


## Web Development & Design Foundations with HTML5

Ninth Edition



### Chapter 6

#### Page Layout

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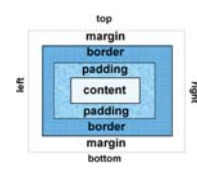
## Learning Objectives

- 6.1 Describe and apply the CSS Box Model
- 6.2 Configure margin with CSS
- 6.3 Configure float with CSS
- 6.4 Configure fixed, relative, and absolute positioning with CSS
- 6.5 Create two-column page layouts using CSS
- 6.6 Configure navigation in unordered lists and style with CSS
- 6.7 Add interactivity to hyperlinks with CSS pseudo-classes
- 6.8 Configure web pages with HTML5 structural elements, including section, article, and aside

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## The Box Model

- Content**
  - Text & web page elements in the container
- Padding**
  - Area between the content and the border
- Border**
  - Between the padding and the margin
- Margin**
  - Determines the empty space between the element and adjacent elements



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## Configure Margin with CSS

- The margin property
- Related properties:
  - margin-top, margin-right, margin-left, margin-bottom
- Configures empty space between the element and adjacent elements
- Syntax examples
 

```
h1 { margin: 0; }
h1 { margin: 20px 10px; }
h1 { margin: 10px 30px 20px; }
h1 { margin: 20px 30px 0 30px; }
```

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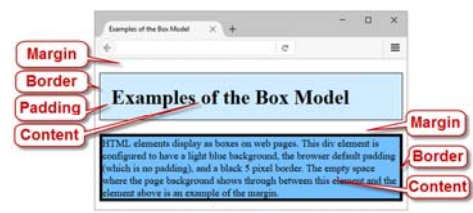
## Configure Padding with CSS

- The padding property
- Related properties:
  - padding-top, padding-right, padding-left, padding-bottom
- Configures empty space between the content of the HTML element (such as text) and the border
- Syntax examples
 

```
h1 { padding: 0; }
h1 { padding : 20px 10px; }
h1 { padding : 10px 30px 20px; }
h1 { padding : 20px 30px 0 30px; }
```

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## Box Model in Action



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## The CSS Box-Sizing Property

- Default value for width or height is the value for **Only** the content (not including border and padding).
- The box-sizing property is used to selector to direct the browser to calculate the width and height of an element to include the value for content, padding, and border.
- Use the universal selector (\*) to apply this to all the element on the page
- Example:
  - \* { box-sizing: border-box; }

## Normal Flow

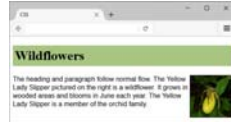
Browser display of elements in the order they are coded in the web page document



## Float Property

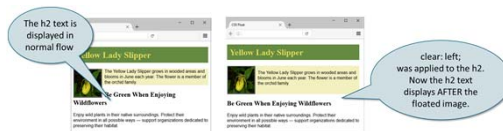
Elements that seem to “float” on the right or left side of either the browser window or another element are often configured using the float property.

```
h1 { background-color:#cccccc;
padding:5px;
color: #000000;
}
p { font-family:Arial,sans-serif;
}
#y1s {float:right;
margin: 0 0 5px 5px;
border: 1px solid #000000;
}
```



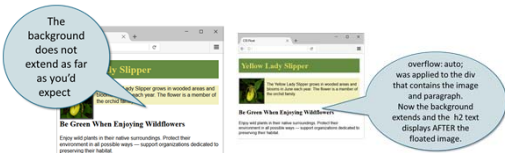
## Clear Property

- Useful to “clear” or terminate a float
- Values are left, right, and both



## Overflow Property

- Intended to configure the display of elements on a Web page.
- However, it is useful to “clear” or terminate a float before the end of a container element
- Values are auto, hidden, and scroll



## Checkpoint 6.1

1. List the components of the box model from innermost to outermost.
2. Describe the purpose of the CSS float property.
3. Which two CSS properties can be used to clear a float?

### CSS Display Property (1 of 2)

Configures how and if an element is displayed

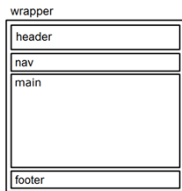
- **display: none;**
  - The element will not be displayed.
- **display: block;**
  - The element is rendered as a block element – even if it is actually an inline element, such as a hyperlink

### CSS Display Property (2 of 2)

- **display: inline;**
  - The element will be rendered as an inline element – even if it is actually a block element – such as a <li>.
- **display: inline-block;**
  - The element will display as an inline display element adjacent to other inline display elements but also can be configured with properties of block display elements including width and height.

### Page Layout Single Column → Two Column

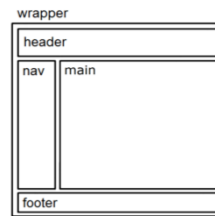
Single Column Wireframe



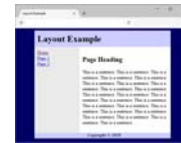
Two Column Wireframe



### Basic Two-Column Layout (1 of 2)

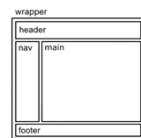
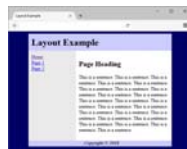


```
<body>
<div id="wrapper">
  <header> </header>
  <nav> </nav>
  <main> </main>
  <footer> </footer>
</div>
</body>
```



### Basic Two-Column Layout (2 of 2)

```
#wrapper { width: 80%;
margin-left: auto;
margin-right: auto;
background-color: #EAEAEA; }
header { background-color: #CCCCFF; }
h1 { margin: 0; padding: 10px; }
nav { float: left;
width: 90px;
padding: 10px; }
main { margin-left: 100px;
padding: 10px;
background-color: #FFFFFF; }
footer { text-align: center;
font-style: italic;
background-color: #CCCCFF; }
```



