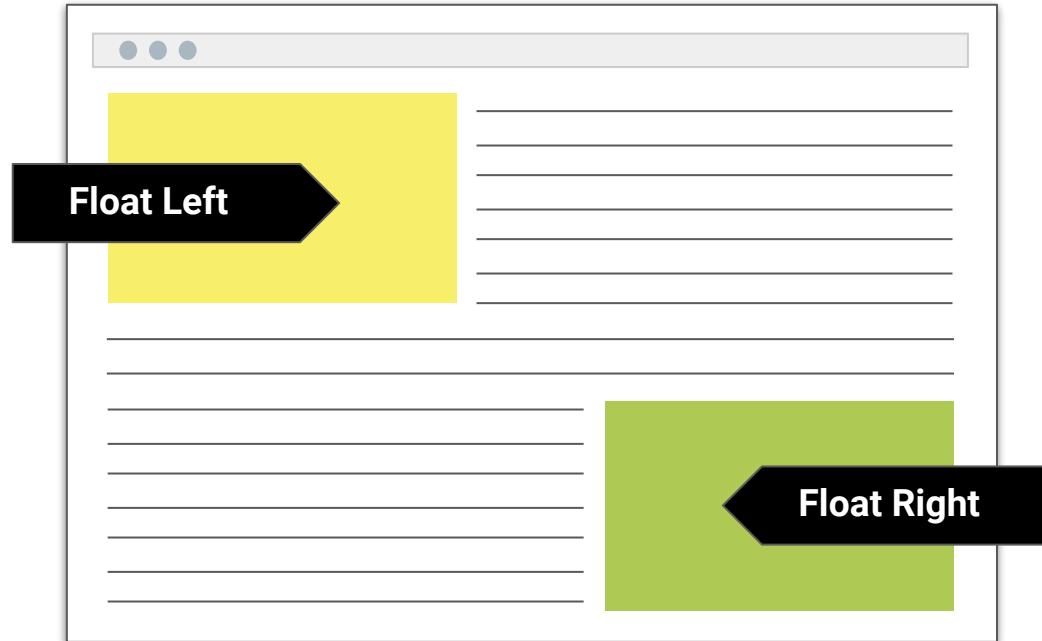
Warning

The next few topics are fairly tricky but also *very important*. Time to channel that inner genius!

The Concept of Flow

By default, every HTML element displayed in the browser is governed by a concept called **flow**.

This means that HTML elements force adjacent elements to flow around them.



Analogy: Flow and MS Word



The concept of flow is similar to wrap-text in Microsoft Word.



Just as in MS Word, with CSS you can position images to be in-line with text, on top of text, and so on.



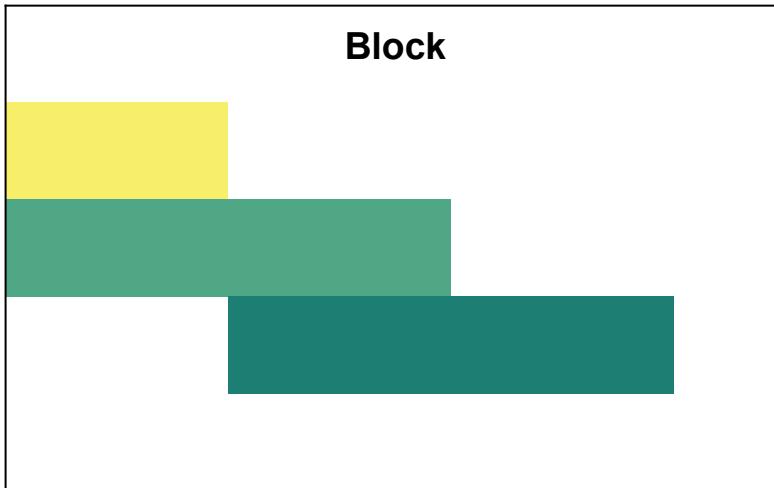
Block Elements



By default, web clients render many HTML elements as **block elements**. Paragraphs, headers, divs, and more receive this treatment.



A block element will take up an entire line of space—unless you intervene with CSS properties.



Block Elements vs. In-line Elements

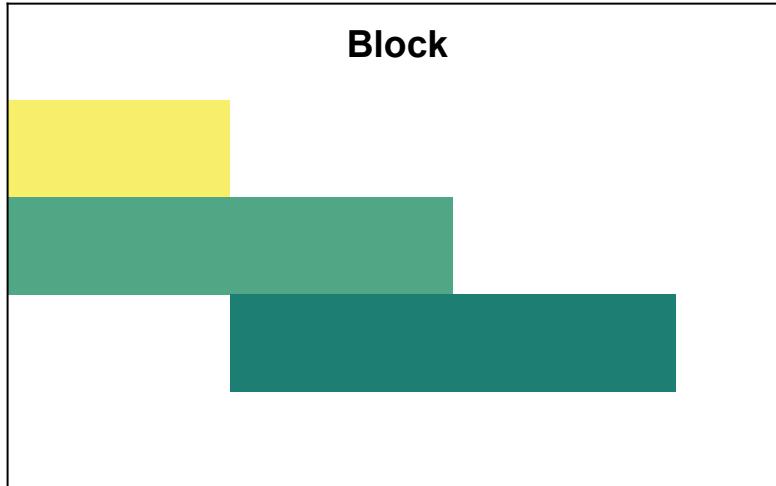


Now, contrast block elements with **in-line elements**.

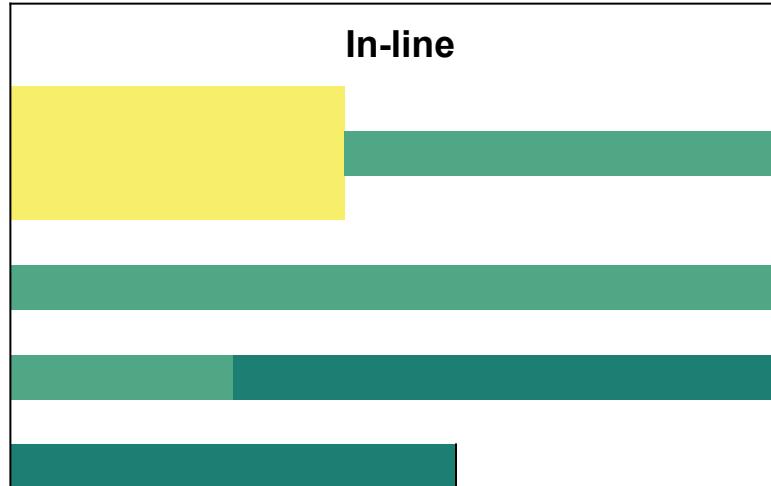


By using **float CSS properties**, we can command our website to display multiple HTML elements adjacently.

