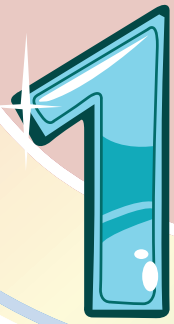
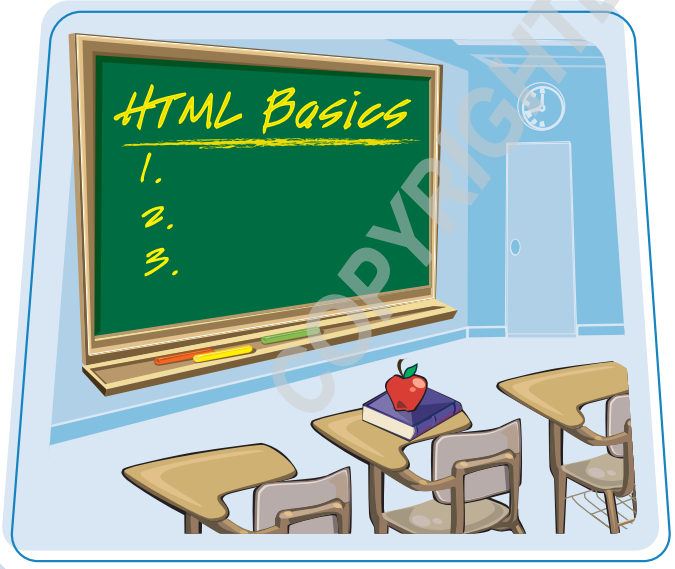
CHAPTER



HTML and Web Page Basics



Are you interested in building your own Web pages? This chapter introduces you to basic HTML concepts and methods for creating your own Web content.

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Internet Basics

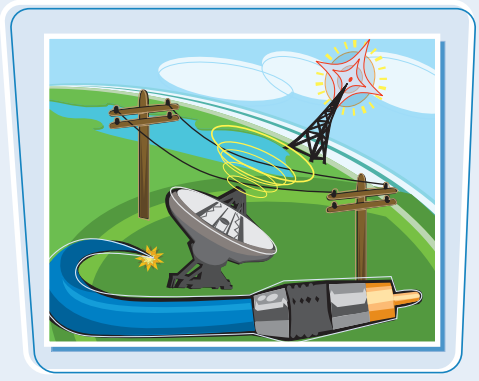
The Internet has grown from a military research project in the late 1960s to a global network of computers today. The number of Internet users around the globe is expected to reach over 1 billion by the year 2005.

Offering everything from e-mail to information to commerce, the Internet brings users an unprecedented way to communicate and exchange data. Constructed of thousands of networks and computers around the world, the Internet connects organizations, governments, businesses, and individuals.



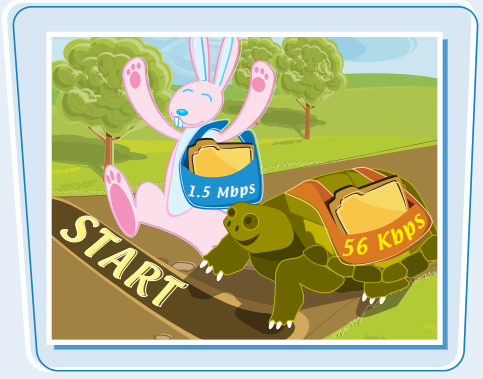
Types of Connections

Users connect to the Internet through a variety of sources. Individuals can connect through a modem and a phone line, cable, or satellite. If you use a modem to connect to the Internet, you typically utilize an *Internet service provider*, also called an ISP, or a commercial service, such as America Online. You can also use cable TV companies to connect to the Internet through a cable modem, or you can connect through digital phone lines, such as ISDN (Integrated Services Digital Network) and DSL (Digital Subscriber Line).



Connection Speeds

Connection speeds play an important part in a user's Internet experience. Slower connections result in slower file transfers and Web page viewing. Modem connections offer the slowest connection speeds to the Internet, up to 56 Kbps (Kilobits per second), followed by ISDN connections at 64–128 Kbps. Cable modems can achieve connection speeds up to 1.5 Mbps, while DSL offers speeds of 1,000–9,000 Kbps.



TCP/IP

Internet connection relies on a collection of protocols that govern how computers and networks talk to each other. *Transmission Control Protocol/Internet Protocol*, or TCP/IP for short, is simply a set of rules that control how information flows between computers and allows for individual computers to communicate with the Internet as if they are directly connected.



