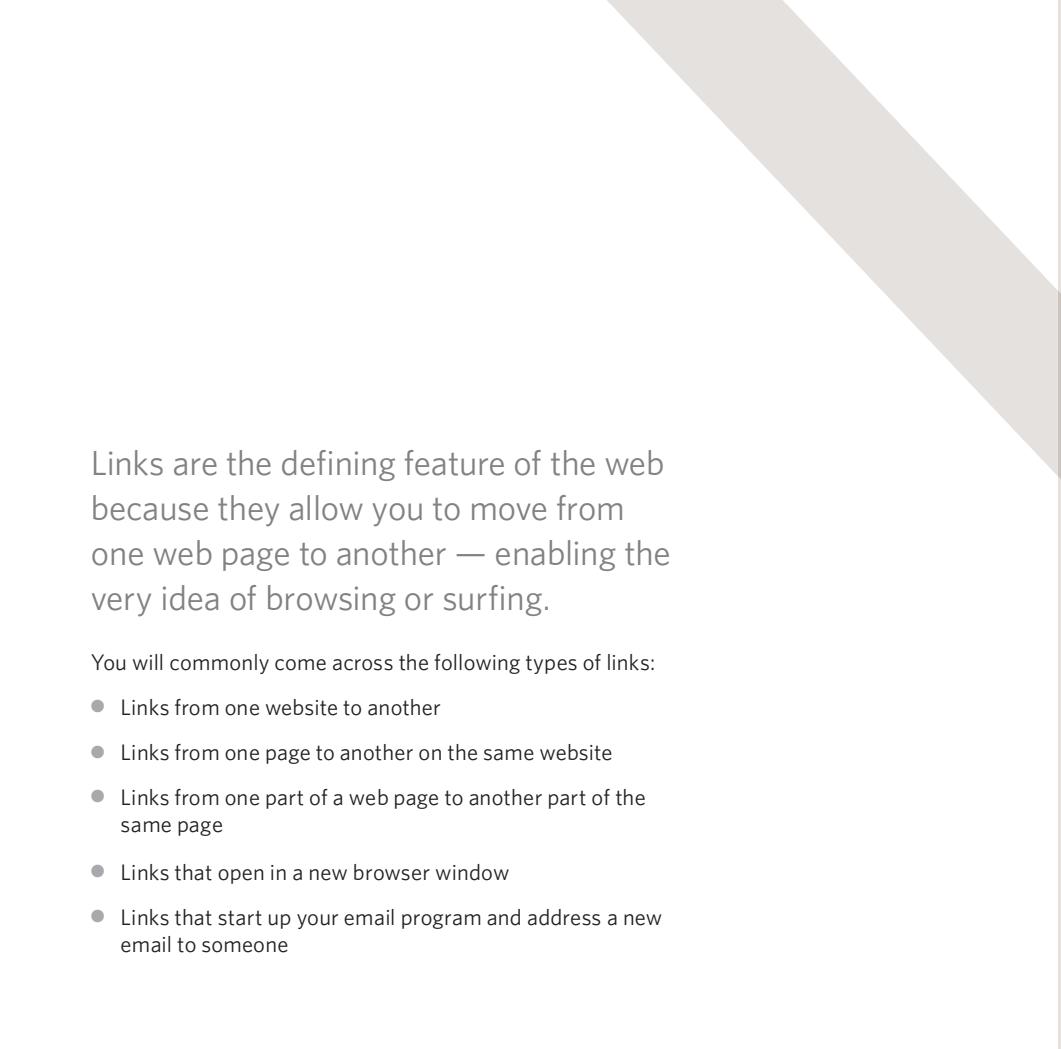


# 4

## LINKS

- ▶ Creating links between pages
- ▶ Linking to other sites
- ▶ Email links



Links are the defining feature of the web because they allow you to move from one web page to another — enabling the very idea of browsing or surfing.

You will commonly come across the following types of links:

- Links from one website to another
- Links from one page to another on the same website
- Links from one part of a web page to another part of the same page
- Links that open in a new browser window
- Links that start up your email program and address a new email to someone



# WRITING LINKS

Links are created using the `<a>` element. Users can click on anything between the opening `<a>` tag and the closing `</a>` tag. You specify which page you want to link to using the `href` attribute.

The diagram illustrates the structure of an anchor tag (`<a>`). It shows the tag `<a href="http://www.imdb.com">IMDB</a>`. A bracket above the tag spans from the opening tag to the closing tag, labeled "THIS IS THE PAGE THE LINK TAKES YOU TO". Another bracket below the tag spans from the opening tag to the closing tag, labeled "OPENING LINK TAG" at the bottom left and "CLOSING LINK TAG" at the bottom right. Inside the tag, the text "IMDB" is highlighted in green and labeled "THIS IS THE TEXT THE USER CLICKS ON" above it.

```
<a href="http://www.imdb.com">IMDB</a>
```

THIS IS THE PAGE THE  
LINK TAKES YOU TO

THIS IS THE TEXT THE  
USER CLICKS ON

OPENING LINK TAG

CLOSING  
LINK TAG

The text between the opening `<a>` tag and closing `</a>` tag is known as link text. Where possible, your link text should explain where visitors will be taken if they click on it (rather than just saying "click here"). Below you can see the link to IMDB that was created on the previous page.

Many people navigate websites by scanning the text for links. Clear link text can help visitors find what they want. This will give them a more positive impression of your site and may encourage them to visit it for longer. (It also helps people using screen reader software.)

To write good link text, you can think of words people might use when searching for the page that you are linking to. (For example, rather than write "places to stay" you could use something more specific such as "hotels in New York.")



# LINKING TO OTHER SITES

## <a>

Links are created using the <a> element which has an attribute called href. The value of the href attribute is the page that you want people to go to when they click on the link.

Users can click on anything that appears between the opening <a> tag and the closing </a> tag and will be taken to the page specified in the href attribute.

When you link to a different website, the value of the href attribute will be the full web address for the site, which is known as an **absolute URL**.

Browsers show links in blue with an underline by default.

chapter-04/linking-to-other-sites.html

HTML

```
<p>Movie Reviews:<br/>
<ul><li><a href="http://www.empireonline.com"><br/>
    Empire</a></li><br/>
<li><a href="http://www.metacritic.com"><br/>
    Metacritic</a></li><br/>
<li><a href="http://www.rottentomatoes.com"><br/>
    Rotten Tomatoes</a></li><br/>
<li><a href="http://www.variety.com"><br/>
    Variety</a></li><br/>
</ul></p>
```

RESULT

Movie Reviews:

- [Empire](http://www.empireonline.com)
- [Metacritic](http://www.metacritic.com)
- [Rotten Tomatoes](http://www.rottentomatoes.com)
- [Variety](http://www.variety.com)

## ABSOLUTE URLs

URL stands for Uniform Resource Locator. Every web page has its own URL. This is the web address that you would type into a browser if you wanted to visit that specific page.

An absolute URL starts with the domain name for that site, and can be followed by the path to a specific page. If no page is specified, the site will display the homepage.

# LINKING TO OTHER PAGES ON THE SAME SITE

## HTML

chapter-04/linking-to-other-pages.html

```
<p>
  <ul>
    <li><a href="index.html">Home</a></li>
    <li><a href="about-us.html">About</a></li>
    <li><a href="movies.html">Movies</a></li>
    <li><a href="contact.html">Contact</a></li>
  </ul>
</p>
```

## RESULT

- [Home](#)
- [About](#)
- [Movies](#)
- [Contact](#)

## <a>

When you are linking to other pages within the same site, you do not need to specify the domain name in the URL. You can use a shorthand known as a **relative URL**.

If all the pages of the site are in the same folder, then the value of the `href` attribute is just the name of the file.

If you have different pages of a site in different folders, then you can use a slightly more complex syntax to indicate where the page is in relation to the current page. You will learn more about these on the pages 81-84.

If you look at the download code for each chapter, you will see that the `index.html` file contains links that use relative URLs.

## RELATIVE URLs

When linking to other pages within the same site, you can use relative URLs. These are like a shorthand version of absolute URLs because you do not need to specify the domain name.

We will take a closer look at relative URLs on pages 83-84 as there are several helpful shortcuts you can use to write links to other pages on your own website.

Relative URLs help when building a site on your computer because you can create links between pages without having to set up your domain name or hosting.

# DIRECTORY STRUCTURE

On larger websites it's a good idea to organize your code by placing the pages for each different section of the site into a new folder. Folders on a website are sometimes referred to as directories.

## STRUCTURE

The diagram on the right shows the directory structure for a fictional entertainment listings website called ExampleArts.

The top-level folder is known as the **root** folder. (In this example, the root folder is called **examplearts**.) The root folder contains all of the other files and folders for a website.

Each section of the site is placed in a separate folder; this helps organize the files.

If you are working with a content management system, blogging software, or an e-commerce system, you might not have individual files for each page of the website.

## RELATIONSHIPS

The relationship between files and folders on a website is described using the same terminology as a family tree.

In the diagram on the right, you can see some relationships have been drawn in.

The **examplearts** folder is a parent of the **movies**, **music** and **theater** folders. And the **movies**, **music** and **theater** folders are children of the **examplearts** folder.

Instead, these systems often use one template file for each different type of page (such as news articles, blog posts, or products).

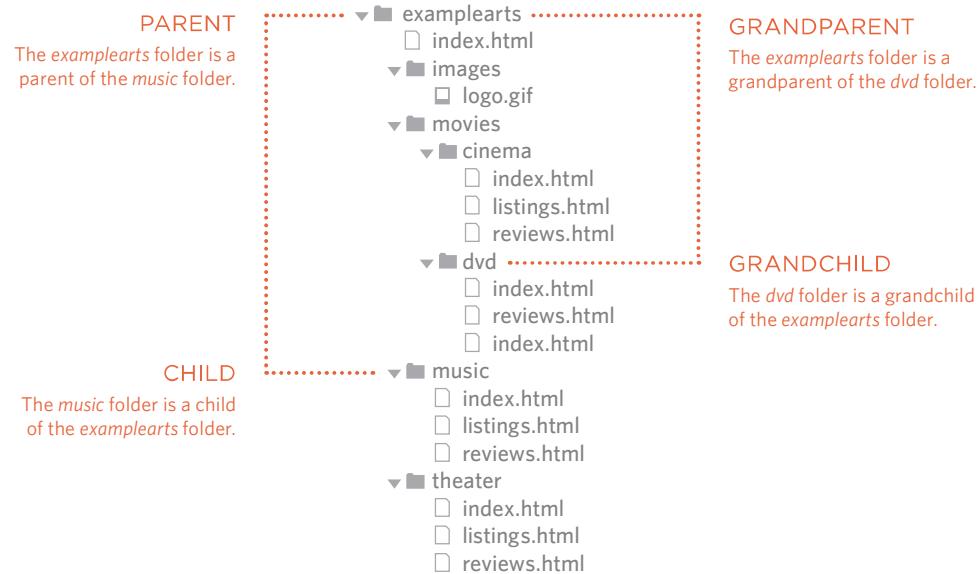
## HOME PAGES

The main homepage of a site written in HTML (and the homepages of each section in a child folder) is called **index.html**.

Web servers are usually set up to return the **index.html** file if no file name is specified.

Therefore, if you enter `examplearts.com` it will return `examplearts.com/index.html`, and `examplearts.com/music` will return `examplearts.com/music/index.html`.

Editing the template file would change all of the pages that use that template. Do not change any code that is not HTML or you may break the page.



Every page and every image on a website has a **URL** (or Uniform Resource Locator). The URL is made up of the domain name followed by the **path** to that page or image.

The path to the homepage of this site is `www.examplearts.com/index.html`. The path to the logo for the site is `examplearts.com/images/logo.gif`.

You use URLs when linking to other web pages and when including images in your own site. On the next page, you will meet a shorthand way to link to files on your own site.

The root folder contains:

- A file called *index.html* which is the homepage for the entire site
- Individual folders for the movies, music and theatre sections of the site

Each sub-directory contains:

- A file called *index.html* which is the homepage for that section
- A reviews page called *reviews.html*
- A listings page called *listings.html* (except for the DVD section)

The movies section contains:

- A folder called *cinema*
- A folder called *DVD*.

# RELATIVE URLs

Relative URLs can be used when linking to pages within your own website. They provide a shorthand way of telling the browser where to find your files.

