

# HTML semantics cheat sheet

## Document

### <title>

Second most important piece of content.  
Shown in the browser tab & search results.  
Should be unique for *every* page on the site.

### <link href="..." rel="stylesheet">

For linking CSS and other resources like feeds.  
`href` is the path the file.  
`rel` has different values for other resources.

### <header>

When inside `<body>` it's the website masthead.  
When inside `<article>` it's the most important information.

### <footer>

When inside `<body>` it's the website footer.  
When inside `<article>` it's the least important information.

### <main>

Primary content of the page.

### <nav>

Defines a group a navigation links.

### <article>

A piece of content that's independent.  
Could be removed from this website and still make sense.

### <section>

A group in a series of related content pieces.

### <aside>

Secondary content not required to understand the main content.

## CSS link tag

```
<link href="css/main.css" rel="stylesheet">
```

## Navigation inside header

```
<header>
  <nav>
    <ul>
```

```
<li><a href="#">Stegosaurus</a></li>
<li><a href="#">Triceratops</a></li>
<li><a href="#">Ankylosaurus</a></li>
</ul>
</nav>
</header>
```

## Main content groups

```
<body>
  <header>
    <nav>...</nav>
  </header>

  <main>
    <h1>Dinos-R-Us</h1>
  </main>

  <footer>
    <p>© 2063 Dinos-R-Us</p>
  </footer>
</body>
```

## Lists

### <ul>

An unordered list—the order of items isn't important.

Can only have `<li>` elements as direct children.

### <ol>

An ordered list—the order of the items is important.

Could be alphabetical, numerical, best to worst, etc.

Can only have `<li>` elements as direct children.

### <li>

A single list item.

Must be inside a `<ul>`, `<ol>` or `<menu>`.

Can have most other elements inside it.

### <dl>

A description list—a grouping of terms and definitions.

Words & definitions, titles & summaries, data points, etc.

Can only have `<dt>` and `<dd>` elements as direct children.

### <dt>

Description title, the term of the item.

Must come before the `<dd>`.

## <dd>

Description definition, the data, or text of the item.

Can be multiple <dd> tags underneath one <dt> .

## Unordered list

```
<ul>
  <li>Tyrannosaurus</li>
  <li>Spinosaurus</li>
  <li>Velociraptor</li>
</ul>
```

## Ordered list

```
<ol>
  <li>Mercury</li>
  <li>Venus</li>
  <li>Earth</li>
  <li>Mars</li>
</ol>
```

## Description list

```
<dl>
  <dt>Length</dt>
  <dd>2.3 m</dd>
  <dt>Weight</dt>
  <dd>4 tonnes</dd>
</dl>
```

## <menu>

For semantically marking up a web application's toolbar of buttons.

The <menu> tag also uses <li> tags inside—one for each toolbar button.

You may still have to remove the bullets.

## Menu toolbar list

```
<menu>
  <li><button>Like</button></li>
  <li><button>Share</button></li>
  <li><button>Comment</button></li>
</menu>
```

## Text

### <a href="...">

For making hyperlinks.

href is the path to where the link should go.

### <h1>

The *most* important piece of content on the page.  
On the homepage this should be the company's name.  
On inside pages this should be the page title.

## <h2> , <h3> , <h4> , <h5> , <h6>

Content headings, each a sub-heading of the one above.  
The `<h2>` is a sub-heading of `<h1>` , `<h3>` a sub-heading of `<h2>` , etc.

## <hgroup>

Allows you to group multiple headings together and have them semantically treated as a single heading.  
It's primary purpose is for subheadings.

## <p>

A generic paragraph of text.

## <blockquote>

A large, stand alone quote from another source.

## <cite>

A citation for another source, often used with quotations.  
A person's name, a URL, a book, a movie title, etc.

## <q>

A small quotation embedded within other content.

## <em>

A string of emphasized, slightly more important text.  
Screen readers will change their voice for this text.

## <strong>

A string of highly emphasized, much more important text.  
Screen readers will change their voice for this text.

## <ins datetime="...">

Content that was inserted after the document was published.  
`datetime` defines when it was added.

## <del datetime="...">

Content that was deleted after the document was published.  
`datetime` defines when it was removed.

## <abbr title="...">

An acronym or abbreviation, like "HTML", "CSS", etc.  
`title` contains the expanded version, like "Hypertext Markup Language".

## <dfn>

A definition of a term on the page.

Should only be used once of the term.

#### <mark>

Used to highlight a piece of text for reference.

The keywords in a search results page, the current navigation item.

#### <i>

Defines technical term, a ship name, a book title, a thought, sarcasm, another language.

#### <b>

Defines a keyword, like product name in a review, a lead sentence in a paragraph.

#### <s>

Content that's no longer relevant to the document.

Consider if the <del> element is better suited first.

#### <u>

Labels the text as having a non-textual annotation.

A misspelled word, a Chinese proper name, etc.

#### <small>

Represents side comments and fine print.

#### <address>

Contact information, email, tel, postal address, etc.