URLS and Links

Every page on the Web has a unique address, called a *URL*, short for Uniform Resource Locator. If you know a page's URL, you can view it over the Internet. You can also view pages using links. Hyperlinks, or *links*, connect pages through embedded URLs presented as text or images on a page. Users can jump from one page to another by clicking links. The activity of viewing Web pages is casually called *Web surfing*.



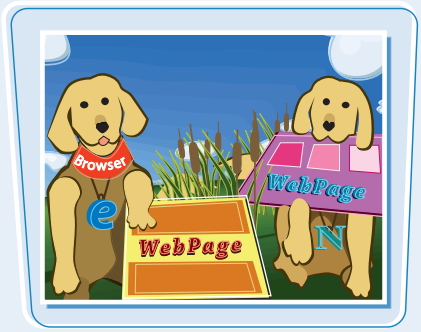
The World Wide Web

The World Wide Web is a giant collection of documents, or pages, stored on computers around the globe. Commonly called *the Web*, this collection of pages houses a wealth of text, images, audio, video, and more. Web pages are stored on *servers*, which are computers designed for holding and transferring data. When you place a document on a server, it is accessible for other users to view. Typically, companies, government agencies, organizations, and individuals maintain Web pages.



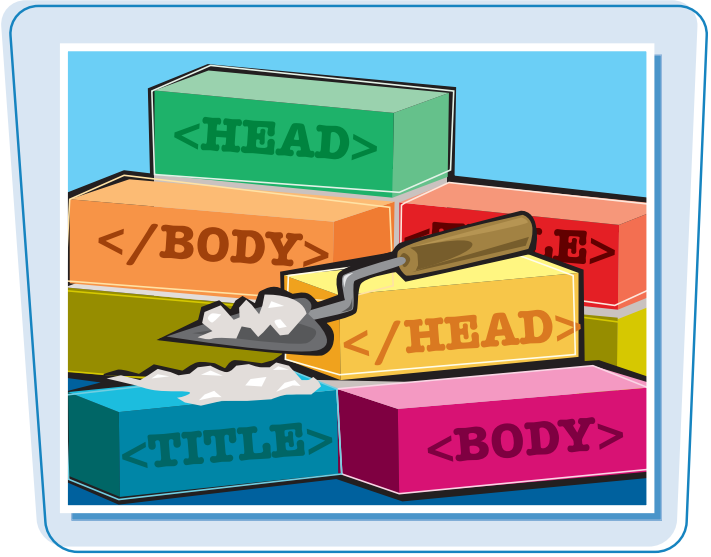
Browsers

To view Web pages, you must use a *Web browser*. Browsers are specialized programs that retrieve Web pages from servers and display them on a user's computer. Microsoft Internet Explorer and Netscape Navigator are the two most popular browsers used today. Other browsers are available, including Apple's Safari, Mozilla's Firefox, and Opera. Each program has evolved through a myriad of versions, each improving over the last. As you write HTML code, just remember that not all users have the most recent version of a particular browser.



An Introduction to HTML

Web pages are built using HTML, short for *HyperText Markup Language*. HTML documents are comprised of text and coding that instruct a Web browser how to display the data. HTML documents are identified by their .html or .htm file extension. Because any Web browser can read an HTML document, you do not need a special platform, such as Windows, UNIX, or Mac, to view the information.



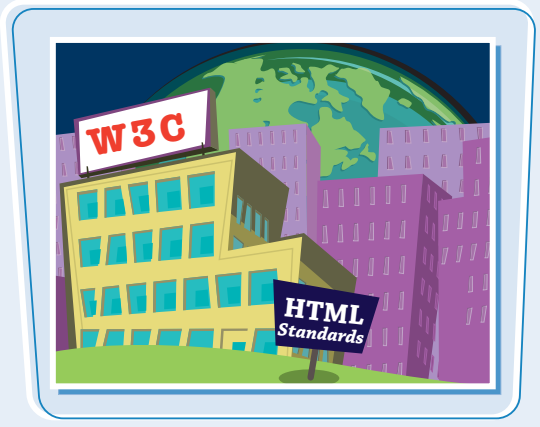
HTML Coding

HTML coding consists of tags. Tags are individual instructions to the browser and are surrounded by brackets, < >. Many tags include an opening tag and a closing tag. When writing tags, you can use upper- or lowercase letters. To make the coding easy to read, most users type it in uppercase to distinguish the coding from regular text data on the page. Tags can also include attributes you can define, such as color values or measurements.