When you are linking to a page on your own website, you do not need to specify the domain name. You can use **relative URLs** which are a shorthand way to tell the browser where a page is in relation to the current page.

This is especially helpful when creating a new website or learning about HTML because you can create links between pages when they are only on your personal computer (before you have got a domain name and uploaded them to the web).

Because you do not need to repeat the domain name in each link, they are also quicker to write.

If all of the files in your site are in one folder, you simply use the file name for that page.

If your site is organized into separate folders (or directories), you need to tell the browser how to get from the page it is *currently on* to the page that you are *linking to*.

If you link to the same page from two different pages you might, therefore, need to write two different relative URLs.

These links make use of the same terminology (borrowed from that of family trees) you met on the previous page which introduces directory structure.

## RELATIVE LINK TYPE

## EXAMPLE (from diagram on previous page)

### SAME FOLDER

To link to a file in the same folder, just use the file name. (Nothing else is needed.)

To link to music reviews from the music homepage:  
`<a href="reviews.htm">Reviews</a>`

### CHILD FOLDER

For a child folder, use the name of the child folder, followed by a forward slash, then the file name.

To link to music listings from the homepage:  
`<a href="music/listings.htm">Listings</a>`

### GRANDCHILD FOLDER

Use the name of the child folder, followed by a forward slash, then the name of the grandchild folder, followed by another forward slash, then the file name.

To link to DVD reviews from the homepage:  
`<a href="movies/dvd/reviews.htm">Reviews</a>`

### PARENT FOLDER

Use ../ to indicate the folder above the current one, then follow it with the file name.

To link to the homepage from the music reviews:  
`<a href="../index.htm">Home</a>`

### GRANDPARENT FOLDER

Repeat the ../ to indicate that you want to go up two folders (rather than one), then follow it with the file name.

To link to the homepage from the DVD reviews:  
`<a href=".../index.htm">Home</a>`

When a website is live (that is, uploaded to a web server) you may see a couple of other techniques used that do not work when the files are on your local computer.

For example, you may see the name of a child folder without the name of a file. In this case the web server will usually try to show the homepage for that section.

A forward slash will return the homepage for the entire site, and a forward slash followed by a file name will return that file providing it is in the root directory.

# EMAIL LINKS

## mailto:

To create a link that starts up the user's email program and addresses an email to a specified email address, you use the `<a>` element. However, this time the value of the `href` attribute starts with `mailto:` and is followed by the email address you want the email to be sent to.

On the right you can see that an email link looks just like any other link but, when it is clicked on, the user's email program will open a new email message and address it to the person specified in the link.

chapter-04/email-links.html

```
<a href="mailto:jon@example.org">Email Jon</a>
```

HTML

RESULT

[Email Jon](mailto:jon@example.org)



# OPENING LINKS IN A NEW WINDOW

## HTML

chapter-04/opening-links-in-a-new-window.html

```
<a href="http://www.imdb.com" target="_blank">  
Internet Movie Database</a> (opens in new window)
```

## RESULT

[Internet Movie Database \(opens in new window\)](http://www.imdb.com)

## target

If you want a link to open in a new window, you can use the `target` attribute on the opening `<a>` tag. The value of this attribute should be `_blank`.

One of the most common reasons a web page author might want a link to be opened in a new window is if it points to another website. In such cases, they hope the user will return to the window containing their site after finishing looking at the other one.

Generally you should avoid opening links in a new window, but if you do, it is considered good practice to inform users that the link will open a new window before they click on it.

# LINKING TO A SPECIFIC PART OF THE SAME PAGE

At the top of a long page you might want to add a list of contents that links to the corresponding sections lower down. Or you might want to add a link from part way down the page back to the top of it to save users from having to scroll back to the top.

Before you can link to a specific part of a page, you need to identify the points in the page that the link will go to. You do this using the `id` attribute (which can be used on every HTML element). You can see that the `<h1>` and `<h2>` elements in this example have been given `id` attributes that identify those sections of the page.

The value of the `id` attribute should start with a letter or an underscore (not a number or any other character) and, on a single page, no two `id` attributes should have the same value.

To link to an element that uses an `id` attribute you use the `<a>` element again, but the value of the `href` attribute starts with the `#` symbol, followed by the value of the `id` attribute of the element you want to link to. In this example, `<a href="#top">` links to the `<h1>` element at the top of the page whose `id` attribute has a value of `top`.

chapter-05/linking-to-a-specific-part.html

HTML

```
<h1 id="top">Film-Making Terms</h1>
<a href="#arc_shot">Arc Shot</a><br />
<a href="#interlude">Interlude</a><br />
<a href="#prologue">Prologue</a><br /><br />
<h2 id="arc_shot">Arc Shot</h2>
<p>A shot in which the subject is photographed by an encircling or moving camera</p>
<h2 id="interlude">Interlude</h2>
<p>A brief, intervening film scene or sequence, not specifically tied to the plot, that appears within a film</p>
<h2 id="prologue">Prologue</h2>
<p>A speech, preface, introduction, or brief scene preceding the main action or plot of a film; contrast to epilogue</p>
<p><a href="#top">Top</a></p>
```

# LINKING TO A SPECIFIC PART OF ANOTHER PAGE

## RESULT

### Film-Making Terms

[Arc Shot](#)  
[Interlude](#)  
[Prologue](#)

#### Arc Shot

A shot in which the subject is photographed by an encircling or moving camera

#### Interlude

A brief, intervening film scene or sequence, not specifically tied to the plot, that appears within a film

#### Prologue

A speech, preface, introduction, or brief scene preceding the main action or plot of a film; contrast to epilogue

[Top](#)

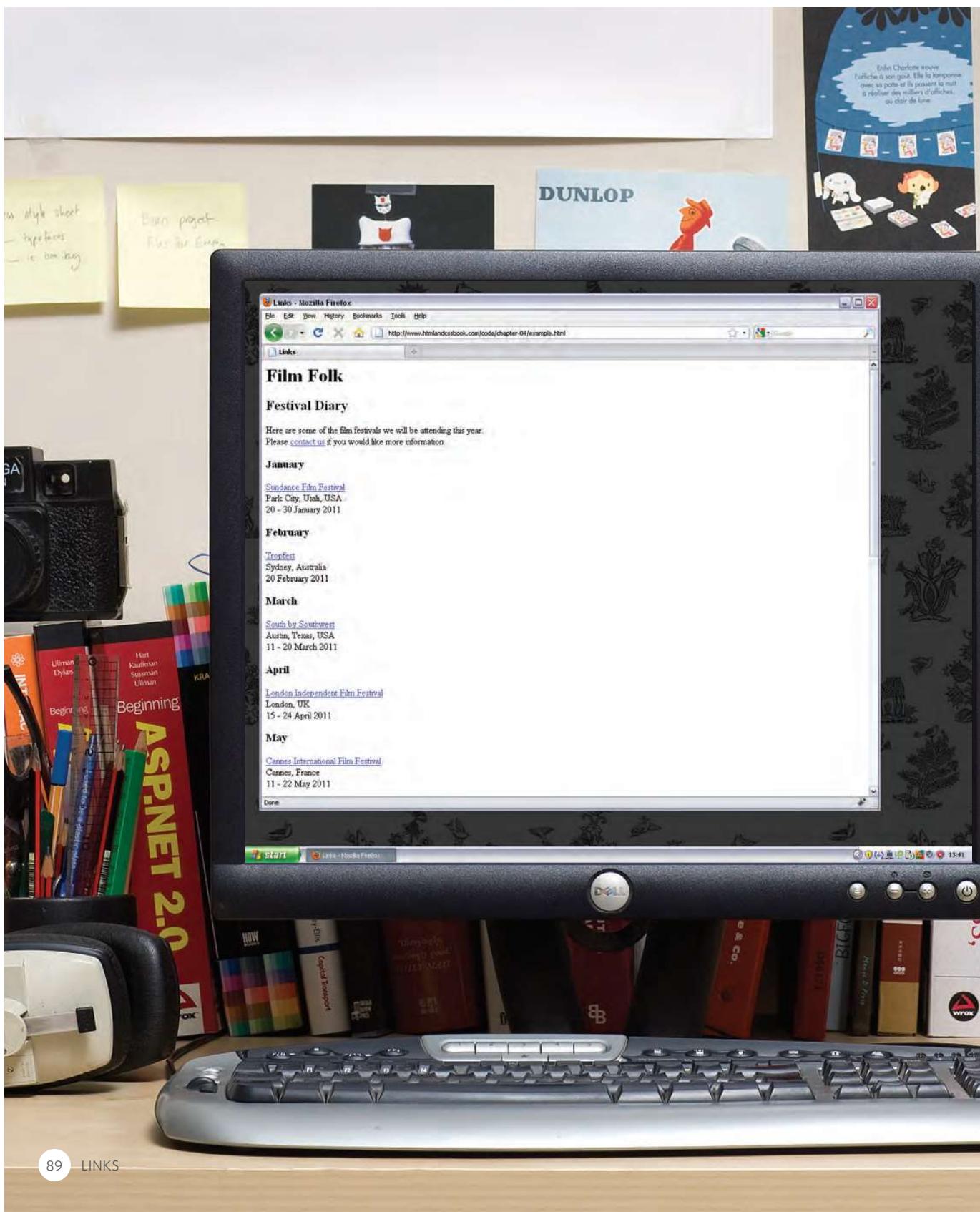
If you want to link to a specific part of a different page (whether on your own site or a different website) you can use a similar technique.

As long as the page you are linking to has id attributes that identify specific parts of the page, you can simply add the same syntax to the end of the link for that page.

Therefore, the href attribute will contain the address for the page (either an absolute URL or a relative URL), followed by the # symbol, followed by the value of the id attribute that is used on the element you are linking to.

For example, to link to the bottom of the homepage of the website that accompanies this book, you would write:

```
<a href="http://www.htmlandcssbook.com/#bottom">
```



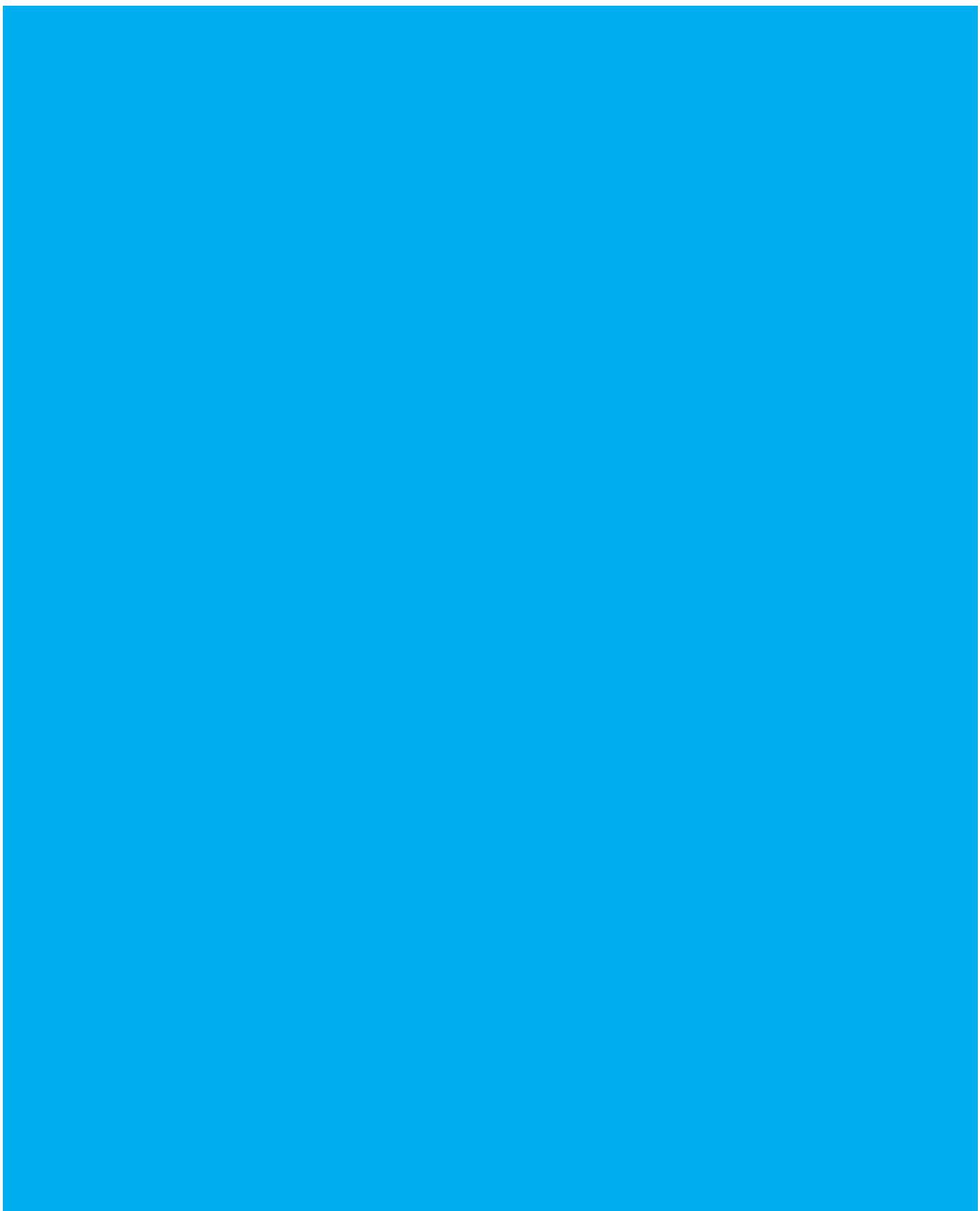


# EXAMPLE LINKS

This example is of a web page about film.