### Blockquotes

```
<blockquote>
  <p>Dinosaurs may be extinct from the face of the planet, but they are alive and well in our imagination.
  <footer>— <cite>Steve Miller</cite></footer>
</blockquote>
```

### Addresses

```
<address>
  Jet Propulsion Laboratory
  <br>4800 Oak Grove Drive
  <br>Pasadena, California
  <br>91109
</address>
```

### Text edits

```
<p>Launchpad 39A owned by <del datetime="2014-04-14">NASA</del> <ins datetime="2014-04-14">SpaceX</ins>
```

### Heading groups

```
<hgroup>
```

```
<h1>Star Wars</h1>
<h2>The Empire Strikes Back</h2>
</hgroup>
```

## Abbreviations

```
<abbr title="Star Trek: The Wrath of Khan">ST:TWO</abbr>
```

## Other languages

```
<i lang="fr">Bonjour</i>
```

## Images & media

```

```

Embeds an image that's important to the content.

`src` is a path to the image file.

`alt` describes the image if it cannot be seen.

```
<figure>
```

Embeds annotated images, illustrations, photos, code, etc.

Could be moved out of place and would still make sense.

```
<figcaption>
```

For adding a caption/annotation to the `<figure>`.

Must be inside a `<figure>` element—cannot stand alone.

```
<picture>
```

Responsive image insertion—allows developers to provide different images for different contexts.

```
<video poster="..." autoplay loop muted controls>
```

For embedding movies into a website.

`poster` is the path to an image that's displayed before the video plays.

`autoplay` will hint the video to start automatically.

`loop` triggers whether the video should repeat or not.

`muted` can be added to not play sound by default.

`controls` shows or hides the browser's player buttons.

```
<audio autoplay loop muted controls>
```

For embedding sounds into a website.

`autoplay` will hint the audio to start automatically.

`loop` triggers whether the audio should repeat or not.

`muted` can be added to not play sound by default.

`controls` shows or hides the browser's player buttons.

```
<source>
```

Must be inside `<picture>`, `<video>` or `<audio>` to define the different versions of content.

For example, in video it gives paths to the MP4 and WEBM formats.

### `<track>`

Used to pair captions, chapters, etc. with `<video>` elements.

## *Basic images*

```

```

## *Figures & captions*

Use only if there's a caption.

```
<figure>
  
  <figcaption>So many dinosaurs I can't even count!</figcaption>
</figure>
```

## *Responsive images*

See [Responsive & retina images for details.](#)

```
<picture>
  <source media="(min-width: 60em)" srcset="images/dino-wide.jpg">
  <source media="(min-width: 38em)" srcset="images/dino-rectangle.jpg">
  
</picture>
```

## Data & code

### `<sub>`

Defines text as being subscript.

### `<sup>`

Defines text as being superscript.

### `<var>`

Represents a variable in math or programming.

### `<time datetime="...">`

Marks some text as a time or date.

`datetime` defines the machine readable version.

### `<data value="...">`

Marks elements as being a numerical piece of information.

`value` provides the machine readable version.

`<meter value="..." min="..." max="...">`

Represents a single number in a range of numbers.

`value` is the current number.

`min` is the minimum number.

`max` is the maximum number.

`<progress value="..." min="..." max="...">`

Represents the current position in a series of steps.

`value` is the current position.

`min` is the minimum position.

`max` is the maximum position.

`<code>`

Defines a piece of text as a code sample.

`<pre>`

A piece of text that has a specific formatting, where tabs, whitespaces, etc. should be maintained.

`<kbd>`

Something a user should type into their computer.

`<samp>`

Something a user should see output from a computer.

## Time

Apollo 11 landed on the moon `<time datetime="1969-07-20T20:18">July 20, 1969</time>`

## Data

Argentinosaurus weighted approximately `<data value="90">90 tonnes</data>`

## Maths

$E = mc^2$

## Meaningless tags

`<div>`

Inherits meaning from its children.

Divides content into logical groups, when no other tag is better suited.

Has restrictions on what elements it can be inside.

`<span>`

Inherits meaning from its children.

## Be careful

### <br>

Creates a line break that's significant to the content.

Useful in poems and addresses where the division of lines is important.

*Do not use to create space in a design—use margins and padding.*

### <hr>

Represents a thematic break in the content.

For example, a scene change or topic change.

*Do not use to create a horizontal line—use CSS borders.*

### <button>

Represents a interactive, clickable button.

Should be used in forms and with JavaScript.

*Do not use to link to another page—use the <a> tag.*

### <wbr>

Presents an opportunity for the browser to add a line-break if necessary.

Groups strings of text, when no other tag is better suited.