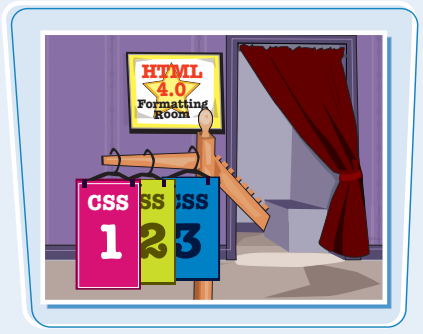
HTML Standards

The World Wide Web Consortium, or W3C for short, sets HTML standards. This international group consists of the Web's founders and industry leaders, including companies such as Microsoft and Netscape. Web developers look to the W3C to establish standards and introduce new Web technologies. The W3C is responsible for maintaining and guiding HTML standards.



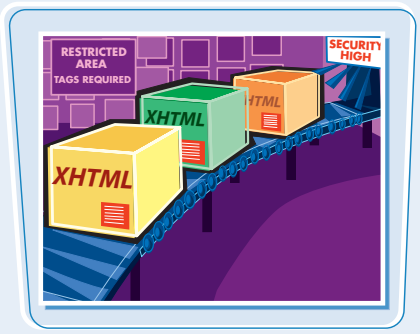
HTML Versions

The most recent version of HTML is version 4. Version 4 allows for separate formatting instructions, called cascading style sheets (CSS) and other presentation controls. By moving all the formatting controls to style sheets, HTML 4 frees up the Web developer to assign formatting to not only paragraphs of text, but also to the entire page or every page on the Web site. Moving formatting to a separate style sheet makes it easier to maintain other coding on the HTML document.



XHTML

Although XHTML is technically an XML application, it closely copies much of HTML 4 — so much so, that many view XHTML as a stricter version of HTML. With XHTML, you cannot leave off tags, and the order of tags is strictly enforced. Tags are closed in the reverse order in which they were opened. You must also write XHTML coding in lowercase letters, and all attributes must be enclosed in quotes. These are just a few examples of code-writing details users must follow to create XHTML documents.



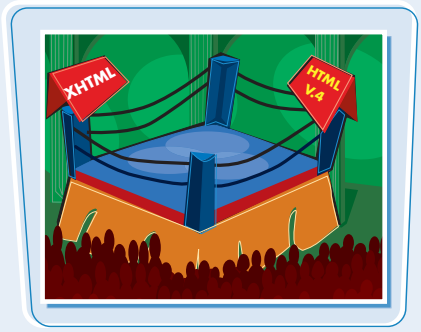
HTML Evolution

Seeing a need for additional structure for HTML documents, the W3C next introduced XML (*Extensible Markup Language*). XML is a meta-markup language for creating other languages; however, it is not as lenient as HTML, so the W3C rewrote HTML in XML and called it XHTML. XHTML has all the features of HTML but gains XML's power and flexibility.



HTML versus XHTML

Version 4 is the last version of HTML the W3C will introduce. The future of Web page development lies in XHTML. However, billions of Web pages are already written in HTML, and browser support is more common for HTML, so HTML documents are not likely go away for quite some time. If you learn HTML, the transition to XHTML is an easy one, requiring only a dedication to detail when writing well-formed code.



Explore Web Browsers

Web browsers are designed to read HTML instructions and display the content on your screen. You can use a browser to display HTML files you save on your computer, called *local pages*, or HTML pages transferred through a Web server. You can also use a browser to test your HTML pages.



Browser Discrepancies

There are many different Web browsers around today, and numerous versions of each. Each browser interprets HTML code in its own way, which means Web pages do not always appear the same from one browser to another. HTML standardization helps alleviate some of the discrepancies, but not all. For this reason, you need to write clean, well-formed HTML code and be sure to test your pages in different browsers to see the varying results.



Finding Browsers

Microsoft Internet Explorer (www.microsoft.com/ie) and Netscape Navigator (www.netscape.com) are the two most popular browsers available today. You should also test your pages in a few of the lesser-known browsers, such as Opera (www.opera.com) and Amaya (www.w3.org/Amaya/). For a complete list of browsers, visit http://dir.yahoo.com/Computers_and_Internet/Software/Internet/World_Wide_Web/Browsers.