Block

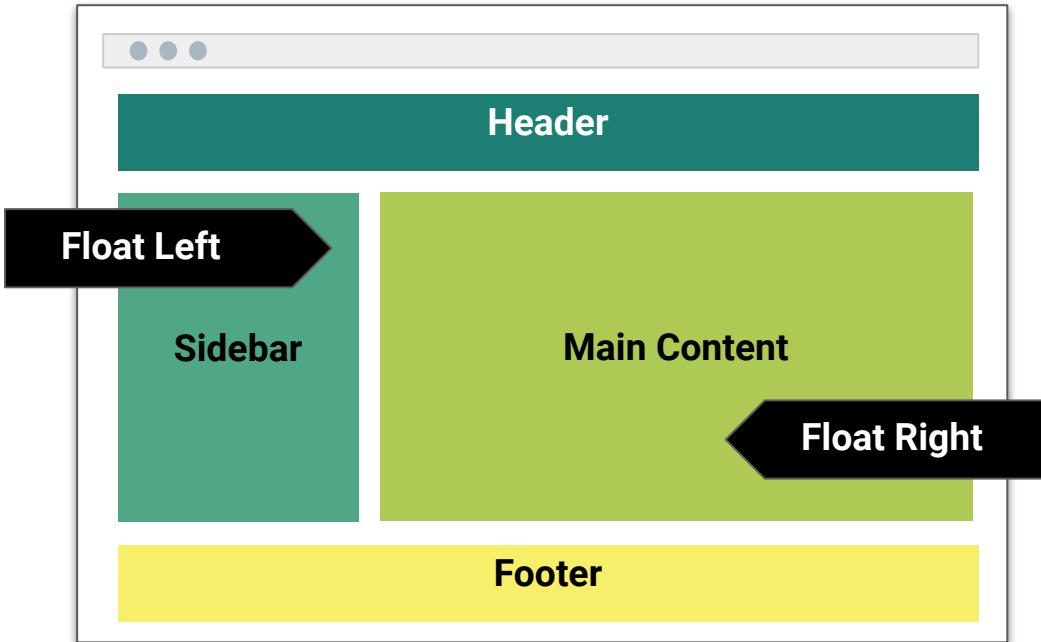


In-line



Floats

To transform these block elements into in-line elements, we use a CSS property called **float**. Floats are necessary when building web layouts.

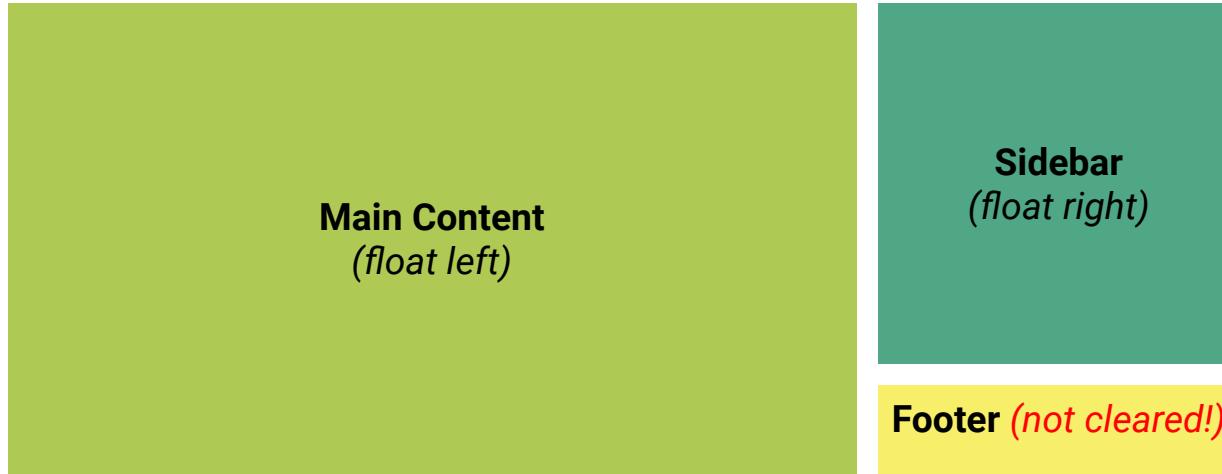


CSS

```
#sidebar {  
    float: left;  
}  
  
#main-content {  
    float: right;  
}
```

Clearing the Float

However, floats often get in the way of layouts. Sometimes we don't want to give each element the “in-line” treatment.

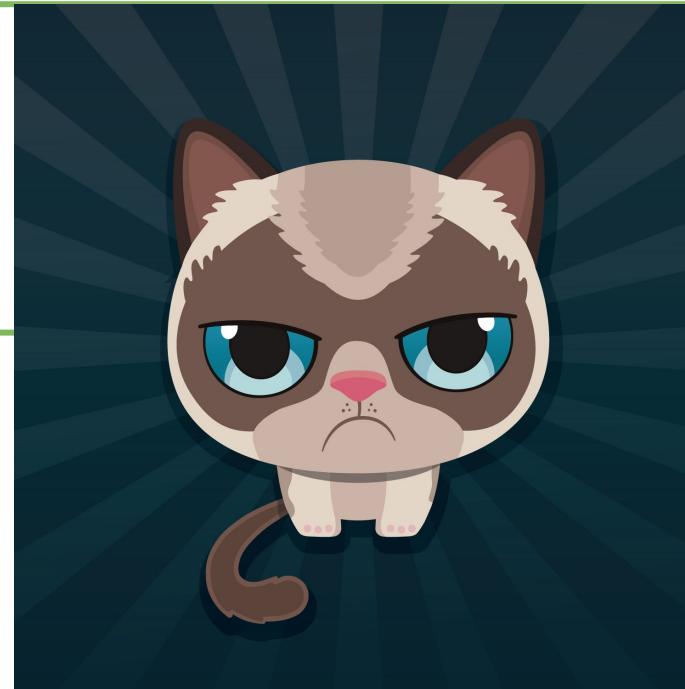


clearfix Hack

Sometimes when elements don't match up in size, we get situations like this:

<div>

Uh-oh! The image is taller than the element containing it, and it's floated, so it's overflowing outside of its container!

