Chapter 7
Improving Web Design with New Page Layouts
Chapter Objectives

1. Explain when to use article, aside, and section elements
2. Define figure and figcaption elements
3. Redesign wireframes for tablet and desktop viewports
4. Explain and use the opacity property
5. Describe and use the text-shadow property
Chapter Objectives

6. Add a banner image to a website
7. Insert and style a figure element
8. Insert and style a section element
9. Insert and style an article element
10. Insert and style an aside element
11. Create a three-column layout
12. Describe and use the overflow property

Chapter 7: Improving Web Design with New Page Layouts
Topics

1. Introduction
2. Project – Use HTML5 Structural Elements to Redesign a Website
3. Using HTML5 Semantic Elements
4. Redesigning the Home Page
5. Updating the About Us Page
6. Updating the Contact Us Page
7. Creating the Nutrition Page
8. Summary
### Table 7-1 HTML5 Semantic Elements

<table>
<thead>
<tr>
<th>Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;article&gt;</code></td>
<td>Indicates the start and end of an article area of a webpage. Contains content such as forum or blog posts.</td>
</tr>
<tr>
<td><code>&lt;aside&gt;</code></td>
<td>Indicates the start and end of an aside area of a webpage. Contains information about nearby content and is typically displayed as a sidebar.</td>
</tr>
<tr>
<td><code>&lt;details&gt;</code></td>
<td>Indicates the start and end of a details area of a webpage. Contains additional information that the user can display or hide. Note that this element is not supported by all major browsers at the time of this publication.</td>
</tr>
<tr>
<td><code>&lt;figure&gt;</code></td>
<td>Indicates the start and end of a figure area of a webpage. Contains pictures and images.</td>
</tr>
<tr>
<td><code>&lt;figcaption&gt;</code></td>
<td>Indicates the start and end of a figure caption area of a webpage. Defines a caption for a figure element.</td>
</tr>
<tr>
<td><code>&lt;section&gt;</code></td>
<td>Indicates the start and end of a section area of a webpage. Contains a specific grouping of content on a webpage.</td>
</tr>
<tr>
<td><code>&lt;summary&gt;</code></td>
<td>Indicates the start and end of a summary area of a webpage. Contains a visible heading for the details element on a webpage. Note that this element is not supported by all major browsers at the time of this publication.</td>
</tr>
<tr>
<td><code>&lt;time&gt;</code></td>
<td>Indicates the start and end of a time area of a webpage. Contains a date/time on a webpage.</td>
</tr>
</tbody>
</table>
3.1 Article Element

- The **article element** is
  - a complete, self-contained composition in a document, page, application, or site
  - independently distributable or reusable, e.g. in syndication
- The start and end tags of article elements are `<article>` and `</article>`
- Content placed between these tags will appear on a webpage as part of the **article element**
3.1 Article Element

- Articles may be nested within other HTML elements, such as the **main** element, the **section** element, or other **article** elements
- Articles are commonly used to contain news articles, blog and forum posts, or comments
3.1 Article Element

![Diagram of web page layout]

**Figure 7-4**

Chapter 7: Improving Web Design with New Page Layouts
3.2 Aside Element

- The `aside` element is used as a **sidebar** that contains additional information about a particular item mentioned within another element.

- For example, if an article on a webpage contains a recipe and a list of ingredients, one could include an `aside` element with more information about one of the key ingredients, such as its origin or where to purchase it.

- It can be nested within `article` elements or within `main` or `section` elements.
3.2 Aside Element

Figure 7–6
3.3 Section Element

- The **section element** is an element that
  - represents a generic section of a document or application
    - a section is a thematic grouping of content
    - the theme of each section should be identified as a child of the section element
  - is not a generic container element. A general rule is that the section element is appropriate only if the element’s contents would be listed explicitly in the document’s outline
The following is an example of a several section elements nested within an article element:

```html
<article>
  <h1>Tutorials: Cooking Basics</h1>
  <p>Watch our tutorials to learn the basics of good cooking.</p>
  <section>
    <h1>Tutorial 1</h1>
    <p>Assembling basic kitchen tools.</p>
  </section>
  ...
</article>
```
3.3 Section Element

![Diagram of page layout with sections: Header, Navigation, Article, Section, Section, Section, Footer.]