The `<h1>` element is used with an `id` attribute at the top of the page so that a link can be added to take readers from the bottom of the page to the top. There is an email link to allow readers to contact the author of the web page. There are also a number of links to qualified URLs. These link to various film festivals. Below this list is a link to a relative URL which is an "about" page that lives in the same directory.

```
<html>
  <head>
    <title>Links</title>
  </head>
  <body>
    <h1 id="top">Film Folk</h1>
    <h2>Festival Diary</h2>
    <p>Here are some of the film festivals we
      will be attending this year.<br />Please
      <a href="mailto:filmfolk@example.org">
        contact us</a> if you would like more
        information.</p>
    <h3>January</h3>
    <p><a href="http://www.sundance.org">
      Sundance Film Festival</a><br />
      Park City, Utah, USA<br />
      20 - 30 January 2011</p>
    <h3>February</h3>
    <p><a href="http://www.tropfest.com">
      Tropfest</a><br />
      Sydney, Australia<br />
      20 February 2011</p>
    <!-- additional content -->
    <p><a href="about.html">About Film Folk</a></p>
    <p><a href="#top">Top of page</a></p>
  </body>
</html>
```



# SUMMARY

## LINKS

- ▶ Links are created using the `<a>` element.
- ▶ The `<a>` element uses the `href` attribute to indicate the page you are linking to.
- ▶ If you are linking to a page within your own site, it is best to use relative links rather than qualified URLs.
- ▶ You can create links to open email programs with an email address in the "to" field.
- ▶ You can use the `id` attribute to target elements within a page that can be linked to.



# 5

## IMAGES

- ▶ How to add images to pages
- ▶ Choosing the right format
- ▶ Optimizing images for the web

There are many reasons why you might want to add an image to a web page: you might want to include a logo, photograph, illustration, diagram, or chart.

There are several things to consider when selecting and preparing images for your site, but taking time to get them right will make it look more attractive and professional.

In this chapter you will learn how to:

- Include an image in your web pages using HTML
- Pick which image format to use
- Show an image at the right size
- Optimize an image for use on the web to make pages load faster

You can also use CSS to include images in your pages using the background-image property, which you will meet on pages 413-420.



# CHOOSING IMAGES FOR YOUR SITE

A picture can say a thousand words, and great images help make the difference between an average-looking site and a really engaging one.

Images can be used to set the tone for a site in less time than it takes to read a description. If you do not have photographs to use on your website, there are companies who sell **stock images**; these are images you

pay to use (there is a list of stock photography websites below). Remember that all images are subject to copyright, and you can get in trouble for simply taking photographs from another website.

If you have a page that shows several images (such as product photographs or members of a team) then putting them on a simple, consistent background helps them look better as a group.

## IMAGES SHOULD...

- ✓ Be relevant
- ✓ Convey information
- ✓ Convey the right mood
- ✓ Be instantly recognisable
- ✓ Fit the color palette

## STOCK PHOTOS

- [www.istockphoto.com](http://www.istockphoto.com)
- [www.gettyimages.com](http://www.gettyimages.com)
- [www.veer.com](http://www.veer.com)
- [www.sxc.hu](http://www.sxc.hu)
- [www.fotolia.com](http://www.fotolia.com)

## ONLINE EXTRA

We have provided an online gallery that helps you choose the right image for your website. You can find it in the tools section of the site accompanying this book.

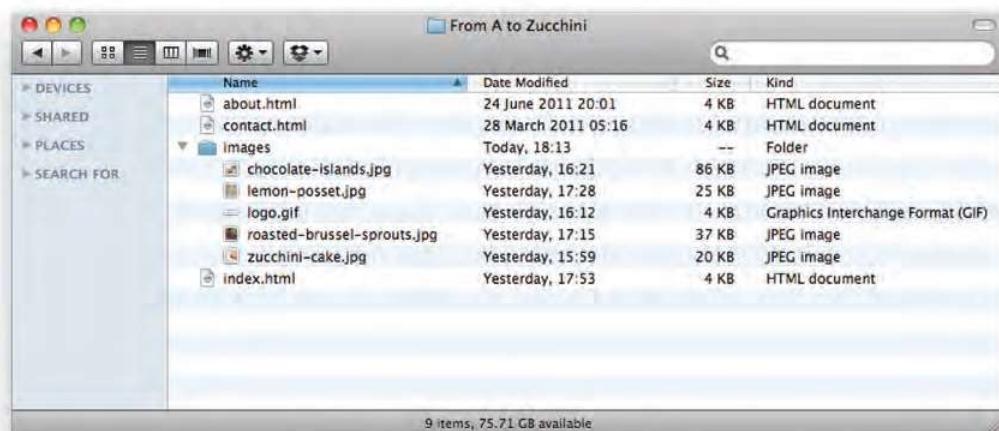
# STORING IMAGES ON YOUR SITE

If you are building a site from scratch, it is good practice to create a folder for all of the images the site uses.

As a website grows, keeping images in a separate folder helps you understand how the site is organized. Here you can see an example of the files for a website; all of the images are stored in a folder called **images**.

On a big site you might like to add subfolders inside the **images** folder. For example, images such as logos and buttons might sit in a folder called **interface**, product photographs might sit in a page called **products**, and images related to news might live in a folder called **news**.

If you are using a content management system or blogging platform, there are usually tools built into the admin site that allow you to upload images, and the program will probably already have a separate folder for image files and any other uploads.



# ADDING IMAGES

## <img>

To add an image into the page you need to use an <img> element. This is an empty element (which means there is no closing tag). It must carry the following two attributes:

### src

This tells the browser where it can find the image file. This will usually be a relative URL pointing to an image on your own site. (Here you can see that the images are in a child folder called **images** — relative URLs were covered on pages 83-84).

### alt

This provides a text description of the image which describes the image if you cannot see it.

### title

You can also use the title attribute with the <img> element to provide additional information about the image. Most browsers will display the content of this attribute in a tooltip when the user hovers over the image.

chapter-05/adding-images.html

HTML

```

```

RESULT



# HEIGHT & WIDTH OF IMAGES

## HTML

chapter-05/height-and-width-of-images.html

```

```

## RESULT



You will also often see an `<img>` element use two other attributes that specify its size:

### height

This specifies the height of the image in pixels.

### width

This specifies the width of the image in pixels.

Images often take longer to load than the HTML code that makes up the rest of the page. It is, therefore, a good idea to specify the size of the image so that the browser can render the rest of the text on the page while leaving the right amount of space for the image that is still loading.

The size of images is increasingly being specified using CSS rather than HTML — see pages 409-410 for more information about this.

# WHERE TO PLACE IMAGES IN YOUR CODE

Where an image is placed in the code will affect how it is displayed. Here are three examples of image placement that produce different results:

## 1: BEFORE A PARAGRAPH

The paragraph starts on a new line after the image.

## 2: INSIDE THE START OF A PARAGRAPH

The first row of text aligns with the bottom of the image.

## 3: IN THE MIDDLE OF A PARAGRAPH

The image is placed between the words of the paragraph that it appears in.

chapter-05/where-to-place-images.html

HTML

```

<p>There are around 10,000 living species of birds
    that inhabit different ecosystems from the
    Arctic to the Antarctic. Many species undertake
    long distance annual migrations, and many more
    perform shorter irregular journeys.</p>
<hr />
<p>There are around 10,000 living
    species of birds that inhabit different
    ecosystems from the Arctic to the Antarctic. Many
    species undertake long distance annual
    migrations, and many more perform shorter
    irregular journeys.</p>
<hr />
<p>There are around 10,000 living species of birds
    that inhabit different ecosystems from the
    Arctic to the Antarctic.Many species undertake long
    distance annual migrations, and many more perform
    shorter irregular journeys.</p>
```

## RESULT



There are around 10,000 living species of birds that inhabit different ecosystems from the Arctic to the Antarctic. Many species undertake long distance annual migrations, and many more perform shorter irregular journeys.



There are around 10,000 living species of birds that inhabit different ecosystems from the Arctic to the Antarctic. Many species undertake long distance annual migrations, and many more perform shorter irregular journeys.

There are around 10,000 living species of birds that inhabit different



ecosystems from the Arctic to the Antarctic. Many species undertake long distance annual migrations, and many more perform shorter irregular journeys.

Where you place the image in the code is important because browsers show HTML elements in one of two ways:

**Block elements always appear on a new line.** Examples of block elements include the `<h1>` and `<p>` elements.

If the `<img>` is followed by a block level element (such as a paragraph) then the block level element will sit on a new line after the image as shown in the first example on this page.

**Inline elements sit within a block level element and do not start on a new line.** Examples of inline elements include the `<b>`, `<em>`, and `<img>` elements.

If the `<img>` element is inside a block level element, any text or other inline elements will flow around the image as shown in the second and third examples on this page.

Block and inline elements are discussed in greater depth on pages 185-186.

# OLD CODE: ALIGNING IMAGES HORIZONTALLY

## align

The `align` attribute was commonly used to indicate how the other parts of a page should flow around an image. It has been removed from HTML5 and new websites should use CSS to control the alignment of images (as you will see on pages 411-412).

I have discussed it here because you are likely to come across it if you look at older code, and because some visual editors still insert this attribute when you indicate how an image should be aligned.

The `align` attribute can take these horizontal values:

## left

This aligns the image to the left (allowing text to flow around its right-hand side).

## right

This aligns the image to the right (allowing text to flow around its left-hand side).

chapter-05/aligning-images-horizontally.html

HTML

```
<p>There are around 10,000 living species of birds that inhabit different ecosystems from the Arctic to the Antarctic. Many species undertake long distance annual migrations, and many more perform shorter irregular journeys.</p>
<hr />
<p>There are around 10,000 living species of birds that inhabit different ecosystems from the Arctic to the Antarctic. Many species undertake long distance annual migrations, and many more perform shorter irregular journeys.</p>
```

## RESULT



There are around 10,000 living species of birds that inhabit different ecosystems from the Arctic to the Antarctic. Many species undertake long distance annual migrations, and many more perform shorter irregular journeys.

There are around 10,000 living species of birds that inhabit different ecosystems from the Arctic to the Antarctic. Many species undertake long distance annual migrations, and many more perform shorter irregular journeys.



This looks a lot neater than having one line of text next to the image (as shown on the previous example).

When you give the `align` attribute a value of `left`, the image is placed on the left and text flows around it.

When you give the `align` attribute a value of `right`, the image is placed on the right and the text flows around it.

When text flows right up to the edge of an image it can make it harder to read. You will learn how to add a gap between text and images on pages 313-314 using the CSS padding and margin properties.

# OLD CODE: ALIGNING IMAGES VERTICALLY

As you saw on the last page, the align attribute is no longer used in HTML5, but it is covered here because you may see it used in older websites and it is still used in the code created by some visual editors.

You can see how to use CSS to achieve the same effects on pages 285-286.

There are three values that the align attribute can take that control how the image should align vertically with the text that surrounds it:

## top

This aligns the first line of the surrounding text with the top of the image.

## middle

This aligns the first line of the surrounding text with the middle of the image.

