Introduction to HTML and CSS

#### Welcome to HTML and CSS

#### New Terms:

**HTML** - HyperText Markup Language, a set of tags we use to describe the structure of web pages.  
**CSS** - Cascading Style Sheets, a language used to describe how an HTML element should look when displayed in a browser.

#### Website examples:

* <http://www.rawnet.com/>
* <http://www.rawnet.com/what-we-do>
* <http://www.ted.com/>
* <http://bennettfeely.com/csscreatures/>
* <http://bellbros.com/>
* <http://mrdoob.github.io/three.js/examples/css3d_periodictable.html>

#### Further Reading:

[Introduction to HTML](https://developer.mozilla.org/en-US/docs/Web/Guide/HTML/Introduction)  
[Getting Started with CSS](https://developer.mozilla.org/en-US/docs/Web/Guide/CSS/Getting_started)

**Building Web Pages with HTML and CSS**

#### Further Reading:

* [Class Selectors](https://developer.mozilla.org/en-US/docs/Web/CSS/Class_selectors)
* [Heading Elements](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/Heading_Elements)

**HTML, CSS, and Web Development**

Treehouse Blog: [I Don't Speak Your Language: Frontend vs. Backend](http://blog.teamtreehouse.com/i-dont-speak-your-language-frontend-vs-backend)

**The Basic Structure of a Web Page**

**New Tags**

* **<!DOCTYPE html>** - A piece of code that tells the browser what kind of information it’s getting, so that it can display your web page properly.
* **<html>** - All of your code must be between tags.
* **<head>** - Hold all the important behind-the-scenes information about your web page, like the title of your web page, and a links to a CSS stylesheets.
* **<title>** - Stuff between title tags doesn’t appear on the web page, but you’ll see it in search engine results and browser tabs.
* **<body>** - Everything that displays in the browser -- header, navigation, images, content -- goes between the body tags

**Image Tags**

#### ****Placeholder Websites:****

* [Placeimg](https://placeimg.com/)
* [Placehold](http://placehold.it/)

#### ****Image Tag Attributes:****

* **alt** - Short for alternative text, this attribute always goes on an <img> tag and should contain a short description of the image.
* **src** -Tells the browser where the image is located. You can link to an image from your website’s files, or from an outside URL.

#### ****Further Reading:****

* [HTML Attributes](http://www.w3schools.com/html/html_attributes.asp)

**Anchor Tags**

Anything wrapped in <a> </a> is clickable, even images! Links can point to other pages, to other places on your website, or to links anywhere on the web.

**HTML Lists**

**ul** -Unordered list. For listing things that do not need to be in any specific order. Navigation menus are often created with unordered lists, and are styled with CSS to display horizontally.  
**ol** -Ordered list. A list that is automatically numbered.

**Select and Style by Element**

#### ****Further Reading****

* [Hexadecimal Color Picker](http://www.colorpicker.com/)
* [Getting Started with CSS](https://developer.mozilla.org/en-US/docs/Web/Guide/CSS/Getting_started)

**Select and Style by Class**

#### ****References****

* <https://css-tricks.com/almanac/properties/b/border/>
* <https://css-tricks.com/almanac/>
* <https://developer.mozilla.org/en-US/docs/Web/CSS/Reference>

**Select and Style Multiple Elements by Class**

[**More About Margin and Padding**](http://www.htmldog.com/guides/css/beginner/margins/)

**Set up an HTML Document**

#### ****Text editors:****

* <https://atom.io/>
* <http://www.sublimetext.com/>

#### ****Set Up of a Basic Web Page:****

* [Anatomy of an HTML Document](https://developer.mozilla.org/en-US/docs/Learn/Getting_started_with_the_web/HTML_basics#Anatomy_of_an_HTML_document)

**Write the HTML**

**Write the CSS**

#### ****Quick Reference****:

[Linking a Stylesheet](http://www.w3schools.com/css/css_howto.asp)