Figure 7–8

Chapter 7: Improving Web Design with New Page Layouts
3.4 Figure and Figure Caption Elements

- The **figure** element is used to group content, such as illustrations, diagrams, and photos.
- The figure element represents some flow content that is self-contained and is typically referenced as a single unit from the main flow of the document.
- A **figure** element can contain one or more **img** elements.
3.4 Figure and Figure Caption Elements

- The figure element may contain an optional figure caption element, which is used to provide a caption for the figure element.
- The start and end tags of the figure caption element are `<figcaption>` and `</figcaption>`.
3.4 Figure and Figure Caption Elements

• The following is an example of the `<figure>` element and the `<figcaption>` element

```html
<figure>
  <figcaption>New York City Highlights</figcaption>
  <img src="ny1.jpg" alt="Statue of Liberty">
  <img src="ny2.jpg" alt="Central Park">
  <img src="ny3.jpg" alt="New York at Night">
</figure>
```
3.4 Figure and Figure Caption Elements

Figure 7-10
3.5 Website Layout

- A **banner** is a graphic that spans the width of a webpage and usually brands a website, often by displaying its name or an identifying image.

- The CSS3 **opacity** property specifies the transparency of an element.

- The **text-shadow** property applies a shadow to text:
  - h-shadow value – designates the horizontal position of the shadow.
  - v-shadow value – designates the vertical position of the shadow.
3.5 Website Layout

- An example of a style rule that applies a text shadow to an element is shown below

```css
h1 {
    text-shadow: 0.2em 0.1em #292933;
}
```

In this example, a text shadow with a horizontal position of 0.2em, a vertical position of 0.1em, and a dark gray color is applied to an h1 element.
4. Redesigning the Home Page

Chapter 7: Improving Web Design with New Page Layouts
4.1 To Add a New div Element to the Home Page

```html
30. <!-- Home Page Banner -->
31. <div id="banner" class="desktop">
32.   <img src="images/homeBanner.jpg" alt="home banner image">
33. </div>
```

**Note:** To help you locate screen elements that are referenced in the step instructions, such as buttons and commands, this book uses red boxes to point to these screen elements.

Figure 7–16
4.1 To Add a New div Element to the Home Page

Figure 7-17
4.2 To Add a figure Element to the Home Page

```html
 Line 59

```

Figure 7–18
4.2 To Add a figure Element to the Home Page

Figure 7–19

heading element

start today!

group fitness

meal plans

sign up

images
4.3 To Add New Style Rules to the Tablet Viewport

```css
189 /* Style for anchor elements within the figure element */
190 figure a {
191     background-color: transparent;
192     padding: 0;
193     text-decoration: none;
194 }
195
196 }
```

**Figure 7–35**

Chapter 7: Improving Web Design with New Page Layouts
Break
5. To Add Section Elements to the About Us Page

```html
<section>
  <h1>Weights</h1>
  <img class="equip" src="images/equipment1.jpg" alt="Weight Equipment">
  <p>Our facility includes a weight training area with several weight options. Build lean muscle with weights and improve your core with weight training.</p>
  <ul class="items">
    <li>Dumbbells</li>
    <li>Kettle bells</li>
    <li>Barbells</li>
  </ul>
</section>
```

Figure 7-54
5.1 To Style the About Us Page for a Tablet Viewport

Figure 7–60
5.1 To Style the About Us Page for a Tablet Viewport

**Figure 7-61**

*Common Exercises*

The following are common exercises that we encourage our clients to do as part of their daily exercise routine.

**Burpee**

Burpees are a great, full body exercise to increase your strength and endurance. Begin in a standing position, drop into a squat and extend your hands forward, kick your feet back and then forward again quickly, and then jump up from a squat position.

**Plank**

Planks build your core strength. To perform a plank, get in a push up position and rest your forearms on the floor. Hold the position as long as you can.

**Mountain Climber**

Mountain climbers are a good cardio exercise. Place your hands on the floor in a push up position, then bring one knee up to your chest and then switch as quickly as you can (as though you are climbing a mountain).