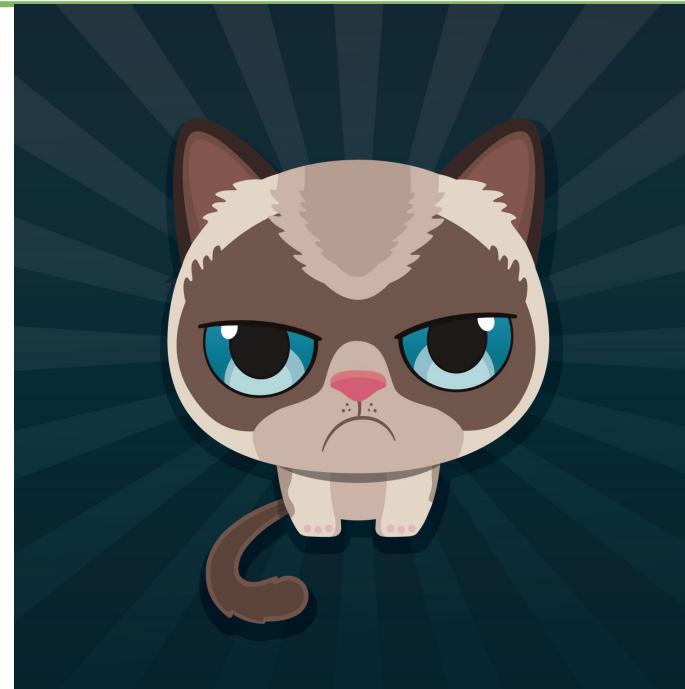


clearfix Hack

We can get around this by using the **clearfix hack**.

```
<div class="clearfix">
```

Much better!



clearfix Hack



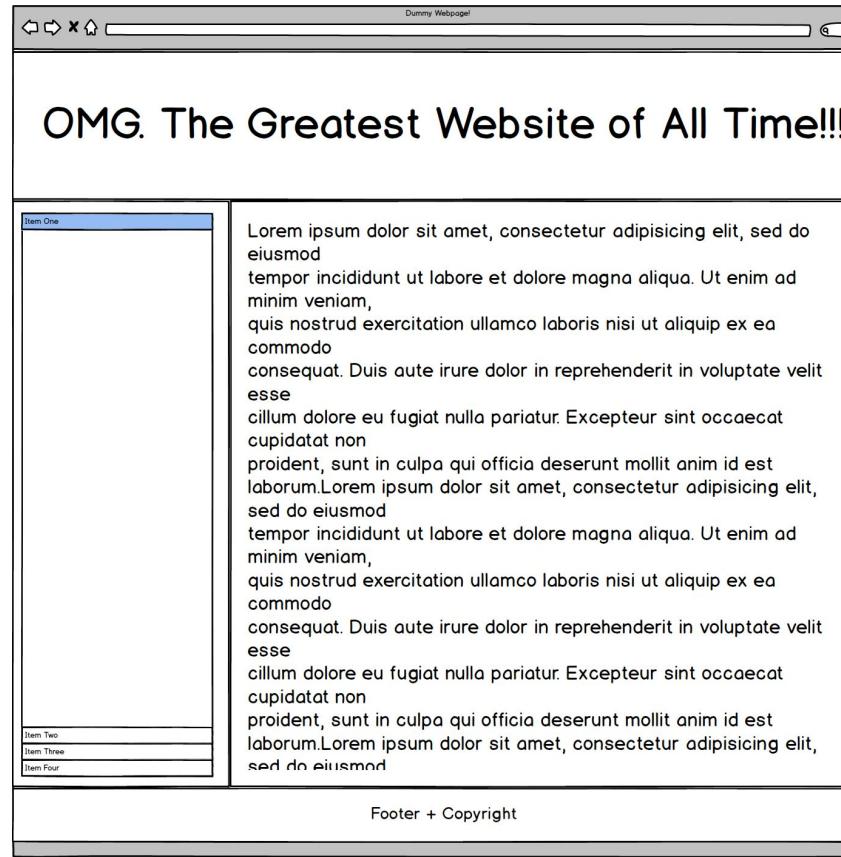
`::after` is what we call a pseudo-element. We use it to style specific parts of an element.



This will add an HTML element, hidden from view, after the content of the `.clearfix` element.
This clears the float.

```
.clearfix::after {  
    content: "";  
    display: block;  
    clear: both;  
}
```