**Linking It All Up**

HTML Basics

**Global Structure of an HTML Document**

#### Resources

* [HTML element reference – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element)
* [head – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/head)
* [What’s in the head? – MDN](https://developer.mozilla.org/en-US/docs/Learn/HTML/Introduction_to_HTML/The_head_metadata_in_HTML)
* [title – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/title)
* [body – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/body)
* [Atom editor snippets](http://flight-manual.atom.io/using-atom/sections/snippets/)
* [Sublime Text snippets](http://docs.sublimetext.info/en/latest/extensibility/snippets.html)
* [HTML in Visual Studio Code](https://code.visualstudio.com/docs/languages/html)

**Headings and Paragraphs**

#### Resources

* [<h1>–<h6> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/Heading_Elements)
* [<p> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/p)

**Creating Lists**

#### Resources

* [<ul> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/ul)
* [<ol> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/ol)
* [<dl> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/dl)
* [The dl element](http://html5doctor.com/the-dl-element/)

**Creating Links**

#### Resources

* [<a> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/a)
* [HTML attribute reference – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Attributes)
* [Creating hyperlinks – MDN](https://developer.mozilla.org/en-US/docs/Learn/HTML/Introduction_to_HTML/Creating_hyperlinks)
* [Absolute URLs vs relative URLs – MDN](https://developer.mozilla.org/en-US/docs/Learn/Common_questions/What_is_a_URL#Absolute_URLs_vs_relative_URLs)

#### Related Videos

* [HTML Review and URIs vs URLs](https://teamtreehouse.com/library/http-basics/get-and-post-requests-in-a-browser/html-review-and-uris-vs-urls)

**Semantic HTML: <header>, <footer> and <section>**

#### Resources

* [Semantics – MDN](https://developer.mozilla.org/en-US/docs/Glossary/Semantics)
* [<header> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/header)
* [<footer> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/footer)
* [<section> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/section)

Sectioning Content with <article>, <nav> and <aside>

#### Resources

* [<article> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/article)
* [<nav> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/nav)
* [<aside> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/aside)

Marking Up a Blog Post

#### Resources

* [<article> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/article)
* [<aside> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/aside)
* [<q> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/q)

Grouping Content with <main> and <div>

#### Resources

* [<main> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/main)
* [<div> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/div)
* [<blockquote> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/blockquote)
* [<cite> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/cite)
* [<footer> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/footer)

Using Multiple <header> and <footer> Elements

#### Resources

* [<header> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/header)
* [<footer> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/footer)

Understanding File Paths

#### Resources

* [Dealing with files – MDN](https://developer.mozilla.org/en-US/docs/Learn/Getting_started_with_the_web/Dealing_with_files)
* [What is a URL? – MDN](https://developer.mozilla.org/en-US/docs/Learn/Common_questions/What_is_a_URL)

#### Related Videos

* [HTML Review and URIs vs URLs – HTTP Basics](https://teamtreehouse.com/library/http-basics/get-and-post-requests-in-a-browser/html-review-and-uris-vs-urls)

Adding Images to the Page

#### Resources

* [<img> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/img)
* [Alternative Text](http://webaim.org/techniques/alttext/)
* [Dealing with files – MDN](https://developer.mozilla.org/en-US/docs/Learn/Getting_started_with_the_web/Dealing_with_files)
* [GIF](https://en.wikipedia.org/wiki/GIF)
* [PNG](https://en.wikipedia.org/wiki/Portable_Network_Graphics)
* [SVG – MDN](https://developer.mozilla.org/en-US/docs/Web/SVG)

#### Related Videos

* [HTML Review and URIs vs URLs – HTTP Basics](https://teamtreehouse.com/library/http-basics/get-and-post-requests-in-a-browser/html-review-and-uris-vs-urls)

Captioning Images

#### Resources

* [<figure> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/figure)
* [<figcaption> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/figcaption)

Creating Breaks in Content

#### Resources

* [<br> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/br)
* [<hr> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/hr)
* [<address> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/address)

Add Meaning to Words with Text Level Elements

#### Resources

* [<strong> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/strong)
* [<em> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/em)
* [<small> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/small)
* [<span> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/span)
* [Inline elements – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Inline_elements)
* [Block-level elements – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Block-level_elements)