For more information about how to stay active, visit fitness.gov.
7. Creating the Nutrition Page

**Figure 7-70**

Nutrition page wireframe for tablet viewport

- **Header**
- **Navigation**
- **Banner Div**
- **Main**
  - Article
  - Article
  - Article
  - Article
- **Aside**
- **Aside**
- **Aside**
- **Footer**

**Figure 7-71**

Nutrition page wireframe for desktop viewport

- **Header**
- **Navigation**
- **Banner Div**
- **Main**
  - Article
  - Article
  - Article
- **Aside**
- **Aside**
- **Aside**
- **Footer**
Overflow property – It is used to specify how to manage content when it “spills over” into another element.
7.1 To Create the Nutrition Page

Figure 7–72
7.2 To Add article & aside Elements to the Nutrition Page

Figure 7–73

Line 38

<article>

<h2>Food for Thought</h2>

<img src="images/nutrition1.jpg" alt="food for thought image" class="desktop">

<p>Good nutrition is a lifestyle, not a diet. It starts with a new way of thinking about food. Think of your body as a vehicle that uses food for fuel. Fill your tank with the right type of fuel.</p>

<p>Do not approach your nutrition plan as a diet plan, but rather, a lifestyle change. If you make a permanent change, you will see big results. The key to success is a daily focus on your goal.</p>

<p>Portion your meals and track your calories. There are many free mobile apps available to help track your activity level and calories.</p>

<p>Control impulsive urges to buy junk food, and instead, allow yourself to one "cheat" meal a week.</p>

<article tag

nutrition.html file

h2 element

img element

paragraph elements
7.2 To Add article & aside Elements to the Nutrition Page

Figure 7-74

<aside>Did you know the average American consumes 3.1 lbs of sugar each week?</aside>

<article>Ending article tag</article>
7.2 To Add article & aside Elements to the Nutrition Page

Figure 7-79

Food for Thought

Good nutrition is a lifestyle, not a diet. It starts with a new way of thinking about food. Think of your body as a vehicle that uses food for fuel. Fill your tank with the right type of fuel.

Do not approach your nutrition plan as a diet plan, but rather, a lifestyle change. If you make a permanent change, you will see big results. The key to success is a daily focus on your goal.

Portion your meals and track your calories. There are many free mobile apps available to help track your activity level and calories.

Control impulsive urges to buy junk food, and instead, allow yourself to use "cheat" meal a week.

What to Eat

nutrition.html displayed in a browser

article element

img element

paragraph elements

aside element
7.3 To Create a Three-Column Layout for the Nutrition Page in a Tablet Viewport

Figure 7-82

Line 229

/* style for article element */
article {
  background-color: #C1D9CA;
  float: left;
  margin: 0.5%;
  padding: 0.5%;
  text-align: center;
  width: 31%;
}
7.3 To Create a Three-Column Layout for the Nutrition Page in a Tablet Viewport

nutrition.html displayed in a browser, tablet viewport

main element appears within the banner image

article elements are styled as three columns

Figure 7–83

Chapter 7: Improving Web Design with New Page Layouts
The **main** element is not in the correct area in Figure 7–83.

The `float` property used within the article style rule displaces the **main** element to the banner image area.

To correct this issue, apply an `overflow` property with a value of `auto` to the **main** style rule contained within the tablet media query.

- Use `overflow: auto;` to add a property and value.
7.4 To Apply the Overflow Property to the main Element Style Rule

Figure 7–84

Good nutrition is a lifestyle, not a diet. It starts with a new way of thinking about food. Think of your body as

Use the following as a guideline:

• Protein, such as eggs,

Herb Roasted Chicken

Ingredients:
7.5 To Style the article Element for the Nutrition Page

Figure 7–85

Line 240

// Style for image element contained within the main article element *
main article img {
    border: solid 0.1em $1D1D1C;
    margin-left: auto;
    margin-right: auto;
}

style rule for main article img element
7.5 To Style the aside Element for the Nutrition Page

```css
/* Style for aside element */
aside {
    background-color: #FFFFFF;
    border-radius: 0 5em 5em 5em;
    box-shadow: 1em 1em 1em #4C4F4D;
    padding: 1.5em;
    margin: 1em;
}
```

Figure 7-89
7.5 To Style the aside Element for the Nutrition Page

Figure 7–90