Quick Demo



Quick Demo



2000 x 200



300 x 400



900 x 400



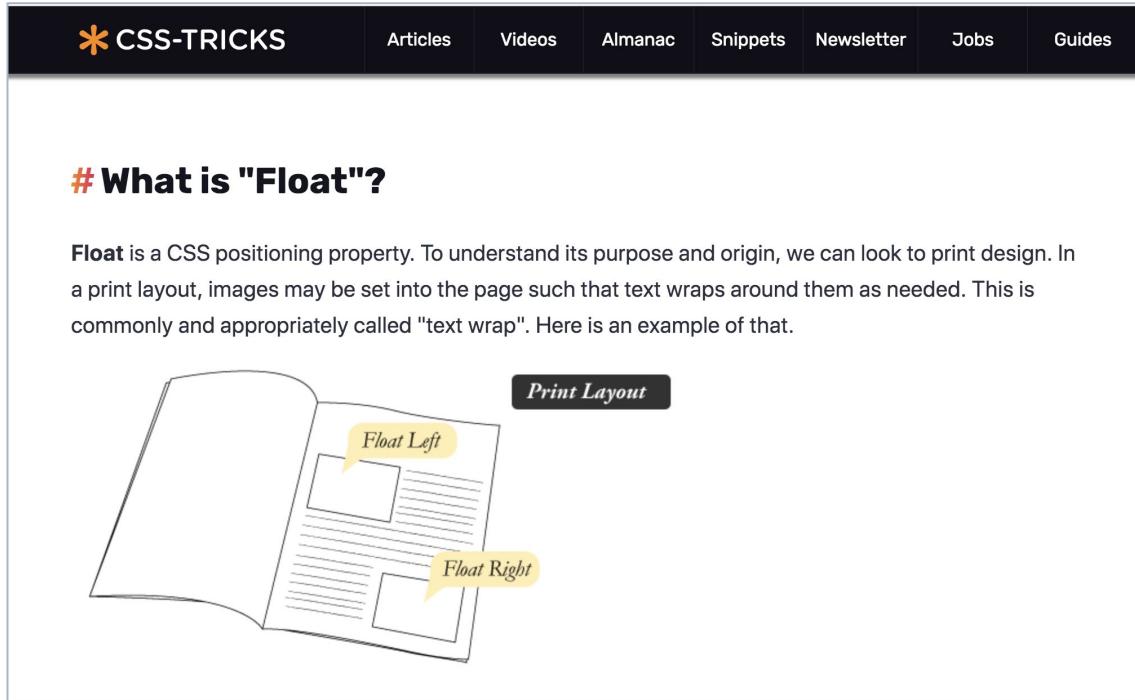
500 x 100



Instructor Demonstration
Floats

A Fantastic Guide to Floats

To all serious frontend developers, this is a necessary read:
css-tricks.com

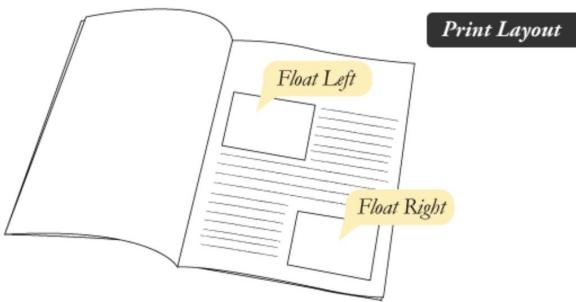


The screenshot shows the top navigation bar of the CSS-Tricks website, which includes links for Articles, Videos, Almanac, Snippets, Newsletter, Jobs, and Guides. Below the navigation, the main content area features a section titled "# What is "Float"?" with a sub-section titled "Print Layout". An illustration of an open book is used to demonstrate how text wraps around floating elements, with labels "Float Left" and "Float Right" pointing to specific text blocks.

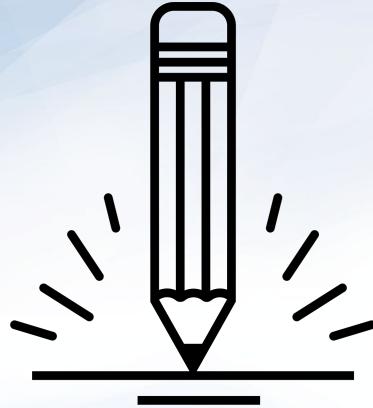
What is "Float"?

Float is a CSS positioning property. To understand its purpose and origin, we can look to print design. In a print layout, images may be set into the page such that text wraps around them as needed. This is commonly and appropriately called "text wrap". Here is an example of that.

Print Layout



The illustration depicts an open book with two pages. The left page contains several rectangular boxes of text. A yellow speech bubble labeled "Float Left" points to one of these boxes. The right page also contains text boxes, with a yellow speech bubble labeled "Float Right" pointing to another. The entire diagram is labeled "Print Layout" at the top.



Activity:

Float Layout

Suggested Time:
30 minutes



Activity: Float Layout



In this activity, you'll flex your newfound floating skills by creating a conceptual layout. Eyeball the design to your best ability.

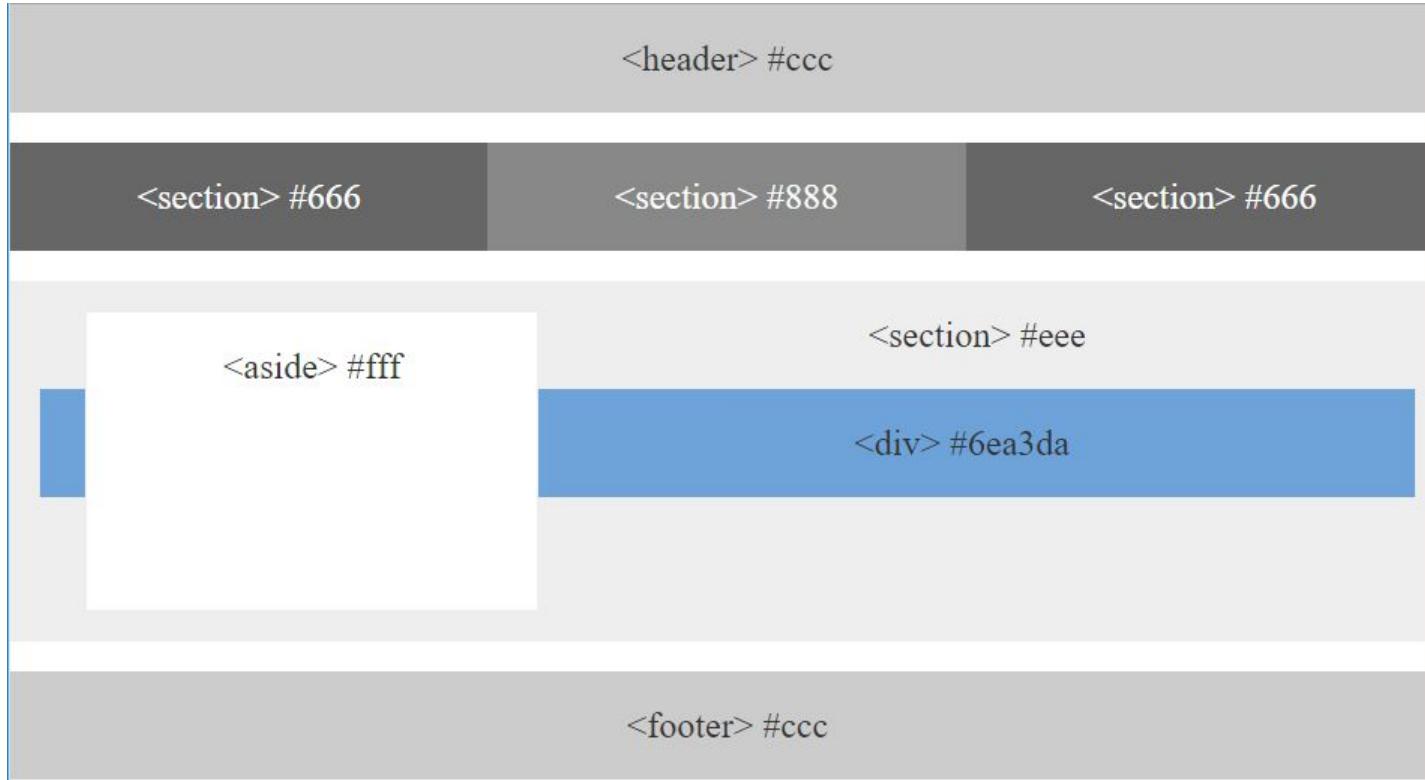


Check Slack for additional instructions.