Linking to Sections of a Web Page

#### Resources

* [id attribute – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Global_attributes/id)
* [Identifying resources on the Web (Fragment)](https://developer.mozilla.org/en-US/docs/Web/HTTP/Basics_of_HTTP/Identifying_resources_on_the_Web#Fragment)

Root-relative Paths

**Reference:** [How to use SimpleHTTPServer](http://www.pythonforbeginners.com/modules-in-python/how-to-use-simplehttpserver/)

Link to Email

#### Resources

* [Email links – MDN](https://developer.mozilla.org/en-US/docs/Learn/HTML/Introduction_to_HTML/Creating_hyperlinks#E-mail_links)
* [Mailto Links – CSS Tricks](https://css-tricks.com/snippets/html/mailto-links/)

HTML Entities and Reserved Characters

#### Resources

* [Entity – MDN](https://developer.mozilla.org/en-US/docs/Glossary/Entity)
* [Character entity chart](https://dev.w3.org/html5/html-author/charref)
* [<pre> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/pre)

Adding Developer Notes with HTML Comments

#### Resources

* [HTML comments – MDN](https://developer.mozilla.org/en-US/docs/Learn/HTML/Introduction_to_HTML/Getting_started#HTML_comments)

Working on a Website Project Locally

#### Resources

* [Atom text editor](https://atom.io/)
* [Visual Studio Code](https://code.visualstudio.com/)
* [Sublime Text](https://www.sublimetext.com/)

#### Related Videos

* [Introducing Text Editors – workshop](https://teamtreehouse.com/library/introducing-text-editors)

Next Steps

#### Resources

* [Chrome DevTools](https://developers.google.com/web/tools/chrome-devtools/)
* [<link> – MDN](https://developer.mozilla.org/en-US/docs/Web/HTML/Element/link)
* [CSS – MDN](https://developer.mozilla.org/en-US/docs/Web/CSS)

#### Related Videos

* [HTML Forms – course](https://teamtreehouse.com/library/html-forms)
* [HTML Tables – course](https://teamtreehouse.com/library/html-tables)
* [Debugging CSS with Chrome DevTools – workshop](https://teamtreehouse.com/library/debugging-css-with-chrome-devtools/upcoming)
* [CSS Basics – course](https://teamtreehouse.com/library/css-basics)

CSS Basics

CSS Basics Overview

#### Project Files

* [Download all project files here](http://treehouse-code-samples.s3.amazonaws.com/css-basics/css-basics_prj-files.zip)

Introduction to CSS

CSS Resources

#### Quick Reference

* [Mozilla Developer Network (MDN)](https://developer.mozilla.org/en-US/docs/Web/CSS)
* [WebPlatform.org](https://www.webplatform.org/docs/css/)
* [W3C](http://www.w3.org/Style/CSS/Overview.en.html)
* [Can I Use](http://caniuse.com/)

Inline and Internal Styles

Methods of adding author styles

* Inline Styles
* Internal Styles
* External Style Sheet
  + The rel attribute specifies the relationship between the HTML document and the linked document
  + The href attribute points to the location of the CSS file
* @import

Css

* CSS is a stylesheet language that handles the presentation layer of a web page
* The most efficient way to add CSS to a page is with external stylesheet
* The .css file extension tells the browser that the file is a style sheet
* Styles written in one style sheet are shared across multiple web pages

Intro to Selectors

#### Quick Reference

* [CSS Syntax - MDN](https://developer.mozilla.org/en-US/docs/Web/CSS/Syntax)
* [Selectors - MDN](https://developer.mozilla.org/en-US/docs/Web/Guide/CSS/Getting_started/Selectors)

#### Universal Selector

The [universal selector](https://developer.mozilla.org/en-US/docs/Web/CSS/Universal_selectors) targets every element on the page at once and applies the styles we set.

ID Selectors

#### Quick Reference

* [What is a fragment identifier?](http://en.wikipedia.org/wiki/Fragment_identifier)

#### Using ID selectors

[ID selectors](https://developer.mozilla.org/en-US/docs/Web/CSS/ID_selectors) are declared using the pound (#) symbol, followed by the ID name.