## bottom

This aligns the first line of the surrounding text with the bottom of the image.

chapter-05/aligning-images-vertically.html

HTML

```
<p>There are around
       10,000 living species of birds that inhabit
       different ecosystems from the Arctic to the
       Antarctic. Many species undertake long distance
       annual migrations, and many more perform shorter
       irregular journeys.</p>
<hr />
<p>There are around
       10,000 living species of birds that inhabit
       different ecosystems from the Arctic to the
       Antarctic. Many species undertake long distance
       annual migrations, and many more perform shorter
       irregular journeys.</p>
<hr />
<p>There are around
       10,000 living species of birds that inhabit
       different ecosystems from the Arctic to the
       Antarctic. Many species undertake long distance
       annual migrations, and many more perform shorter
       irregular journeys.</p>
```

## RESULT



There are around 10,000 living species of birds that

inhabit different ecosystems from the Arctic to the Antarctic. Many species undertake long distance annual migrations, and many more perform shorter irregular journeys.



There are around 10,000 living species of birds that

inhabit different ecosystems from the Arctic to the Antarctic. Many species undertake long distance annual migrations, and many more perform shorter irregular journeys.



There are around 10,000 living species of birds that inhabit different ecosystems from the Arctic to the Antarctic. Many species undertake long distance annual migrations, and many more perform shorter irregular journeys.

The value of `top` places the first line of text near the top of the image and subsequent lines of text appear under the image.

The value of `middle` places the first line of text near the vertical middle of the image and subsequent lines of text appear under the image.

The value of `bottom` places the first line of text near the bottom of the image and subsequent lines of text under the image.

When text flows right up to the edge of an image it can make it harder to read. You will learn how to add a gap between text and images on pages 313-314 using the CSS padding and margin properties.

If you would like all of the text to wrap around the image (rather than just one line of text), you should use the CSS `float` property discussed on pages 370-372.

In older code, you may see the `align` attribute used with the values `left` or `right` to achieve the same effect (as described on the previous page), although its use is no longer recommended.

# THREE RULES FOR CREATING IMAGES

There are three rules to remember when you are creating images for your website which are summarized below. We go into greater detail on each topic over the next nine pages.

1

2

3

## SAVE IMAGES IN THE RIGHT FORMAT

Websites mainly use images in jpeg, gif, or png format. If you choose the wrong image format then your image might not look as sharp as it should and can make the web page slower to load.

## SAVE IMAGES AT THE RIGHT SIZE

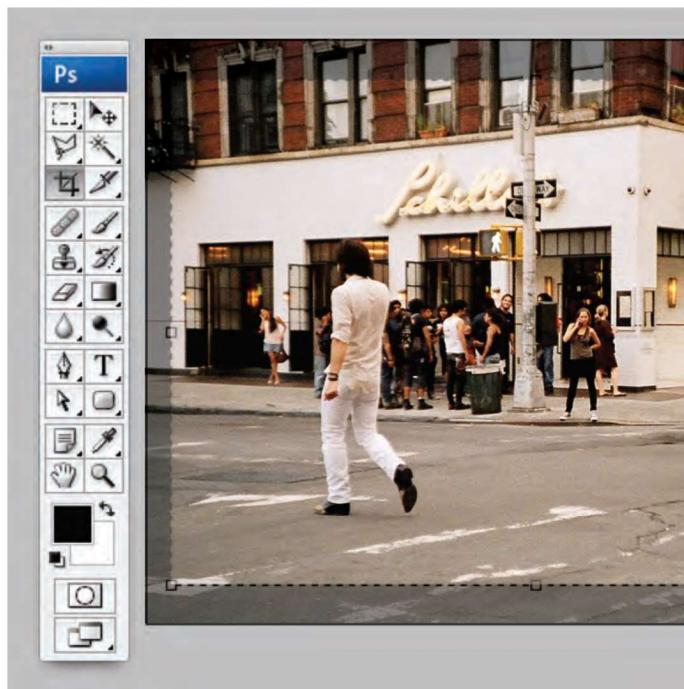
You should save the image at the same width and height it will appear on the website. If the image is smaller than the width or height that you have specified, the image can be distorted and stretched. If the image is larger than the width and height if you have specified, the image will take longer to display on the page.

## USE THE CORRECT RESOLUTION

Computer screens are made up of dots known as pixels. Images used on the web are also made up of tiny dots. Resolution refers to the number of dots per inch, and most computer screens only show web pages at 72 pixels per inch. So saving images at a higher resolution results in images that are larger than necessary and take longer to download.

# TOOLS TO EDIT & SAVE IMAGES

There are several tools you can use to edit and save images to ensure that they are the right size, format, and resolution.



The most popular tool amongst web professionals is **Adobe Photoshop**. (In fact, professional web designers often use this software to design entire sites.) The full version of Photoshop is expensive, but there is a cheaper version called Photoshop Elements which would suit the needs of most beginners.

## OTHER SOFTWARE

Adobe Fireworks  
Pixelmator  
PaintShop Pro  
Paint.net

## ONLINE EDITORS

[www.photoshop.com](http://www.photoshop.com)  
[www.pixlr.com](http://www.pixlr.com)  
[www.splashup.com](http://www.splashup.com)  
[www.ipiccy.com](http://www.ipiccy.com)

## ONLINE EXTRA

Watch videos that demonstrate how to resize images and save them in the correct format using both of these applications.

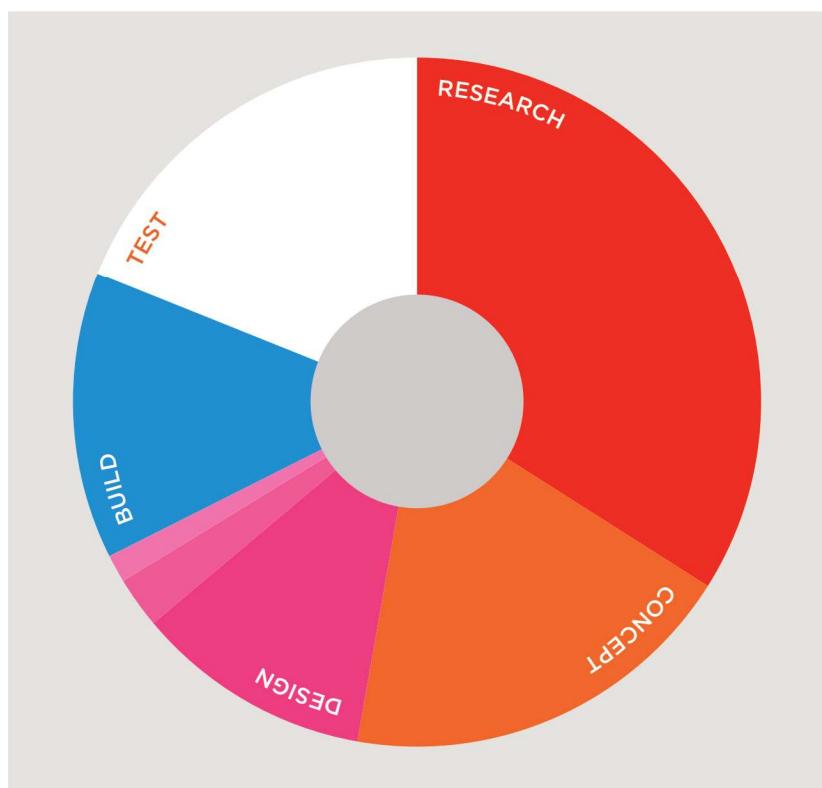
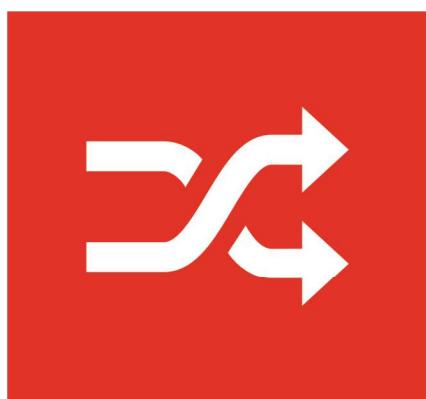
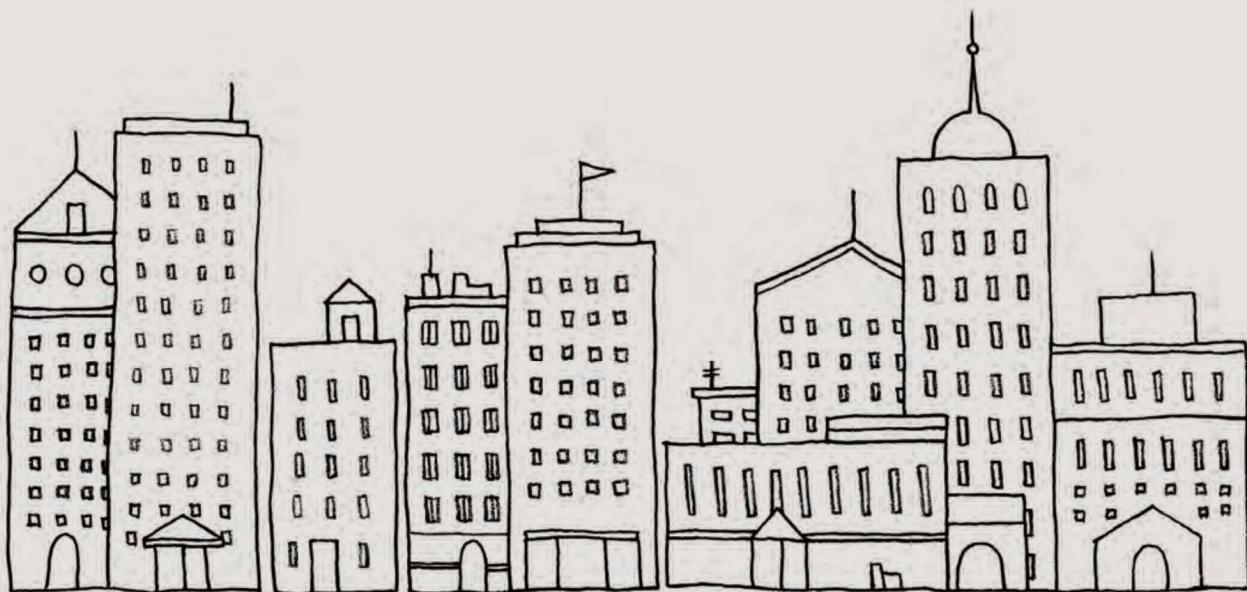
# IMAGE FORMATS: JPEG



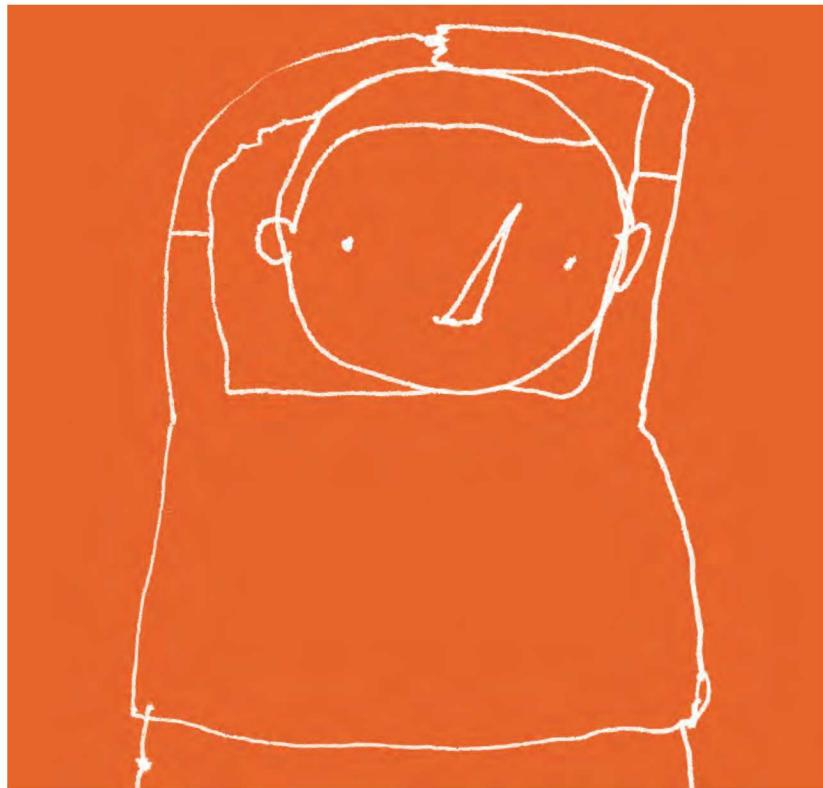
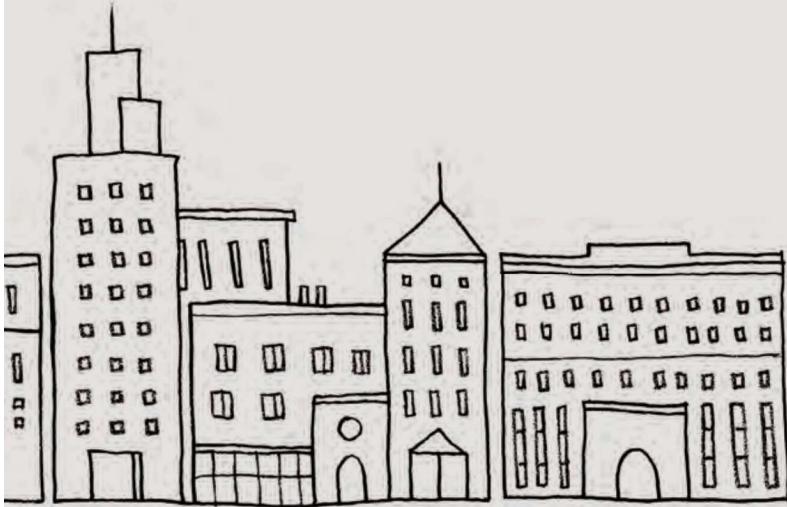
Whenever you have many different colors in a picture you should use a JPEG. A photograph that features snow or an overcast sky might look like it has large areas that are just white or gray, but the picture is usually made up of many different colors that are subtly different.