Suggested Time: 30 Minutes



Activity: Float Layout



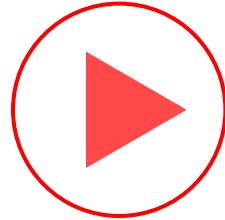
Suggested Time: 30 Minutes



Good work!

Your brain may rest now.





Video Walkthrough (Highly Recommended)

[Floats in CSS](#)

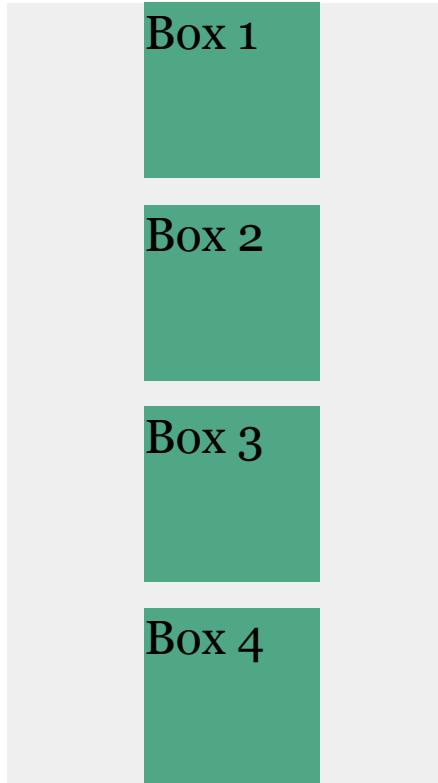
Take a Break!



CSS Positioning

Position: Static (Default)

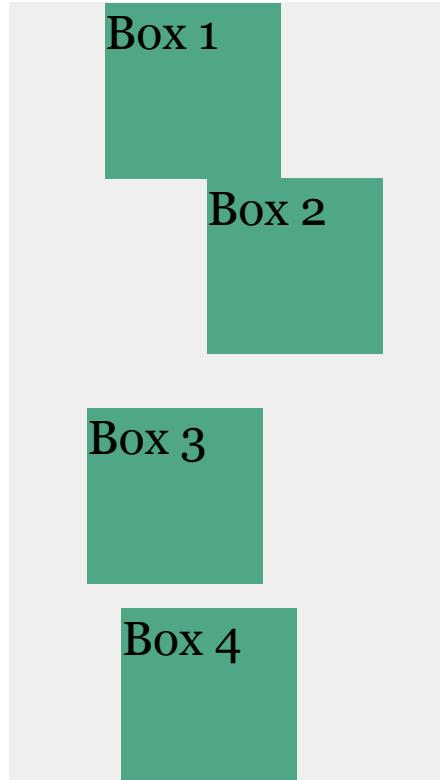
Four boxes placed statically (default):



Position: Relative

Switching the boxes to relative will nudge the boxes in relation to their “original” location.

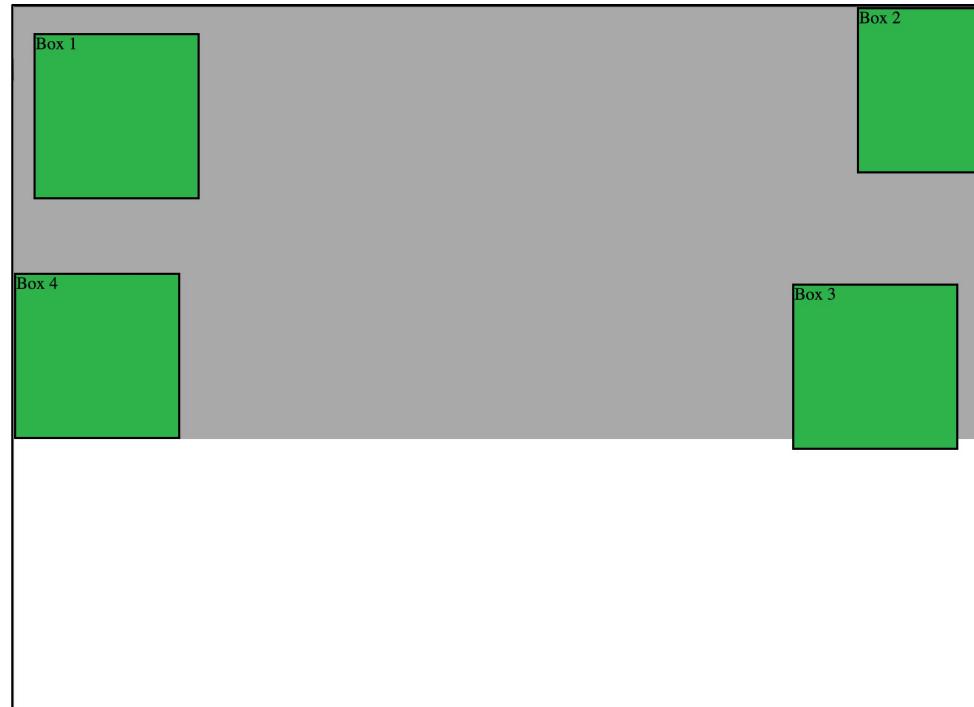
```
.box {  
  background: #2db34a;  
  height: 80px;  
  position: relative;  
  width: 80px;  
}  
.box-1 {  
  top: 20px;  
}  
.box-2 {  
  left: 40px;  
}  
.box-3 {  
  bottom: -10px;  
  right: 20px;  
}
```