## Links

### Links that go nowhere

The `href` always needs a value—`#` means nowhere.

```
<a href="#">Nowhere</a>
```

### Links on the same page

Add an `id=""` to the element to jump to, refer to that inside the `href`

```
<a href="#herbivores">See the herbivores</a>

<h2 id="herbivores">Herbivores</h2>
```

### Links to other files

Just write the name of the HTML file, also include any folders its inside.

```
<a href="dinos.html">Dinosaurs</a>

<!-- or in another folder -->
<a href="herbivores/stegosaurus.html">Stegosaurus</a>
```

### Links to other websites

Always start with `https://` or less ideally `http://`

```
<a href="https://www.wikipedia.org/">Wikipedia</a>

<!-- Adding `rel="external"` for outward-bound sites is good -->
<a href="https://www.wikipedia.org/" rel="external">Wikipedia</a>
```

## Links to phone numbers

Start with `tel:`, use international format

```
<a href="tel:+18005552368">Call Me!</a>
```

Also send a text message with `sms:`

```
<a href="sms:+18005552368&body=Who%20ya%20gonna%20call">Call Me!</a>
```

<!-- or without a default number -->

```
<a href="sms:&body=Who%20ya%20gonna%20call">Call Me!</a>
```

## Links to email addresses

Pops open a new email message, start with `mailto:`

```
<a href="mailto:hey@thomasjbradley.ca">Thomas</a>
```

<!-- Add a subject too -->

```
<a href="mailto:hey@thomasjbradley.ca?subject=How%20are%20you?">Thomas</a>
```

<!-- Even a default body -->

```
<a href="mailto:hey@thomasjbradley.ca?subject=How%20are%20you?&body=Hey%20Thomas">Thomas</a>
```

`%20` is used to escape spaces—[See more percent-encoding examples](#)

## Date/time formats

Apply to the `datetime=""` attribute of the `<time>`, `<del>` & `<ins>` elements.

### Year

Format: `YYYY`

Example: `1963`

### Year, month

Format: `YYYY-MM`

Example: `1963-11`

`Nov. 1963`

### Year, month, day

Format: `YYYY-MM-DD`

Example: `1963-11-23`

`Nov. 23, 1963`

### Year, week

Format: `YYYY-Wdd`

Example: `1963-W47`

`1936. the week of Nov. 18–24`

### *Hour, minute*

Format: HH:MM

Example: 17:16

5:16 PM

### *Hour, minute, second*

Format: HH:MM:SS

Example: 17:16:20

5:16:20 PM

### *Hour, minute, second, millisecond*

Format: HH:MM:SS.sss

Example: 17:16:20.258

5:16:20.258 PM

### *UTC timezone*

Format: Z

Example: Z

UTC timezone

### *Timezone offsets*

Format: ±HH:MM

Example: -05:00

*Eastern Standard Time, Daylight Savings*

### *Year, month, day, hour, minute*

Format: YYYY-MM-DDTHH:MM

Example: 1963-11-23T17:16

Nov. 23, 1963 at 5:16 PM

### *Year, month, day, hour, minute, second*

Format: YYYY-MM-DDTHH:MM:SS

Example: 1963-11-23T17:16:20

Nov. 23, 1963 at 5:16:20 PM

### *Year, month, day, hour, minute, second, millisecond*

Format: YYYY-MM-DDTHH:MM:SS.sss

Example: 1963-11-23T17:16:20.258

Nov. 23, 1963 at 5:16:20.258 PM

### *Year, month, day, hour, minute, UTC*

Format: YYYY-MM-DDTHH:MMZ

Example: 1963-11-23T17:16Z

Nov. 23, 1963 at 5:16 PM UTC

### *Year, month, day, hour, minute, timezone*

Format: YYYY-MM-DDTHH:MM±HH:MM

Example: 1963-11-23T12:16-05:00

Nov. 23, 1963 at 12:16 AM EST

### *Year, month, day, hour, minute, second, timezone*

Format: YYYY-MM-DDTHH:MM:SS±HH:MM

Example: 1963-11-23T12:16:20-05:00

Nov. 23, 1963 at 12:16:20 AM EST

### *Year, month, day, hour, minute, second, millisecond, timezone*

Format: YYYY-MM-DDTHH:MM:SS.sss±HH:MM

Example: 1963-11-23T12:16:20.258-05:00

Nov. 23, 1963 at 12:16:20.258 AM EST

### *Period of days*

Format: PddD

Example: P686D

686 days

### *Period of days, hours*

Format: PddDThhH

Example: P686DT23H

686 days, 23 hours

### *Period of days, hours, minutes*

Format: PddDThhHmmM

Example: P686DT23H18M

686 days, 23 hours, 18 minutes

### *Period of days, hours, minutes, seconds*

Format: PddDThhHmmMssS

Example: P686DT23H18M14S

686 days, 23 hours, 18 minutes, 14 seconds

### *Period of days, hours, minutes, seconds, milliseconds*

Format: PddDThhHmmMss.sssS

Example: P686DT23H18M14.400S

686 days, 23 hours, 18 minutes, 14 seconds, 400 milliseconds

### *Period of hours*

Format: PThhH

Example: PT23H

23 hours

### *Period of minutes*

#### *Period of minutes*

Format: PTmmM

Example: PT18M

*18 minutes*

#### *Period of minutes, seconds*

Format: PTmmMssS

Example: PT18M14S

*18 minutes, 14 seconds*