# IMAGE FORMATS: GIF



Use GIF or PNG format when saving images with few colors or large areas of the same color.



When a picture has an area that is filled with exactly the same color, it is known as flat color. Logos, illustrations, and diagrams often use flat colors. (Note that photographs of snow, sky, or grass are not flat colors, they are made up of many subtly different shades of the same color and are not as suited to GIF or PNG format.)

# IMAGE DIMENSIONS

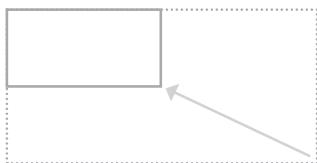
The images you use on your website should be saved at the same width and height that you want them to appear on the page.

For example, if you have designed a page to include an image that is 300 pixels wide by 150 pixels tall, the image you use should be 300 x 150 pixels. You may need to use image editing tools to resize and crop the

image. When sourcing images, it is important to understand how you can alter the dimensions of an image; imagine that you had designed a web page to include an image that is 300 pixels wide by 150 pixels tall:

## REDUCING IMAGE SIZE

You can reduce the size of images to create a smaller version of the image.



**Example:** If your image is 600 pixels wide and 300 pixels tall, you can reduce the size of the image by 50%.

**Result:** This will create an image that is quicker to download.

## INCREASING IMAGE SIZE

You can't increase the size of photos significantly without affecting the image quality.



**Example:** If your image is only 100 pixels wide by 50 pixels tall, increasing the size by 300% would result in poor quality.

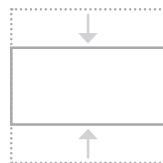
**Result:** The image will look blurry or blocky.

## ONLINE EXTRA

Visit the tools section of the website accompanying this book to watch a video guide to resizing images in Photoshop and GIMP.

## CHANGING SHAPE

Only some images can be cropped without losing valuable information (see next page).



**Example:** If your image is 300 pixels square, you can remove parts of it, but in doing so you might lose valuable information.

**Result:** Only some images can be cropped and still make sense.

# CROPPING IMAGES

When cropping images it is important not to lose valuable information. It is best to source images that are the correct shape if possible.

PORTRAIT



Here you can see an illustration of a giraffe that is best suited to appearing in **portrait**.

LANDSCAPE

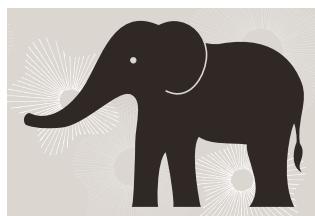


If we **crop** this illustration to make it landscape we lose the head and feet.



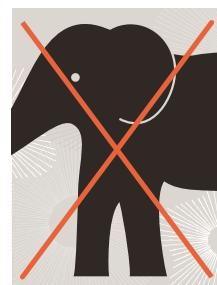
If we **add extra space** to the left and right of the illustration the background is not continued.

LANDSCAPE

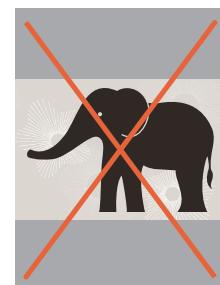


Here you can see an illustration of an elephant that is best suited to appearing in **landscape**.

PORTRAIT



If we **crop** this illustration to make it portrait we lose the trunk and the hindquarters.



If we **add extra space** to the top and bottom of the illustration the background is not continued.

# IMAGE RESOLUTION

Images created for the web should be saved at a resolution of 72 ppi. The higher the resolution of the image, the larger the size of the file.

JPGs, GIFs, and PNGs belong to a type of image format known as **bitmap**. They are made up of lots of miniature squares. The **resolution** of an image is the number of squares that fit within a 1 inch x 1 inch square area.

Images appearing on **computer** screens are made of tiny squares called **pixels**. A small segment of this photograph has been magnified to show how it is made up of pixels. The web browsers on most desktop

computers display images at a resolution of **72 pixels per inch (ppi)**. Images in **print** materials (such as books and magazines) are made up of tiny circles called **dots**. These images are usually printed at a resolution of **300 dots per inch (dpi)**.



For this image:  
JPEG at 300 dpi = 1,526kb  
JPEG at 72 ppi = 368kb

Due to the fact that computer displays are capped at a resolution of 72 ppi, using images on the web with a higher resolution will not result in better image quality — only in larger file sizes, which will increase the time needed to load them and therefore slow down viewing of your web pages.

# VECTOR IMAGES

Vector images differ from bitmap images and are resolution-independent. Vector images are commonly created in programs such as Adobe Illustrator.

When an image is a line drawing (such as a logo, illustration, or diagram), designers will often create it in vector format. Vector formatted images are very different to bitmap images.

Vector images are created by placing points on a grid, and drawing lines between those points. A color can then be added to "fill in" the lines that have been created.

The advantage of creating line drawings in vector format is that you can increase the dimensions of the image without affecting the quality of it.

The current method of using vector images for display on websites involves saving a bitmap version of the original vector image and using that.

Scalable Vector Graphics (SVG) are a relatively new format used to display vector images directly on the web (eliminating the need to create bitmap versions of them), however its use is not yet widespread.



# ANIMATED GIFS

Animated GIFs show several frames of an image in sequence and therefore can be used to create simple animations.

Below you can see the individual frames that make up an animated GIF that shows an orange dot revolving around a circle — like the kind of animation you might see when a web page is loading.

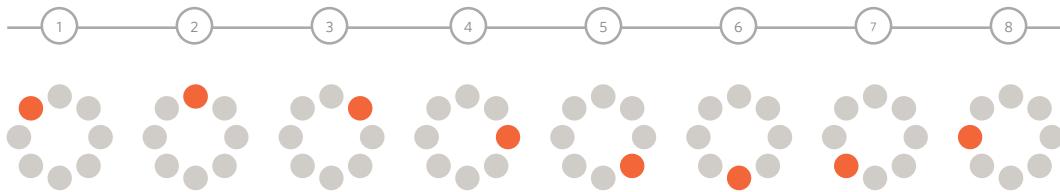
Some image editing applications such as Adobe Photoshop allow you to create animated GIFs. There are several tutorials about how to do this on the web. There are also several websites that allow you to upload the graphics for the individual frames and create the animated GIF for you.

## IT IS IMPORTANT TO REMEMBER:

Each extra frame of the image increases the size of the file, and can therefore add to the time it takes for an image to download (and web users do not like waiting a long time for images to download).

Because GIFs are not an ideal format for displaying photographs, animated GIFs are really only suitable for simple illustrations.

Some designers frown on animated GIFs because they remember a lot of amateur web designers overusing them in the 1990's.



# TRANSPARENCY

Creating an image that is partially transparent (or "see-through") for the web involves selecting one of two formats:

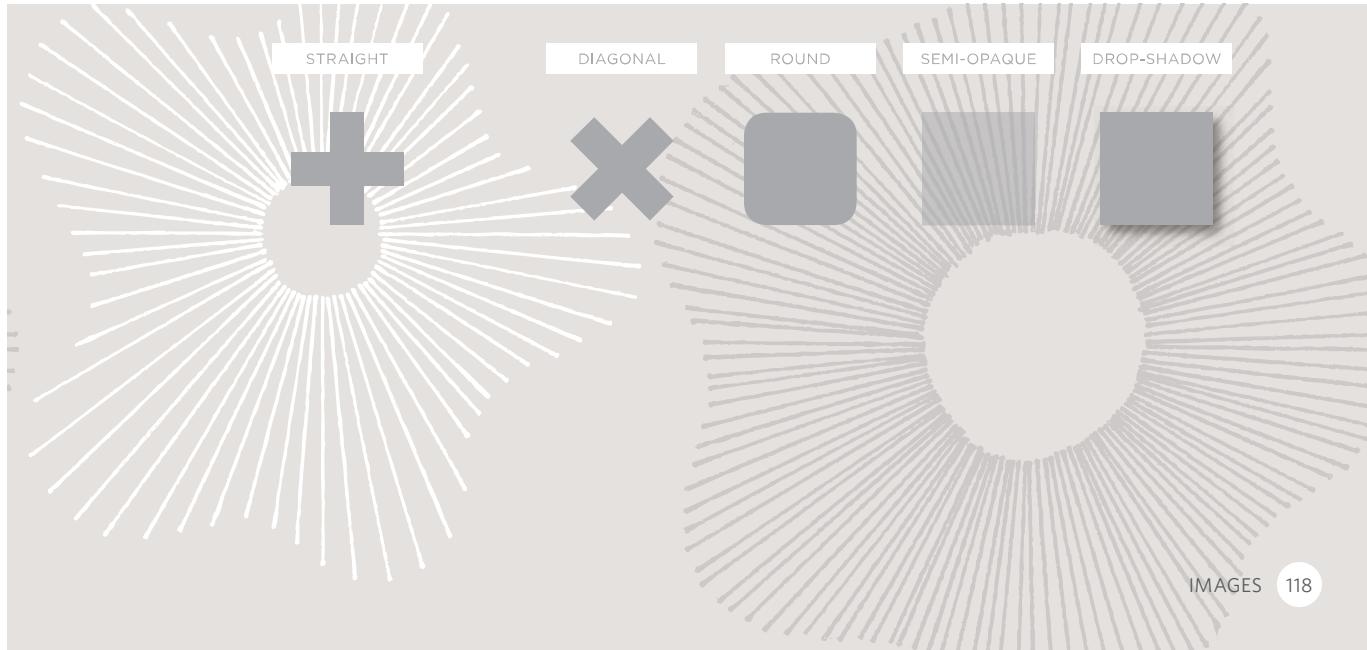
## TRANSPARENT GIF

If the transparent part of the image has straight edges and it is 100% transparent (that is, not semi-opaque), you can save the image as a GIF (with the transparency option selected).

## PNG

If the transparent part of the image has diagonal or rounded edges or if you want a semi-transparent transparency or a drop-shadow, then you will need to save it as a PNG.

Transparent PNGs are not fully supported in older browsers, most notably Internet Explorer 6 (IE6). There is some JavaScript you can use to get around this issue. The details of this script can be found in the tools section of the website accompanying this book.



# EXAMINING IMAGES ON THE WEB

## CHECKING THE SIZE OF IMAGES

If you are updating a website, you might need to check the size of an existing image before creating a new one to replace it. This can be achieved by right-clicking on the image and making a selection from the pop-up menu that appears. (Mac users will need to hold down the control key and click rather than right-click.)



## DOWNLOADING IMAGES

If you want to download images from a website, you can do so by accessing the same pop-up menu. (Please remember however that all images online are subject to copyright and require explicit permission to reuse.)