Position: Absolute

Positioned relative to nearest positioned ancestor

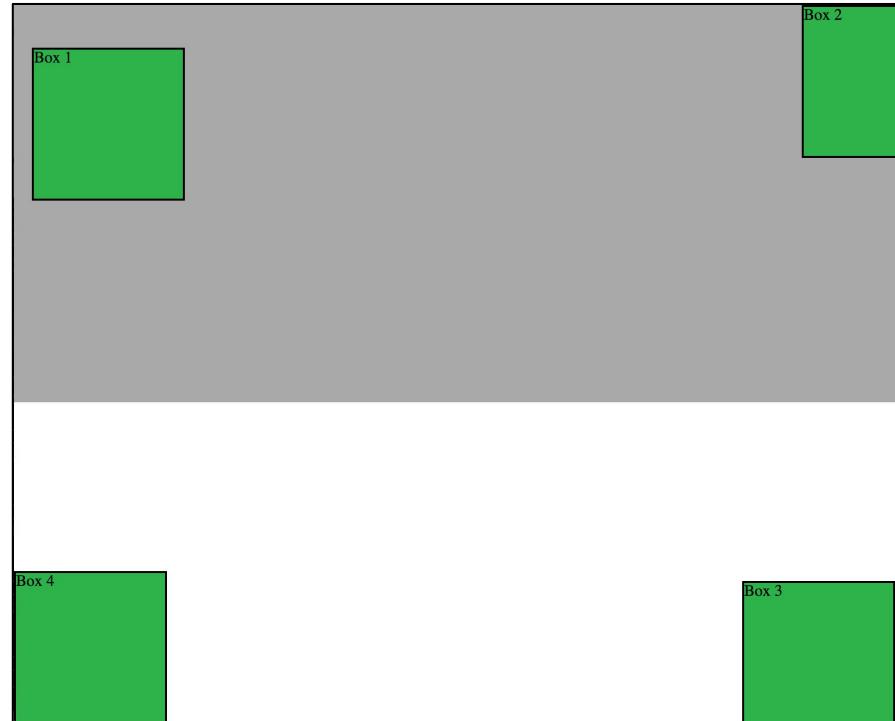
```
.box-set {  
  height: 400px;  
  background: darkgray;  
  position: relative;  
}  
.box {  
  position: absolute;  
  height: 150px;  
  width: 150px;  
  background: #2db34a;  
  border: 2px solid black;  
}  
.box-1 {  
  top: 6%;  
  left: 2%;  
}  
.box-2 {  
  top: 0;  
  right: -40px;  
}  
.box-3 {  
  bottom: -10px;  
  right: 20px;  
}  
.box-4 {  
  bottom: 0;  
}
```



Position: Fixed

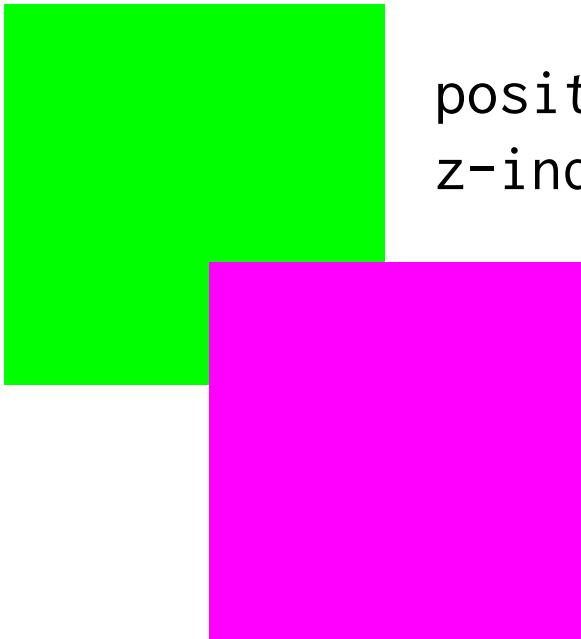
Position with exact coordinates in the browser window

```
.box-set {  
  height: 400px;  
  background: darkgray;  
}  
.box {  
  position: fixed;  
  height: 150px;  
  width: 150px;  
  background: #2db34a;  
  border: 2px solid black;  
}  
.box-1 {  
  top: 6%;  
  left: 2%;  
}  
.box-2 {  
  top: 0;  
  right: -40px;  
}  
.box-3 {  
  bottom: -10px;  
  right: 20px;  
}  
.box-4 {  
  bottom: 0;  
}
```



Layering with z-index

The z-index property allows you to layer elements on top of each other.



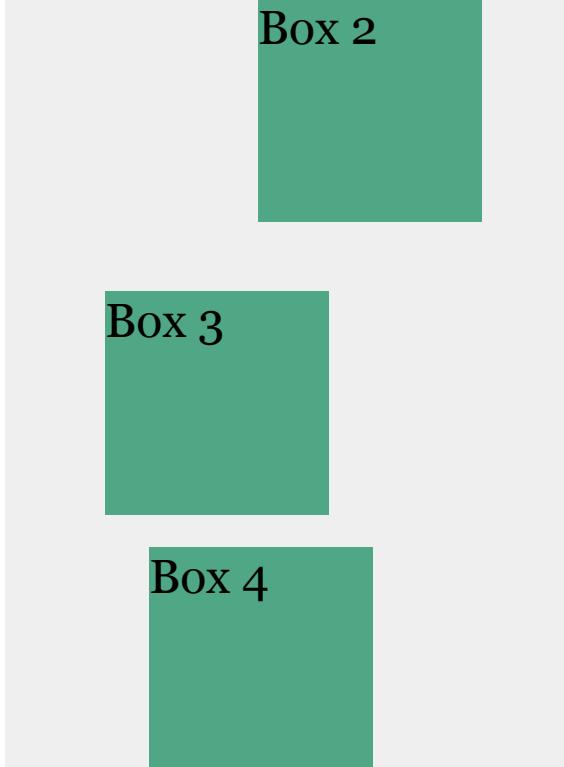
```
position: absolute;  
z-index:1;
```

```
position: absolute;  
z-index:2;
```

Hiding Things

Display: none allows you to hide elements from view.