An element can only have one ID and a page can only have one element with the same ID name.

Class Selectors

#### Using class selectors

[Class selectors](https://developer.mozilla.org/en-US/docs/Web/CSS/Class_selectors) are defined with the . character followed by the class name.

Descendant Selectors

#### Examples of descendant selectors

To create a [descendant selector](https://developer.mozilla.org/en-US/docs/Web/CSS/Descendant_selectors), we’ll need to use two or more selectors separated by whitespace:

Pseudo-Classes

#### Using pseudo-classes

Think of a [pseudo-class](https://developer.mozilla.org/en-US/docs/Web/CSS/Pseudo-classes) as a keyword we add to a selector to style a special state of an element.

The [:link pseudo-class](https://developer.mozilla.org/en-US/docs/Web/CSS/:link) targets links that have not been visited by the user:

The [:visited pseudo-class](https://developer.mozilla.org/en-US/docs/Web/CSS/:visited) targets links that have been visited –– or clicked –– by the user:

The [:hover pseudo-class](https://developer.mozilla.org/en-US/docs/Web/CSS/:hover) targets an element when a user hovers over it:

The [:active pseudo-class](https://developer.mozilla.org/en-US/docs/Web/CSS/:active) gets applied when an element is in an active state:

The [:focus pseudo-class](https://developer.mozilla.org/en-US/docs/Web/CSS/:focus) is only applied to interactive elements like links, buttons and form elements. The styles are applied as soon as the element receives focus:

CSS Comments

#### Quick Reference

* [CSS Comments - MDN](https://developer.mozilla.org/en-US/docs/Web/CSS/Comments)

#### Using CSS comments

Comments in CSS begin with a forward-slash and asterisk /\* and end with an asterisk and forward slash \*/. Everything we write between the opening and closing characters is ignored by the browser.

CSS Selectors

* A type selector selects a type of element on the page. We use the   
  HTML element tag as the selector
* Class Selectors are reusable. Give classes meaningful names that explain their purpose
* IDs are not reusable. IDs may be used as fragment identifiers in our page.
* Descendant selectors target elements that are descendants of other elements
* Pseudo-classes can target elements based on user interaction

Practice CSS Selectors

#### Resources

* [Target an input field and submit button – [attr=value]](https://developer.mozilla.org/en-US/docs/Web/CSS/Attribute_selectors)
* [Select an active element](https://developer.mozilla.org/en-US/docs/Web/CSS/:active)
* [Select an element upon receiving focus](https://developer.mozilla.org/en-US/docs/Web/CSS/:focus)

Understanding Values and Units

Common Data Types

#### Quick Reference

* [MDN - CSS Data Types](https://developer.mozilla.org/en-US/docs/tag/CSS%20Data%20Type)

Pixel Units

#### Quick Reference

* [CSS units](https://www.w3schools.com/cssref/css_units.asp)
* [CSS px is an Angular Measurement](http://inamidst.com/stuff/notes/csspx)
* [CSS length data type](https://developer.mozilla.org/en-US/docs/Web/CSS/length)

Percentages

#### When we use a percentage unit in CSS,

#### The percentage value is measured relative to a parent element’s length.

#### Quick Reference

* [Percentage units](https://developer.mozilla.org/en-US/docs/Web/CSS/percentage)

Em Units

#### Converting pixels to ems

To convert a px value to its equivalent em value, we can follow a simple formula: divide an element’s px value by the parent element's font-size value.

1em is equal to the font-size value of the parent element.

#### Tools

* [PX to EM conversion made simple](http://pxtoem.com/)

Rem Units

#### Quick Reference

* [Font sizing with rem](http://snook.ca/archives/html_and_css/font-size-with-rem)

#### Related Videos

* [Font-Sizing: Px, Em, and Rem](http://teamtreehouse.com/library/web-typography/basic-web-typography/fontsizing-px-em-and-rem-part-2)

Which one should we use?