On the left you can see how to check the size of images and how to download them using Safari. Below is a brief overview of what to select in the pop-up menu to perform these functions in various browsers.

### CHROME

Size: **Open Image in New Tab**

Size appears in new tab

Download: **Save Image As**

### FIREFOX

Size: **View Image Info**

Size appears in pop-up window

Download: **Save Image As**

### INTERNET EXPLORER

Size: **Properties**

Size appears in pop-up window

Download: **Save Image**

### SAFARI

Size: **Open Image in New Tab**

Size appears in title bar

Download: **Save Image As**

# HTML5: FIGURE AND FIGURE CAPTION

## HTML

chapter-05/figure-and-figure-caption.html

```
<figure>
  
  <br />
  <figcaption>Sea otters hold hands when they
    sleep so they don't drift away from each
    other.</figcaption>
</figure>
```

## RESULT



Sea otters hold hands when they sleep so they don't drift away from each other.

## <figure>

Images often come with captions. HTML5 has introduced a new `<figure>` element to contain images and their caption so that the two are associated.

You can have more than one image inside the `<figure>` element as long as they all share the same caption.

## <figcaption>

The `<figcaption>` element has been added to HTML5 in order to allow web page authors to add a caption to an image.

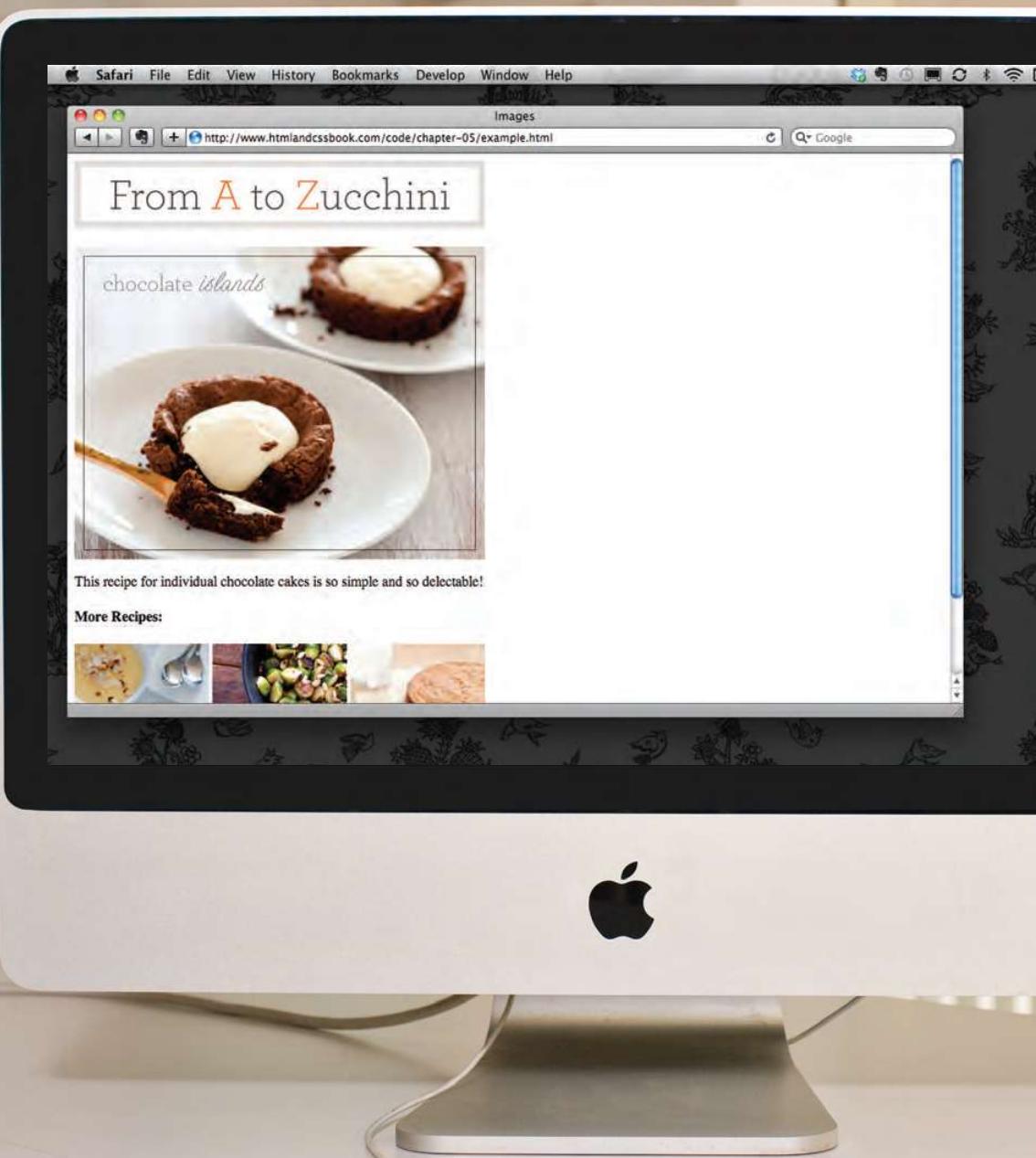
Before these elements were created there was no way to associate an `<img>` element with its caption.

Older browsers that do not understand HTML5 elements simply ignore the new elements and display the content of them.

In this example, the logo is a GIF because it uses flat colors, while the photographs are JPEGs. The main photo is placed inside the HTML5 `<figure>` element and has its own caption.

The `alt` attribute on each image provides a description for those using screen readers and the `title` attribute provides additional information. (This is shown in the tooltip.)

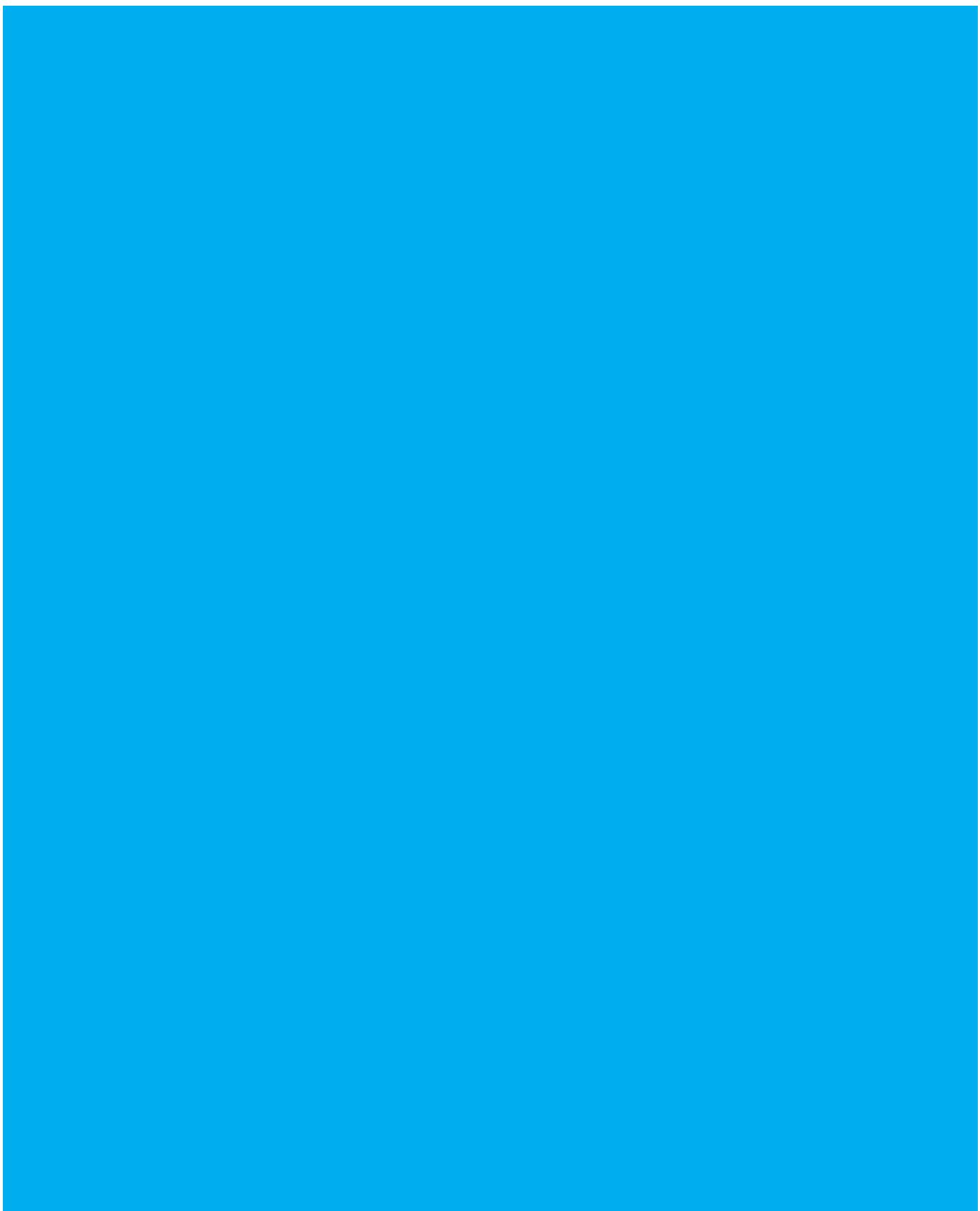
This example does not use the `height`, `width`, or `align` attributes as these are being phased out and you are encouraged to use CSS properties instead.



# EXAMPLE IMAGES



```
<html>
  <head>
    <title>Images</title>
  </head>
  <body>
    <h1>
      
    </h1>
    <figure>
      
      <p>
        <figcaption>
          This recipe for individual chocolate
          cakes is so simple and so delectable!
        </figcaption>
      </p>
    </figure>
    <h4>More Recipes:</h4>
    <p>
      
      
      
    </p>
  </body>
</html>
```



## SUMMARY IMAGES

- ▶ The `<img>` element is used to add images to a web page.
- ▶ You must always specify a `src` attribute to indicate the source of an image and an `alt` attribute to describe the content of an image.
- ▶ You should save images at the size you will be using them on the web page and in the appropriate format.
- ▶ Photographs are best saved as JPEGs; illustrations or logos that use flat colors are better saved as GIFs.



# 6

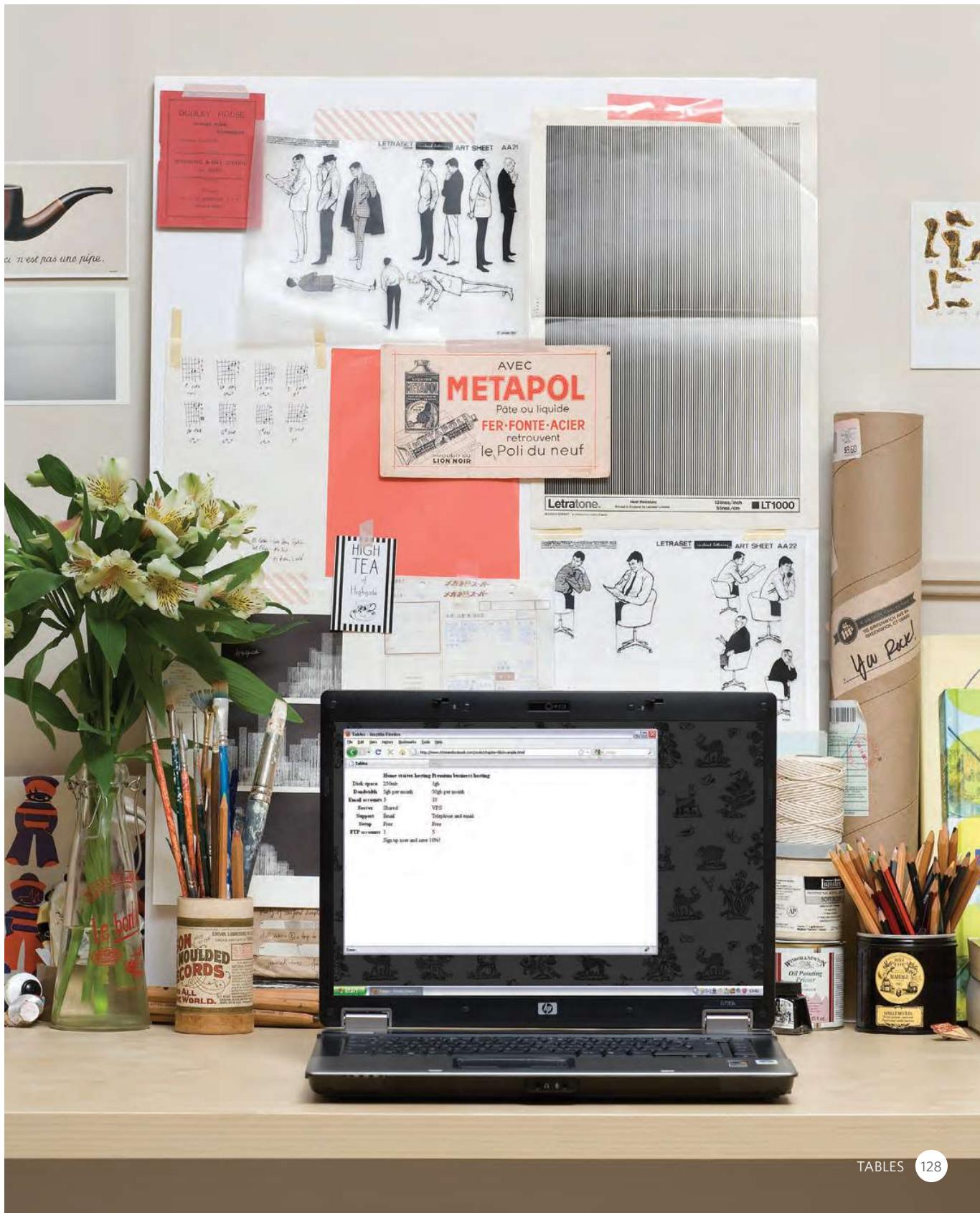
## TABLES

- ▶ How to create tables
- ▶ What information suits tables
- ▶ How to represent complex data in tables