### CSS Page Layout Two Columns (Left Nav)



### Vertical Navigation (1 of 2)

```
<nav>
<ul>
  <li><a href="index.html">Home</a></li>
  <li><a href="menu.html">Menu</a></li>
  <li><a href="directions.html">Directions</a></li>
  <li><a href="contact.html">Contact</a></li>
</ul>
</nav>
```



### Vertical Navigation (2 of 2)

CSS removes the list marker and underline:  
 nav ul { list-style-type: none; }  
 nav a { text-decoration: none; }



### Horizontal Navigation (1 of 2)

HTML:

```
<nav>
<ul>
  <li><a href="index.html">Home</a></li>
  <li><a href="menu.html">Menu</a></li>
  <li><a href="directions.html">Directions</a></li>
  <li><a href="contact.html">Contact</a></li>
</ul>
</nav>
```

### Horizontal Navigation (2 of 2)

CSS removes the list marker, removes the underline, adds padding, and configures the list items for inline display.

```
nav ul { list-style-type: none; }
nav a { text-decoration: none;
padding-right: 10px; }
nav li { display: inline; }
```



### CSS Pseudo-Classes (1 of 2)

- Pseudo-classes and the anchor element
  - **link** – default state for a hyperlink
  - **visited** – a hyperlink that has been visited
  - **focus** – triggered when the hyperlink has focus
  - **hover** – triggered when the mouse moves over the hyperlink
  - **active** – triggered when the hyperlink is being licked

```
a:link {color:#000066;}
a:visited {color:#003366;}
a:focus {color:#FF0000;}
a:hover {color:#0099CC;}
a:active {color:#FF0000;}
```

### CSS Pseudo-Classes (2 of 2)

```
a:link { color: #ff0000; }
a:hover { text-decoration: none;
color: #000066; }
```



2. The **hover** pseudo-class is triggered by the mouse. The browser no longer displays the underline below the hyperlink.




### Header Text Image Replacement (1 of 2)

Useful when a non web-safe font must be used in the header logo banner area

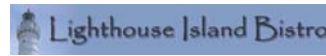
Display the banner image but also configure text in the h1 for use by search engines and assistive technologies.

1. Configure styles for the header element set the header banner image as the background of the header or h1 element.
2. Code the company or website name with the h1 element.
3. Configure the placement of the h1 text to be beyond the browser viewport:

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### Header Text Image Replacement (2 of 2)

```
h1 { text-indent: 100%;
      white-space: nowrap;
      overflow: hidden; }
```




Source: <http://www.zeldman.com/2012/03/01/replacing-the-9999px-hack-new-image-replacement/>

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### Position Property


Value	Purpose
static	Default value; the element is rendered in normal flow
fixed	Configures the location of an element within the browser viewport; the element does not move when the page is scrolled
relative	Configures the location of an element relative to where it would otherwise render in normal flow
absolute	Precisely configures the location of an element outside of normal flow

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### Fixed Positioning

```
nav { position: fixed; }
```

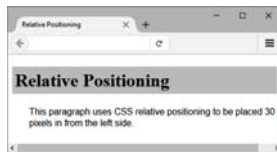


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### Relative Positioning

Changes the location of an element in relation to where it would otherwise appear in normal flow

```
p { position: relative;
    left: 30px;
    font-family: Arial, sans-serif; }
```



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### Absolute Positioning

Precisely specifies the location of an element outside of normal flow in in relation to its first parent non-static element

```
p { position: absolute;
    left: 200px;
    top: 100px;
    font-family: Arial, sans-serif;
    width: 300px; }
```



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## CSS Debugging Tips

- Manually check syntax errors
- Use W3C CSS Validator to check syntax errors
  - <http://jigsaw.w3.org/css-validator/>
- Configure temporary background colors
- Configure temporary borders
- Use CSS comments to find the unexpected
  - /\* the browser ignores this code \*/
- Don't expect your pages to look exactly the same in all browsers!
- Be patient!



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## HTML5 Structural Elements Review (1 of 2)

### Header Element

- block display; contains the headings of either a web page document or an area in the document such as a section or article

### Nav Element

- block display; contains a section of navigation hyperlinks

### Main Element

- block display; contains main page content



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## HTML5 Structural Elements Review (2 of 2)

### Footer Element

- block display; contains the footer content of a web page or specific area (such as a section or article) on a web page



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## More HTML5 Elements (1 of 2)

### Aside Element

- block display; contains a sidebar, a note, or other tangential content

### Section Element

- contains a "section" of a document, such as a chapter or topic
- block display

### Article Element

- contains an independent entry, such as a blog posting, comment, or e-zine article that could stand on its own
- block display



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## More HTML5 Elements (2 of 2)

### Time Element

- represents a date or a time
- could be useful to date articles or blog posts
- inline display



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## HTML5 Compatibility with Older Browsers

Configure Block Display with CSS

```
header, main, nav, footer, section, article,
figure, figcaption, aside { display: block; }
```



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## Deciding to Configure a Class or Id

Configure a class:

- If the style may apply to more than one element on a page
- Use the . (dot) notation in the style sheet.
- Use the class attribute in the HTML.

Configure an id:

- If the style is specific to only one element on a page
- Use the # notation in the style sheet.
- Use the id attribute in the HTML.



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## Checkpoint 6.2

1. Describe a reason to use HTML5 structural elements instead of div elements for some page areas.
2. Describe one CSS debugging tip that you have found to be helpful.
3. Describe how to choose whether to configure an HTML element selector, create a class, or create an id when working with CSS.



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## Summary

- This chapter introduced you to the box model, CSS pseudo-classes, configuring two-column page layouts with CSS, and additional HTML5 structural elements.



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