* Pixels are more precise, easier to understand, and predictable
* Use %, em, or rem for designs that need to scale and adapt fluidly across different devices and screen sizes

Color Values

#### Quick Reference

* [CSS color values - MDN](https://developer.mozilla.org/en-US/docs/Web/CSS/color_value)

#### Related Videos

* [Use Color in CSS](http://teamtreehouse.com/library/how-to-make-a-website/customizing-colors-and-fonts/use-color-in-css)

Text Styles

#### Quick Reference

[text-align](https://developer.mozilla.org/en-US/docs/Web/CSS/text-align)  
Let's us control the horizontal alignment of text.

[text-transform](https://developer.mozilla.org/en-US/docs/Web/CSS/text-transform)  
Changes the case of text – whether it's uppercase, lowercase, or capitalized.

[text-decoration](https://developer.mozilla.org/en-US/docs/Web/CSS/text-decoration)  
Sets the line decoration of elements. We'll commonly use this property to remove underlines in links.

[font-weight](https://developer.mozilla.org/en-US/docs/Web/CSS/font-weight)  
Sets how thick or thin the characters are displayed

Font Properties

#### Quick Reference

**CSS font stacks** are prioritized lists of fonts that the browser will cycle through until it finds a font that is installed on the user’s system.

[font-family](https://developer.mozilla.org/en-US/docs/Web/CSS/font-family)  
Defines a typeface for our text.

[font-style](https://developer.mozilla.org/en-US/docs/Web/CSS/font-style)  
Allows italic or oblique faces to be selected within a font family.

#### Tools

* [CSS Font Stack. Font stack generator for web safe fonts](http://www.cssfontstack.com/)

Line Height

#### Related Videos

* [Vertical Space: Line-Height and Vertical Rhythm](http://teamtreehouse.com/library/web-typography/basic-web-typography/vertical-space-lineheight-and-vertical-rhythm)

#### Quick Reference

We'll commonly use the [line-height](https://developer.mozilla.org/en-US/docs/Web/CSS/line-height) property in the body element to set the overall line-height of the page. For example:

The CSS Box Model

#### Quick Reference

* [The CSS Box Model - MDN](https://developer.mozilla.org/en-US/docs/Web/CSS/box_model)

Padding

#### Padding Reference

We can define values for padding as any length or a percentage unit. There are two ways we can set the values for padding. The first way is setting each property individually:

We can also use the shorthand property for padding, which lets us set the padding on all four sides in one declaration:

The order of the values is: Top, Right, Bottom, Left. Think clockwise.

Borders

#### Quick Reference

[border-width](https://developer.mozilla.org/en-US/docs/Web/CSS/border-width)  
Sets the width of a border.

[border-style](https://developer.mozilla.org/en-US/docs/Web/CSS/border-style)  
Sets the style of the element’s borders.

[border-color](https://developer.mozilla.org/en-US/docs/Web/CSS/border-color)  
Sets the color of a border.

[border](https://developer.mozilla.org/en-US/docs/Web/CSS/border)  
Shorthand property for setting the individual border property values in one place.

Margins

#### Related Videos

* [CSS Layout Techniques - Display Modes](http://teamtreehouse.com/library/css-layout-techniques#display-modes)
* [Use Developer Tools](http://teamtreehouse.com/library/how-to-make-a-website/debugging-html-and-css-problems/use-developer-tools)

#### Tools

* [Chrome developer tools](https://developer.chrome.com/devtools)

Display Values

#### Related Videos

* [CSS Layout Techniques - Display Modes](http://teamtreehouse.com/library/css-layout-techniques#display-modes)

#### Quick Reference

* [The display property](https://developer.mozilla.org/en-US/docs/Web/CSS/display)

Practice CSS Box Model

Introducing the Practice

#### Resources

* [box-sizing – MDN](https://developer.mozilla.org/en-US/docs/Web/CSS/box-sizing)
* [Box-Sizing: The Secret to Simple CSS Layouts](http://blog.teamtreehouse.com/box-sizing-secret-simple-css-layouts)