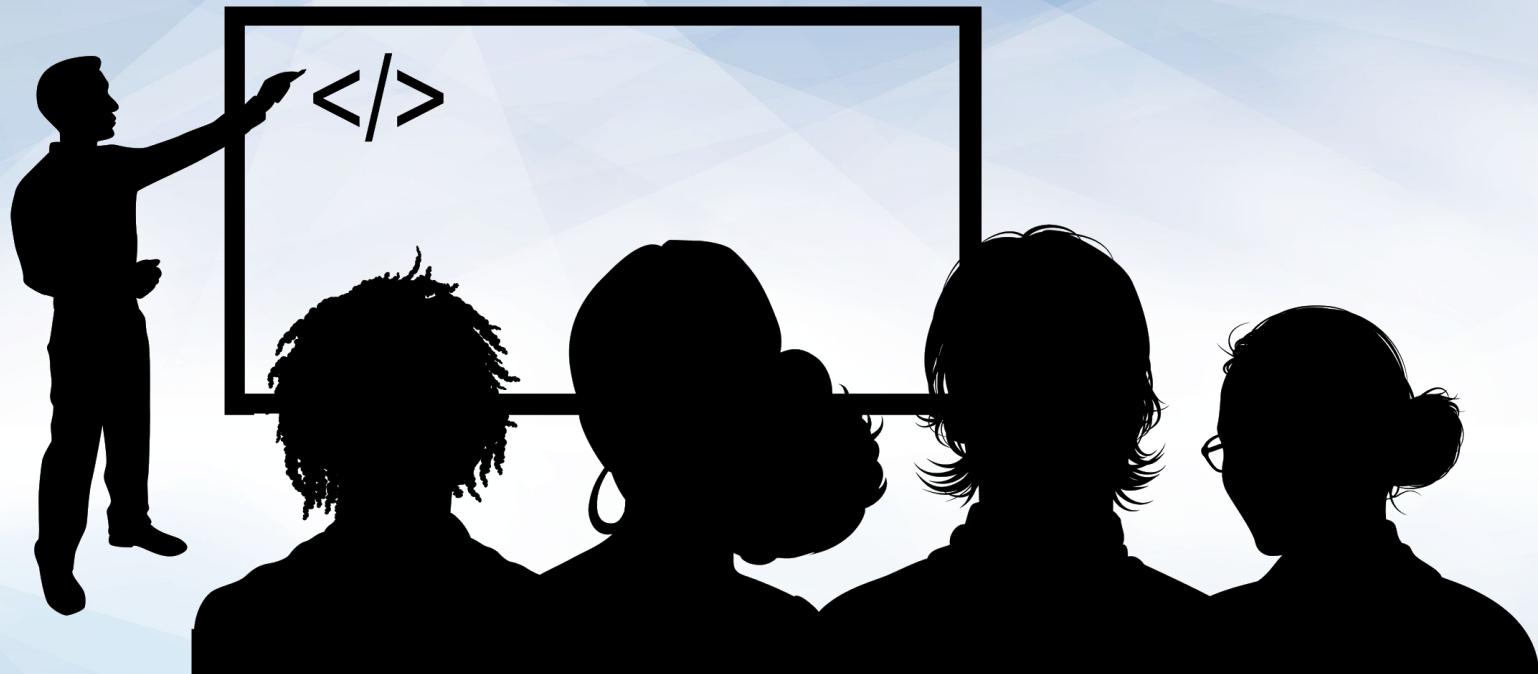
This will become useful in later sections, when we'll hide and reveal specific HTML elements of our choosing.



Box 2

Box 3

Box 4



Instructor Demonstration
CSS Positioning



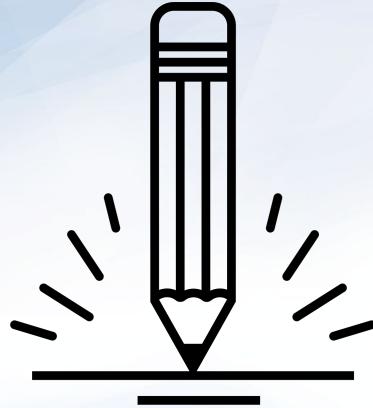
Time For a Quick Video

[Positioning in CSS](#)

Great Resource

Another great read for frontend developers:
learn.shayhowe.com





Activity: CSS Positioning

In this activity, you'll flex your newfound positioning skills by creating another conceptual layout. Eyeball the design to your best ability.

(Check Slack for additional instructions)

Suggested Time:
30 minutes





Video Walkthrough (Highly Recommended)

[CSS Positioning Layout](#)

Advice

Tips to Keep Moving Forward

01

Redo this at home.

We designed the class activities to firm up your HTML/CSS skills. Try them again at home.

02

REMEMBER!

The best way to learn web development is to practice, practice, practice!

Chrome Inspector

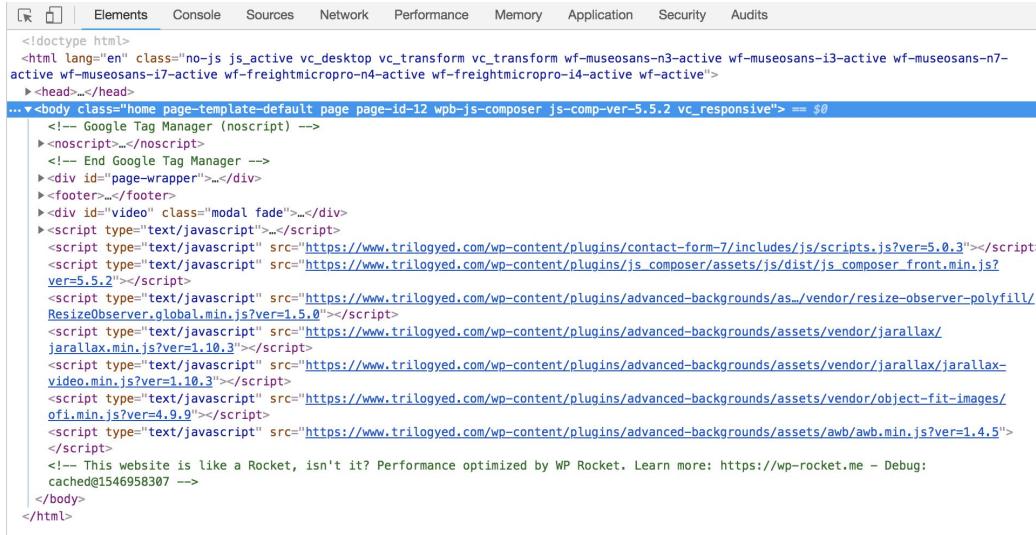
Chrome Inspector Is Your Friend



To access the Chrome inspector, right-click on a page and select **Inspect**.



