

HTML5

STRUCTURAL ELEMENTS

HTML5 has a range of **new structural elements** that allow us to create richer, more meaningful and more flexible web documents.

<header> element

A **<header> element** typically contains the section's heading, but can also contain other content, such as a search form or relevant logos.

```
<header>  
  <h1>Site name</h1>  
</header>
```

```
<header>
```

```
  <h1>Site name</h1>
```

```
  <h2>Site slogan</h2>
```

```
  <p>Supplementary information</p>
```

```
</header>
```

```
<header>  
  <h1>Site name</h1>  
  <nav></nav>  
  <form></form>  
</header>
```

```
<article>
  <header>
    <h1>Article Title</h1>
    <p>By Jon Smith</p>
  </header>
  <p>Lorem Ipsum set amet...</p>
</article>
```


The **<header> element** can be used multiple times within a single document.

```
<header>
```

```
  <h1>Site name</h1>
```

```
  <h2>Bi-line</h2>
```

```
<header>
```

```
<article>
```

```
  <header>
```

```
    <h1>Article Title</h1>
```

```
    <p>By Jon Smith</p>
```

```
  </header>
```

```
  <p>Lorem Ipsum set amet...</p>
```

```
</article>
```

<nav> element

The **<nav> element** represents a section of a page that links to other pages or to parts within the page: a section with navigation links.

```
<nav>
```

```
  <ul>
```

```
    <li><a href="#">home</a></li>
```

```
    <li><a href="#">about</a></li>
```

```
    <li><a href="#">join</a></li>
```

```
    <li><a href="#">news</a></li>
```

```
    <li><a href="#">events</a></li>
```

```
    <li><a href="#">members</a></li>
```

```
    <li><a href="#">contact us</a></li>
```

```
  </ul>
```

```
</nav>
```

The <nav> element can **contain a wide range of elements** including headings, lists and other content.

```
<nav>
```

```
  <h3>Site navigation</h3>
```

```
  <ul>
```

```
    <li><a href="#">home</a></li>
```

```
    <li><a href="#">about</a></li>
```

```
    <li><a href="#">members</a></li>
```

```
    <li><a href="#">services</a></li>
```

```
  </ul>
```

```
  <h3>Blog roll</h3>
```

```
  <ul>
```

```
    <li><a href="#">John</a></li>
```

```
    <li><a href="#">Sophia</a></li>
```

```
  </ul>
```

```
</nav>
```

Not all groups of links on a page need to be in a <nav> element only sections that consist of **major navigation blocks** are appropriate for the <nav> element.

<main> element

The **<main> element** represents the main content area of the body of a document or application.

```
<main>  
  <h1>Apple</h1>  
  <p>The apple is the fruit...</p>  
</main>
```

The <main> can only be used **once per document**.

<section> element

The **<section> element** represents a section of a document or application.

```
<section>  
  <h1>Section Title</h1>  
  <p>Lorem Ipsum set amet...</p>  
</section>
```

Ideally, the <section> should only be used if there is a **natural heading** associated with it.


```
<section>  
  <h1>Apple</h1>  
  <p>The apple is the fruit...</p>  
</section>
```

The **<section> element** can be used multiple times within a single document.

```
<section>
```

```
  <h1>Apple</h1>
```

```
  <p>The apple is the fruit...</p>
```

```
</section>
```

```
<section>
```

```
  <h2>Pears</h2>
```

```
  <p>The pear is also a fruit...</p>
```

```
</section>
```

The `<section>` element is not a generic container element. When an element is needed for styling or scripting purposes, **authors should use the `<div>` element instead.**

```
<div>
```

```
    The apple is the fruit...
```

```
</div>
```

<article> element

The **<article> element** represents a component of a page that could be reused or distributable (ie via syndication).