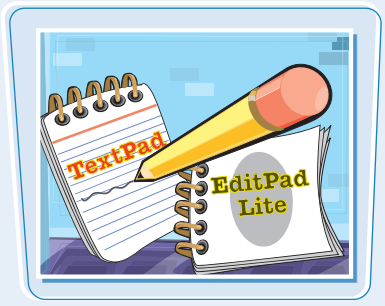
Explore HTML Editors

In the early days of Web development, plain old text editors were the application of choice. Today, you can use a variety of programs to write your HTML code.



Simple Text Editors

Simple text editors, also called plain-text editors, are easy to find. Most computers come with one, such as Windows Notepad. You can also find shareware and freeware versions on the Internet, such as TextPad, EditPad Lite, and UltraEdit. Simple text editors offer no-frills word processing and are often the best choice for writing HTML code.



Word Processing Programs

You can also use word processing programs, such as Microsoft Word, to write HTML. Use caution, however, because commercial word processors can store extraneous information with your files, some of which interferes with HTML.



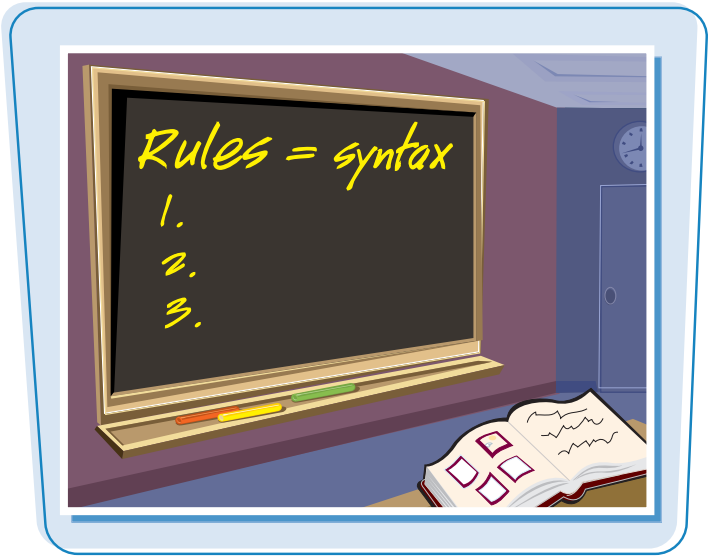
HTML Editors

HTML editors are dedicated programs for writing HTML code. Microsoft FrontPage and Macromedia Dreamweaver are examples of HTML editors. HTML editors can shield you from learning HTML code in detail by offering a graphical environment for building Web pages. However, most also allow you to switch to text-based editing as well.



Understanding HTML Syntax and Rules

The HTML language is a simple language for describing Web page content. HTML rules, called *syntax*, govern the way in which code is written. Learning the right way to write your code can save you confusion and errors later.



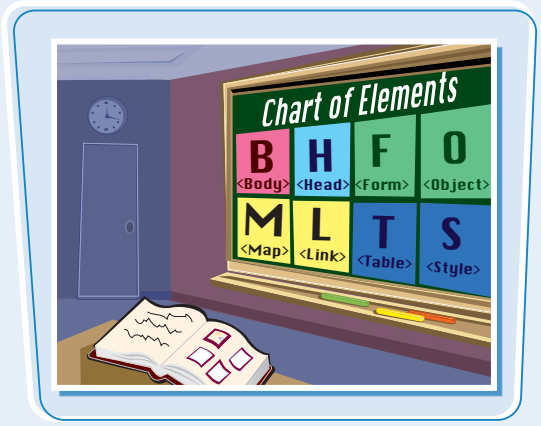
Writing HTML

The instructions you write in HTML are called *tags*. Tags are surrounded by angle brackets, < >. You can write tags in upper- or lowercase letters. Many users prefer to write their tags in uppercase to make them easier to identify on the document page. If you create a page in XHTML, a stricter variation of HTML, you need to use lowercase letters for your tags.



Elements

Elements identify the different parts of your HTML document. For example, `<BODY>` and `</BODY>` are tags defining the body text element on a page. The browser reads any text between the two tags as part of the body element. Many elements use tag pairs, an opening and closing tag, such as `<P>` and `</P>`, while others, such as the Image tag (`<IMG>`) do not. Closing tags must always include a slash (/).