It lets you inspect the HTML, CSS, and more.



A screenshot of the Chrome DevTools interface, specifically the Elements tab. The tab bar at the top includes Elements, Console, Sources, Network, Performance, Memory, Application, Security, and Audits. The main area displays the HTML source code of a webpage. A blue selection bar highlights a portion of the code within the body tag, specifically the CSS class definitions for the page template. The code shows various CSS classes and their properties, along with script tags for external JavaScript files and inline scripts.

```
<!doctype html>
<html lang="en" class="no-js js_active vc_desktop vc_transform vc_transform wf-museosans-n3-active wf-museosans-i3-active wf-museosans-n7-active wf-museosans-i7-active wf-freightmicropn4-active wf-freightmicropn4-active wf-active">
  <head>...
    <!-- Google Tag Manager (noscript) -->
    <!-- End Google Tag Manager -->
  <div id="page-wrapper">...
    <footer>...
      <div id="video" class="modal fade">...
        <script type="text/javascript">...
          <script type="text/javascript" src="https://www.trilogyed.com/wp-content/plugins/contact-form-7/includes/js/scripts.js?ver=5.0.3"></script>
          <script type="text/javascript" src="https://www.trilogyed.com/wp-content/plugins/js_composer/assets/js/dist/js_composer_front.min.js?ver=5.5.2"></script>
          <script type="text/javascript" src="https://www.trilogyed.com/wp-content/plugins/advanced-backgrounds/assets/vendor/resize-observer-polyfill/ResizeObserver.global.min.js?ver=1.5.0"></script>
          <script type="text/javascript" src="https://www.trilogyed.com/wp-content/plugins/advanced-backgrounds/assets/vendor/jarallax/jarallax.min.js?ver=1.10.3"></script>
          <script type="text/javascript" src="https://www.trilogyed.com/wp-content/plugins/advanced-backgrounds/assets/vendor/jarallax/jarallax-video.min.js?ver=1.10.3"></script>
          <script type="text/javascript" src="https://www.trilogyed.com/wp-content/plugins/advanced-backgrounds/assets/vendor/object-fit-images/ofi.min.js?ver=4.9.9"></script>
          <script type="text/javascript" src="https://www.trilogyed.com/wp-content/plugins/advanced-backgrounds/assets/awb/awb.min.js?ver=1.4.5"></script>
        <!-- This website is like a Rocket, isn't it? Performance optimized by WP Rocket. Learn more: https://wp-rocket.me - Debug: cached@1546958307 -->
      </body>
    </html>
```

Chrome Inspector Is Your Friend



You can even edit the HTML/CSS in a webpage and instantly view your changes in the browser!



This works on any website, whether it's yours or not.

The screenshot shows the Chrome DevTools interface. On the left, the page source code is displayed, showing various HTML elements and inline scripts. On the right, the 'Styles' panel is open, showing the CSS rules applied to the selected element. The 'Computed' tab is selected, displaying the final styles that will be rendered by the browser. The 'Element' tab is also visible, showing the current element being inspected.

```
<!doctype html>
<html lang="en" class="no-js js_active vc_desktop vc_transform vc_transform wf-museosans-n3-active wf-museosans-i3-active wf-museosans-n7-active wf-museosans-i7-active wf-freightmicropro-n4-active wf-freightmicropro-i4-active wf-active">
  ><head>...
    ><body class="home page-template-default page page-id-12 wpb-js-composer js-comp-ver-5.5.2 vc_responsive">
      >!-- Google Tag Manager (noscript) -->
      ><noscript>...
        >!-- End Google Tag Manager -->
      ><div id="page-wrapper">...
      ><footer>...
      ><div id="video" class="modal fade">...
      ><script type="text/javascript"></script>
      ><script type="text/javascript" src="https://www.trilogyed.com/wp-content/plugins/contact-form-7/includes/js/scripts.js?ver=5.0.3"></script>
      ><script type="text/javascript" src="https://www.trilogyed.com/wp-content/plugins/js_composer/assets/js/dist/js_composer_front.min.js?ver=5.5.2"><script> = $0
      ><script type="text/javascript" src="https://www.trilogyed.com/wp-content/plugins/advanced-backgrounds/assets/vendor/resize-observer-polyfill/BesizeObserver.global.min.js?ver=1.5.0"></script>
      ><script type="text/javascript" src="https://www.trilogyed.com/wp-content/plugins/advanced-backgrounds/assets/vendor/jarallax/jarallax_min.js?ver=1.10.3"></script>
      ><script type="text/javascript" src="https://www.trilogyed.com/wp-content/plugins/advanced-backgrounds/assets/vendor/jarallax-video_min.js?ver=1.10.3"></script>
      ><script type="text/javascript" src="https://www.trilogyed.com/wp-content/plugins/advanced-backgrounds/assets/vendor/object-fit-images/object-fit_min.js?ver=4.9.9"></script>
      ><script type="text/javascript" src="https://www.trilogyed.com/wp-content/plugins/advanced-backgrounds/assets.awb.awb.min.js?ver=1.4.5"></script>
      >!-- This website is like a Rocket, isn't it? Performance optimized by WP Rocket. Learn more: https://wp-rocket.me - Debug: cached@1546958307 -->
    </body>
</html>
```

Styles	Computed	Event Listeners	>
Filter	:hov .cls +,		
element.style {			
}			
* {	base.scss:13		
-webkit-font-smoothing: antialiased;			
-moz-osx-font-smoothing: grayscale;			
*	_vendor-prefixes.scss:75		
-webkit-box-sizing: border-box;			
-moz-box-sizing: border-box;			
box-sizing: border-box;			
script {	user agent stylesheet		
display: none;			
Inherited from body.home.page-template-default...			
body {	base.scss:2		
position: relative;			
min-height: 100%;			
font-family: freight-micro-pro;			
font-weight: 400;			
font-size: 15px;			
padding-top: 90px;			
body {	scaffolding.scss:28		
font-family: "Helvetica			
Neue", Helvetica, Arial, sans-serif;			
font-size: 14px;			
line-height: 1.42857;			
color: #333;			
background-color: #fff;			



We'll come back to
this in our next class.

Recap

You Got This!



Questions?