There are several types of information that need to be displayed in a grid or table. For example: sports results, stock reports, train timetables.

When representing information in a table, you need to think in terms of a grid made up of rows and columns (a bit like a spreadsheet). In this chapter you will learn how to:

- Use the four key elements for creating tables
- Represent complex data using tables
- Add captions to tables



**THE INDEPENDENT** MONDAY 10 APRIL 2011

**Shares & Markets Business**

**Adult fares**

	Pay as you go	Peak <sup>1</sup>	Off-Peak <sup>2</sup>
Zone 1 only	£2.00	£1.50	
Zones 1-2	£2.20	£1.70	
Zones 1-3	£2.80	£2.00	
Zones 1-4	£3.30	£2.30	
Zones 1-5	£4.20	£2.60	
Zones 1-6	£5.20	£3.20	
Zones 2, 3, 4, 5 or 6	£1.50	£1.30	
Zones 2-3, 3-4, 4-5, or 5-6	£1.90	£1.50	
Zones 2-4, 3-5 or 4-6	£2.30	£1.70	
Zones 2-5 or 3-6	£2.90	£2.00	
Zones 2-6	£3.40	£2.20	

<sup>1</sup>Peak Oyster single fares apply from 0630 to 0930 and from 1600 to 1900 Monday to Friday (excluding public holidays).

<sup>2</sup>Off-Peak Oyster single fare applies at all other times.

**Benefits**

	Premier	Up to	Standard
Veterinary fees for stress and injury	£7,000 a year		£4,000 a year
- Behavioural	£250		Not Covered
- Prescription food	£200		Not Covered
Limit for each illness/stress	£1,000		Not Covered
Advertising for missing pet	No Limit		Not Covered
Rewards	£1,250		£1,000
When you're away	£750		£600
Emergency boarding (pet under 12 months)	£1,500		£900
Can injury	£750+1%		£600
Can illness (up to age 8)	£750 total		£600 total
Can injury	£1,500		£1,000
Can illness (dogs only)	Yes		Yes
Can injury	Yes		Yes
Can illness	£2,000,000		£1,000,000
Can injury	£2,000		Not Covered
Can illness			Not Covered

**Interactive Data**

**15**

**Other details**

1.4% of customers have the PPSA. Standard policy covers up to £1,000,000. Premium policy covers up to £2,000,000. This information is based on the latest available figures. For further details about the PPSA, visit [www.mspinsurance.co.uk](http://www.mspinsurance.co.uk). For further details about the Premium Policy, visit [www.mspinsurance.co.uk](http://www.mspinsurance.co.uk). For further details about the Standard Policy, visit [www.mspinsurance.co.uk](http://www.mspinsurance.co.uk).

**Using Oyster on National Rail**

Pay as you go and Travelcard season tickets on Oyster can be used on all National Rail services in London in the zones paid for except on:

- Express services between Heathrow and Central London
- Services between Central London and the South Coast
- Services between Central London and the North
- Services between Central London and the West Country

**No time restriction**

When you need to make a claim, of course we hope your pet gets better quickly. But if they don't, with M&S Pet Insurance there's no need to worry because there is no time limit on treatment. As long as you renew your policy and we continue to offer cover, your vet's fees will be covered up to the limit stated. For full details of your cover have a look at your policy booklet. Keep our claims helpline number safe in case you need it: 0800 980 8750.

**Ask about the 5% discount offered on premiums for additional pets**

**Cover you can depend on**

Take a look at the table below to see just how much cover M&S Pet Insurance gives you. As well as cover for 'vet' fees, you'll also receive money towards the cost of advertising for your pet if it goes missing and a reward for its safe return. You're also covered for emergency kennel or cattery costs. With such comprehensive cover, you can rest assured that if the unexpected happens, M&S Pet Insurance is here to help.

# WHAT'S A TABLE?

A table represents information in a grid format. Examples of tables include financial reports, TV schedules, and sports results.

Grids allow us to understand complex data by referencing information on two axes.

Each block in the grid is referred to as a **table cell**. In HTML a table is written out row by row.

The screenshot shows the Reuters homepage with a red header bar containing the 'REUTERS' logo, a 'News & Markets' dropdown menu, and social media links for Facebook, Twitter, LinkedIn, and Google+. Below the header is a search bar with the placeholder 'Search News & Quotes' and a red 'SEARCH' button. The main content area features a large title 'Commodities' with a sub-section 'THOMSON REUTERS/JEFFERIES CRB INDEX(TR/J CRB)'. This section displays current values: Change (-3.36), Open (360.92), High (361.19), Low (357.99), and Times (04/18 14:58). Below this is a note: 'Data as of 3:45pm EDT (Delayed at least 20 minutes)'. To the right, there's a 'MARKETS' sidebar with tabs for U.S., EUROPE, ASIA, and SECTORS, sponsored by 'Trade forex with Citi...'. It includes sections for 'Market Indices' (DOW 12,189.14, S&P 500 1,305.75, NASDAQ 2,731.64, TR US INDEX 119.44) and 'Currencies' (EUR/USD 1.4234, GBP/USD 1.6262, USD/JPY 82.600). At the bottom, there's a 'Commodities' section with a gold price of \$1,496.20.

# BASIC TABLE STRUCTURE

## <table>

The <table> element is used to create a table. The contents of the table are written out row by row.

## <tr>

You indicate the start of each row using the opening <tr> tag. (The tr stands for table row.)

It is followed by one or more <td> elements (one for each cell in that row).

At the end of the row you use a closing </tr> tag.

## <td>

Each cell of a table is represented using a <td> element. (The td stands for table data.)

At the end of each cell you use a closing </td> tag.

Some browsers automatically draw lines around the table and/or the individual cells. You will learn how to control the borders of tables using CSS on pages 309-312 and 337-340.

chapter-06/basic-table-structure.html

HTML

```
<table>
  <tr>
    <td>15</td>
    <td>15</td>
    <td>30</td>
  </tr>
  <tr>
    <td>45</td>
    <td>60</td>
    <td>45</td>
  </tr>
  <tr>
    <td>60</td>
    <td>90</td>
    <td>90</td>
  </tr>
</table>
```

RESULT

15	15	30
45	60	45
60	90	90

# TABLE HEADINGS

## HTML

chapter-06/table-headings.html

```
<table>
  <tr>
    <th></th>
    <th scope="col">Saturday</th>
    <th scope="col">Sunday</th>
  </tr>
  <tr>
    <th scope="row">Tickets sold:</th>
    <td>120</td>
    <td>135</td>
  </tr>
  <tr>
    <th scope="row">Total sales:</th>
    <td>$600</td>
    <td>$675</td>
  </tr>
</table>
```

## RESULT

Saturday	Sunday
<b>Tickets sold:</b> 120	135
<b>Total sales:</b> \$600	\$675

## <th>

The `<th>` element is used just like the `<td>` element but its purpose is to represent the heading for either a column or a row. (The `th` stands for table heading.)

Even if a cell has no content, you should still use a `<td>` or `<th>` element to represent the presence of an empty cell otherwise the table will not render correctly. (The first cell in the first row of this example shows an empty cell.)

Using `<th>` elements for headings helps people who use screen readers, improves the ability for search engines to index your pages, and also enables you to control the appearance of tables better when you start to use CSS.

You can use the `scope` attribute on the `<th>` element to indicate whether it is a heading for a column or a row. It can take the values: `row` to indicate a heading for a row or `col` to indicate a heading for a column.

Browsers usually display the content of a `<th>` element in bold and in the middle of the cell.

# SPANNING COLUMNS

Sometimes you may need the entries in a table to stretch across more than one column.

The `colspan` attribute can be used on a `<th>` or `<td>` element and indicates how many columns that cell should run across.

In the example on the right you can see a timetable with five columns; the first column contains the heading for that row (the day), the remaining four represent one hour time slots.

If you look at the table cell that contains the words 'Geography' you will see that the value of the `colspan` attribute is 2, which indicates that the cell should run across two columns. In the third row, 'Gym' runs across three columns.

You can see that the second and third rows have fewer `<td>` elements than there are columns. This is because, when a cell extends across more than one column, the `<td>` or `<th>` cells that would have been in the place of the wider cells are not included in the code.

I added some CSS styles to this example so that you can see how the cells span more than one column. You will learn how to do this on pages 250, 337-340.

chapter-06/spanning-columns.html

HTML

```
<table>
  <tr>
    <th></th>
    <th>9am</th>
    <th>10am</th>
    <th>11am</th>
    <th>12am</th>
  </tr>
  <tr>
    <th>Monday</th>
    <td colspan="2">Geography</td>
    <td>Math</td>
    <td>Art</td>
  </tr>
  <tr>
    <th>Tuesday</th>
    <td colspan="3">Gym</td>
    <td>Home Ec</td>
  </tr>
</table>
```

RESULT

	9am	10am	11am	12am
Monday	Geography		Math	Art
Tuesday	Gym		Home Ec	

# SPANNING ROWS

## HTML

chapter-06/spanning-rows.html

```
<table>
<tr>
<th></th>
<th>ABC</th>
<th>BBC</th>
<th>CNN</th>
</tr>
<tr>
<th>6pm - 7pm</th>
<td rowspan="2">Movie</td>
<td>Comedy</td>
<td>News</td>
</tr>
<tr>
<th>7pm - 8pm</th>
<td>Sport</td>
<td>Current Affairs</td>
</tr>
</table>
```

## RESULT

	ABC	BBC	CNN
6pm - 7pm	Movie	Comedy	News
7pm - 8pm		Sport	Current Affairs

You may also need entries in a table to stretch down across more than one row.

The `rowspan` attribute can be used on a `<th>` or `<td>` element to indicate how many rows a cell should span down the table.

In the example on the left you can see that ABC is showing a movie from 6pm - 8pm, whereas the BBC and CNN channels are both showing two programs during this time period (each of which lasts one hour).

If you look at the last `<tr>` element, it only contains three elements even though there are four columns in the result below. This is because the movie in the `<tr>` element above it uses the `rowspan` attribute to stretch down and take over the cell below.

I have added some CSS styles to this example so that you can see how the cells span more than one row. You will learn how to apply these CSS styles to tables on pages 250, 337-340.

# LONG TABLES

There are three elements that help distinguish between the main content of the table and the first and last rows (which can contain different content).

These elements help people who use screen readers and also allow you to style these sections in a different manner than the rest of the table (as you will see when you learn about CSS).

## <thead>

The headings of the table should sit inside the <thead> element.

## <tbody>

The body should sit inside the <tbody> element.

## <tfoot>

The footer belongs inside the <tfoot> element.