This could be a forum post, a magazine or newspaper article, a blog entry, a user-submitted comment, an interactive widget or gadget, or **any other independent item of content.**


```
<article>  
  <h1>Apple</h1>  
  <p>The apple is the fruit...</p>  
</article>
```

```
<article>
  <header>
    <h1>Apple</h1>
    <p>Published: 2009-10-09</p>
  </header>
  <p>The apple is a fruit...</p>
  ...
  <footer>
    <small>Creative Commons</small>
  </footer>
</article>
```

```
<article>
  <h1>Apple varieties</h1>
  <p>The apple is a fruit...</p>
  <section>
    <h2>Red Delicious</h2>
    <p>These bright red apples...</p>
  </section>
  <section>
    <h2>Granny Smith</h2>
    <p>These green apples...</p>
  </section>
</article>
```

The **<article> element** can be used multiple times in a single document.

```
<article>
  <header>
    <h1>Apple</h1>
  </header>
  <p>The apple is a fruit...</p>
  <footer>
    <small>License</small>
  </footer>
  <section>
    <h2>Comments</h2>
    <article>
    </article>
  </section>
</article>
```

Which one to use?

Step 1:

Do you need a generic container?

A `<div>` may be ideal

Step 2:

Does the contents of the container include a heading and look like a section of content?

Use a `<section>`

Step 3:

Does the content have the potential to be repurposed?

Use an <article>

<aside> element

The **<aside> element** represents a section of a page consisting of content that is tangentially related to the content around the aside element, and which could be considered separate from that content.

```
<aside>
  <h2>Blogroll</h2>
  <ul>
    <li><a href="#">My Friend</a></li>
    <li><a href="#">Another</a></li>
    <li><a href="#">Best Friend</a></li>
    <li><a href="#">Friend</a></li>
  </ul>
</aside>
```

<footer> element

The **<footer> element** represents a footer for its nearest ancestor and contains info such as author, copyright, related info.

```
<footer>
  <ul>
    <li>copyright info</li>
    <li>sitemap link</li>
    <li>contact link</li>
    <li>to top link</li>
  </ul>
</footer>
```

```
<section>
```

```
    Section content appears here
```

```
    <footer>
```

```
        Footer info for section
```

```
    </footer>
```

```
</section>
```


The **<footer> element** can be used multiple times in a single document.

```
<article>
  Article content appears here
  <footer>
    Footer info for article
  </footer>
</article>
<article>
  Article content appears here
  <footer>
    Footer info for article
  </footer>
</article>
```

<figure> element

The **<figure> element** represents a unit of content, optionally with a caption, that is self-contained, that is typically referenced as a single unit from the main flow of the document.

The content should be able to be **moved away from the main flow** of the document without affecting the document's meaning.

```
<figure>  
    
</figure>
```

The `<figure>` element is intended to be **used in conjunction with the `<figcaption>` element**. The `<figcaption>` is optional.

```
<figure>
  
  <figcaption>
    A cheeky macaque from Borneo.
  </figcaption>
</figure>
```


The `<figure>` element can be used to mark up **diagrams, illustrations, photos, and code examples** (among other things).

```
<figure>
  <pre>
    <code>
      p { border-radius: 5px 5px 0 0;}
    </code>
  </pre>
  <figcaption>
    Four values to define border-radius.
  </figcaption>
</figure>
```

The <figure> element can contain **more than one** photo, illustration, diagram etc.

```
<figure>
  
  
  
  <figcaption>
    Bat, whale and wombat
  </figcaption>
</figure>
```

The <figure> element be used **multiple times** within a single document.

```
<figure>
  
  <figcaption>Little Pied Bat</figcaption>
</figure>
<figure>
  
  <figcaption>Eastern Cave Bat</figcaption>
</figure>
<figure>
  
  <figcaption>Inland Cave Bat</figcaption>
</figure>
```

<figcaption>
element

The **<figcaption> element**
represents a caption or legend for
a figure.


```
<figure>
  
  <figcaption>
    A cheeky macaque from Borneo.
  </figcaption>
</figure>
```

The `<figcaption>` element is optional and can be placed **before or after** the content within the `<figure>` element.

```
<figure>
  <figcaption>
    A cheeky macaque from Borneo.
  </figcaption>
  
</figure>
```

While the `<figure>` element can contain multiple images, diagrams etc, **there can be only one `<figcaption>` element** within a `<figure>` element.

```
<figure>
  
  
  
  <figcaption>
    Bat, whale and wombat
  </figcaption>
</figure>
```

<hgroup> element

The **<hgroup> element** has been dropped from the specification.