By default, browsers rarely treat the content of these elements any differently than other elements however designers often use CSS styles to change their appearance.

chapter-06/long-tables.html

HTML

```
<table>
  <thead>
    <tr>
      <th>Date</th>
      <th>Income</th>
      <th>Expenditure</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <th>1st January</th>
      <td>250</td>
      <td>36</td>
    </tr>
    <tr>
      <th>2nd January</th>
      <td>285</td>
      <td>48</td>
    </tr>
    <!-- additional rows as above -->
    <tr>
      <th>31st January</th>
      <td>129</td>
      <td>64</td>
    </tr>
  </tbody>
  <tfoot>
    <tr>
      <td></td>
      <td>7824</td>
      <td>1241</td>
    </tr>
  </tfoot>
</table>
```

**RESULT**

Date	Income	Expenditure
1st January	250	36
2nd January	285	48
3rd January	260	42
4th January	290	38
5th January	310	115
6th January	168	14
7th January	226	20
8th January	253	37
9th January	294	33
10th January	216	46
11th January	244	29
12th January	297	32
13th January	328	86
14th January	215	38
15th January	254	30
16th January	256	27
17th January	311	68
18th January	212	39
19th January	234	36
20th January	221	43
21st January	259	38
22nd January	246	31
23rd January	248	17
24th January	229	45
25th January	263	34
26th January	258	41
27th January	283	22
28th January	256	30
29th January	278	47
30th January	251	15
31st January	129	64
	7824	1241

Some of the HTML editors that come in content management systems offer tools to help draw tables. If the first row of your table only contains `<th>` elements then you may find that the editor inserts a `<thead>` element automatically.

Part of the reason for having separate `<thead>` and `<tfoot>` elements is so that, if you have a table that is taller than the screen (or, if printed, longer than one page) then the browser can keep the header and footer visible whilst the contents of the table scroll. This is intended to make it easier for users to see which column the data is in (however this functionality is not implemented by default in any current browser).

I have added some CSS styles to this example so that you can see the contents of the `<thead>` and `<tfoot>` being treated differently than the rest of the rows. You will learn how to apply these CSS styles to tables on pages 309-312 and 337-340.

# OLD CODE: WIDTH & SPACING

There are some outdated attributes which you should not use on new websites. You may, however, come across some of them when looking at older code, so I will mention them here. All of these attributes have been replaced by the use of CSS.

The `width` attribute was used on the opening `<table>` tag to indicate how wide that table should be and on some opening `<th>` and `<td>` tags to specify the width of individual cells. The value of this attribute is the width of the table or cell in pixels.

The columns in a table need to form a straight line, so you often only see the `width` attribute on the first row (and all subsequent rows would use that setting).

The opening `<table>` tag could also use the `cellpadding` attribute to add space inside each cell of the table, and the `cellspacing` attribute to create space between each cell of the table. The values for these attributes were given in pixels.

I added CSS styles to this example so that you can see the width of the table cells more clearly. If you want to control the width or spacing of tables and cells you should use CSS as shown on pages 303, 337-340.

chapter-06/width-and-spacing.html

HTML

```
<table width="400" cellpadding="10" cellspacing="5">
  <tr>
    <th width="150"></th>
    <th>Withdrawn</th>
    <th>Credit</th>
    <th width="150">Balance</th>
  </tr>
  <tr>
    <th>January</th>
    <td>250.00</td>
    <td>660.50</td>
    <td>410.50</td>
  </tr>
  <tr>
    <th>February</th>
    <td>135.55</td>
    <td>895.20</td>
    <td>1170.15</td>
  </tr>
</table>
```

RESULT

	Withdrawn	Credit	Balance
January	250.00	660.50	410.50
February	135.55	895.20	1170.15

# OLD CODE: BORDER & BACKGROUND

## HTML

chapter-06/border-and-background.html

```
<table border="2" bgcolor="#eefefef">
  <tr>
    <th width="150"></th>
    <th>Withdrawn</th>
    <th>Credit</th>
    <th width="150" bgcolor="#cccccc">Balance</th>
  </tr>
  <tr>
    <th>January</th>
    <td>250.00</td>
    <td>660.50</td>
    <td bgcolor="#cccccc">410.50</td>
  </tr>
  <tr>
    <th>February</th>
    <td>135.55</td>
    <td>895.20</td>
    <td bgcolor="#cccccc">1170.15</td>
  </tr>
</table>
```

## RESULT

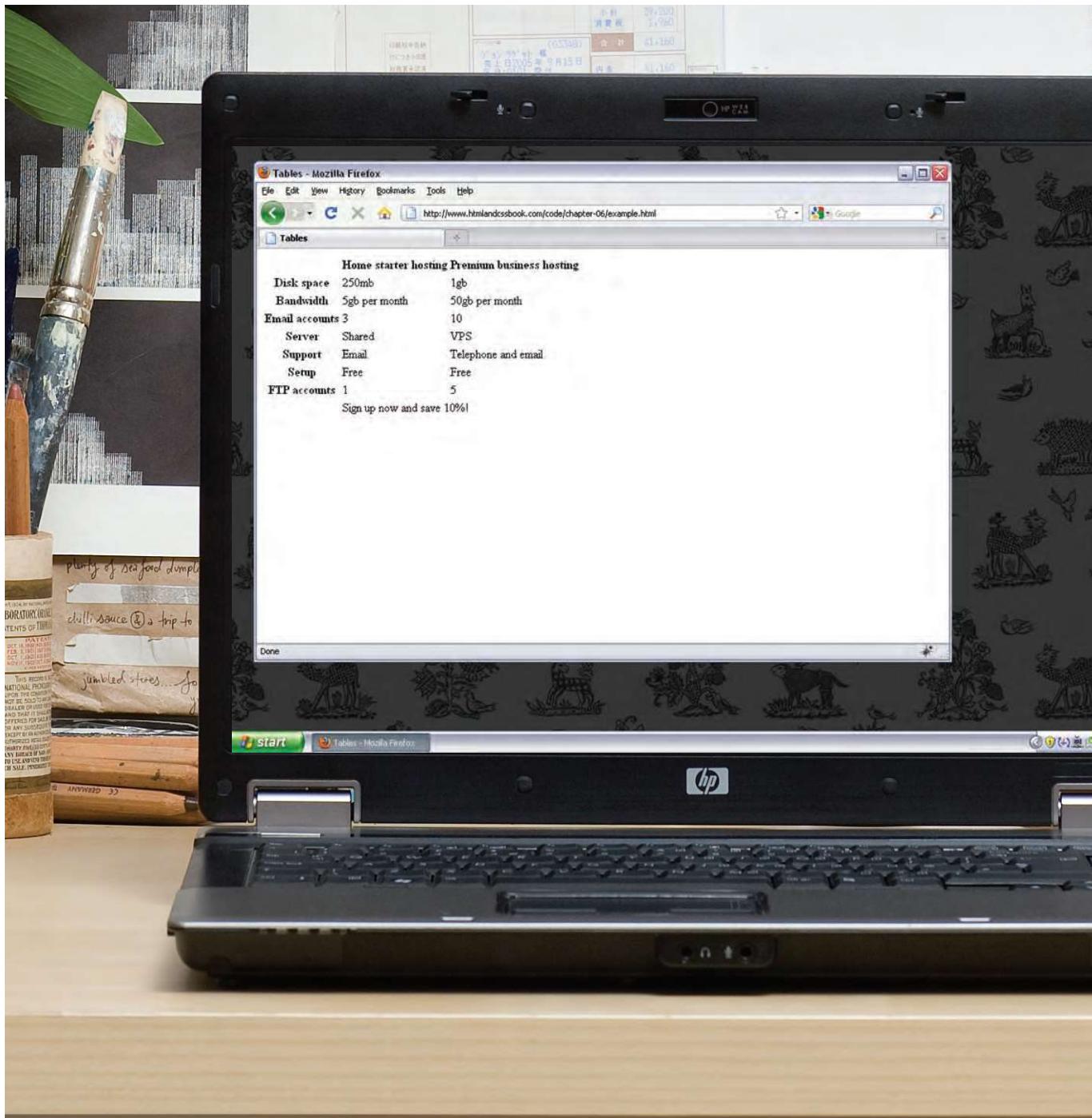
	Withdrawn	Credit	Balance
January	250.00	660.50	410.50
February	135.55	895.20	1170.15

The border attribute was used on both the `<table>` and `<td>` elements to indicate the width of the border in pixels.

The `bgcolor` attribute was used to indicate background colors of either the entire table or individual table cells. The value is usually a hex code (which we discuss on pages 249-252).

This example uses the HTML border and `bgcolor` attributes. No CSS attributes were utilized in this example.

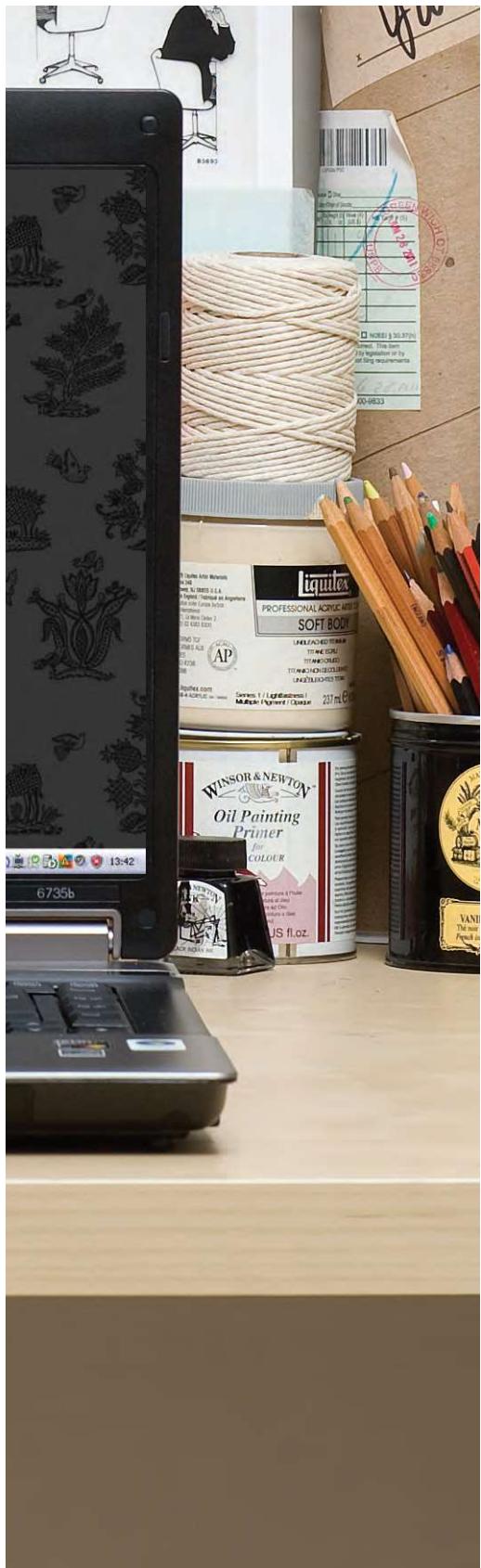
When building a new website you should use CSS to control the appearance of the table rather than these attributes. They are only covered here because you may come across them if you look at the code of older websites.



This example shows a table for customers to compare website hosting packages. There are table headings in the first row and first column of the table.

The empty cell in the top left still has a `<th>` element to represent it. Each cell of the table must be accounted for by a `<th>` or `<td>` element. The `<th>` elements use

the `scope` attribute to indicate whether they are headings for a row or column. The final row uses the `colspan` attribute to spread across all three columns.



# EXAMPLE

## TABLES

```
<html>
  <head>
    <title>Tables</title>
  </head>
  <body>
    <table>
      <thead>
        <tr>
          <th></th>
          <th scope="col">Home starter hosting</th>
          <th scope="col">Premium business hosting</th>
        </tr>
      </thead>
      <tbody>
        <tr>
          <th scope="row">Disk space</th>
          <td>250mb</td>
          <td>1gb</td>
        </tr>
        <tr>
          <th scope="row">Bandwidth</th>
          <td>5gb per month</td>
          <td>50gb per month</td>
        </tr>
        <!-- more rows like the two above here -->
      </tbody>
      <tfoot>
        <tr>
          <td></td>
          <td colspan="2">Sign up now and save 10%!</td>
        </tr>
      </tfoot>
    </table>
  </body>
</html>
```