Lotsa flexibility

These new HTML5 semantic elements can be used in a **wide variety of ways**. They are deliberately designed to be as flexible as possible.

```
<header>
```

<header>

<footer>

`<header>`

`<nav>`

`<footer>`

```
<header>
```

```
<nav>
```

```
<footer>
```

`<header>`

`<nav>`

`<aside>`

`<footer>`

`<header>`

`<nav>`

`<section>`

`<aside>`

`<footer>`

`<header>`

`<nav>`

`<section>`

`<aside>`

`<section>`

`<footer>`

`<header>`

`<nav>`

`<section>`

`<section>`

`<section>`

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`<aside>`

`<footer>`

`<header>`

`<nav>`

`<article>`

`<aside>`

`<article>`

`<footer>`

`<header>`

`<nav>`

`<article>`

`<aside>`

`<article>`

`<footer>`

`<header>`

`<nav>`

`<article>`

`<section>`

`<section>`

`<aside>`

`<footer>`

More flexibility

<article>

```
<article>
```

```
<header>... Article heading
```

```
<article>
```

```
<header>... Article heading
```

```
<footer>... Article footer
```

```
<article>
```

```
<header>... Article heading
```

```
<section>... Article section 1
```

```
<section>... Article section 2
```

```
<footer>... Article footer
```

```
<article>
```

```
<header>... Article heading
```

```
<section>... Article section 1
```

```
<section>... Article section 2
```

```
<footer>... Article footer
```

```
<section>... Article comments
```

```
<article>... Comment 1
```

```
<article>... Comment 2
```

Sectioning elements

Before HTML 5, we only had two types of elements to **define the hierarchy of a web document** - the generic `<div>` container, and `<h1>` - `<h6>`. The `figcaption` element represents a caption or legend for a figure.

There was a strong emphasis placed on having **only one <h1> element** per document.


```
<div class="header">
  <div class="logo">
    </div>
</div>
<div class="content">
  <h1>Page heading</h1>
  <h2>Second level heading</h2>
  <h3>Third level heading</h3>
</div>
<div class="sidebar">
  <h3>sidebar heading</h3>
</div>
```

There was also a strong emphasis placed on on **maintaining a rigid hierarchy** of heading order.

However, this rigid heading order was never designed for **modern multi-column websites or complex applications.**

HTML5 allows us to add additional meaning to the document via **sectioning elements** - elements that create an new section in the outline.

Sectioning elements **include**:
<article>, <main>, <nav>, <aside>
and <section>

Sectioning also gives us much more flexibility, as we are **not tied down to just six levels of heading hierarchy.**

```
<section>
  <h1></h1>
  <h2></h2>
  <section>
    <h1></h1>
    <h2></h2>
    <article>
      <h1></h1>
      <h2></h2>
    </article>
    <h3></h3>
  </section>
  <h3></h3>
</section>
```

Browser support

By default, most browsers assume that **unknown elements**, like the new HTML 5 semantic elements, should be displayed as “display: inline”.

However, these new structural elements **should be displayed as “display: block”**.

So, we can write a **simple rule** that will solve this problem for almost all browsers:

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

Unfortunately, these new semantic elements are **not recognised by Internet Explorer 6-8.**

Option 1: use nested
elements

You can add **additional <div> elements** inside the HTML 5 elements and style these <div> elements only.

```
<nav>
  <div class="nav">
    <ul>
      <li><a href="#">home</a></li>
      <li><a href="#">about</a></li>
    </ul>
  </div>
</nav>
```


Option 2: use JS

Or, you could use the **HTML5shim**, which forces older browsers to set these new elements to “display: block”.

```
<script src="http://html5shim.googlecode.com/  
svn/trunk/html5.js"></script>
```

Exercise 1: new structural elements

<header>

<nav>

<main>

<section>

<article>

<aside>

<footer>

<figure> and <figcaption>



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