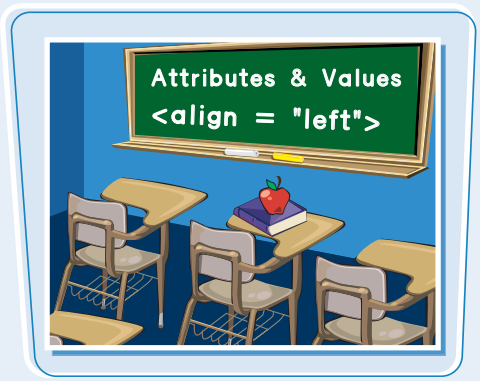


Attributes and Values

Each element has unique attributes you can assign. Many attributes require that you set a value, such as a measurement or specification. For example, you can set a paragraph's alignment on the page using the `ALIGN` attribute, and set a value for the alignment by specifying the value as left, right, or center. For example, the code might read:

```
<P ALIGN="center">My paragraph text.</P>
```

Values are always enclosed in quotation marks and appear within the element's start tag.



Entities

Any special characters you add to a page, such as a copyright symbol or a fraction, are called *entities*. HTML uses entities to represent characters not readily available on the keyboard. All entities are preceded with an ampersand (&) and ended with a semicolon (;). For example, to add a copyright symbol to your page, the code looks like this:

```
&copy;
```



Avoid Syntax Errors

To avoid HTML errors, always take time to proofread your code. Make sure you have brackets on your tags and that your closing tags include a slash. You must surround any values you define for attributes with quotation marks. It also helps to write your closing tags in reverse order of the opening tags. For example:

```
<P ALIGN="center"><B>My text.</B></P>
```

To help make your HTML readable, consider using new lines to enter code instead of running everything together on one long line. Using white space can also help, without increasing the file size.



View HTML Code in a Browser

You can view the HTML code for any Web page using your browser window. Viewing other Web developers' code is a good way to learn how to write your own code, and it can help you generate new ideas for your own pages. You can also save a Web page to study later.

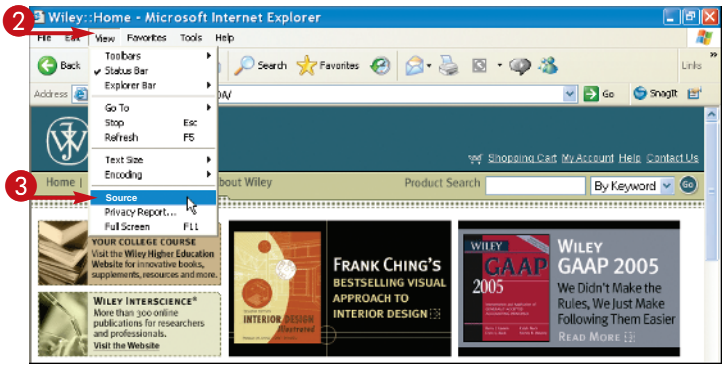


If you generate HTML code using a program, such as Microsoft FrontPage or Macromedia Dreamweaver, the code can appear overwhelmingly complex.

View HTML Code in a Browser

VIEW THE SOURCE CODE

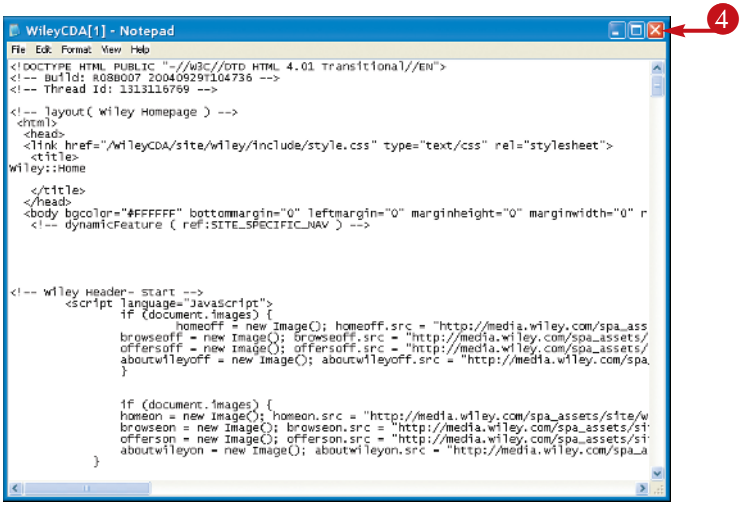
1. Open your browser window to the page you want to view.
2. Click **View**.
3. Click **Source** (Internet Explorer) or **Page Source** (Navigator).



A window appears displaying the HTML source code for the page.

4. Click the **Close** button ( ) when finished.

The window closes.



SAVE AN HTML DOCUMENT

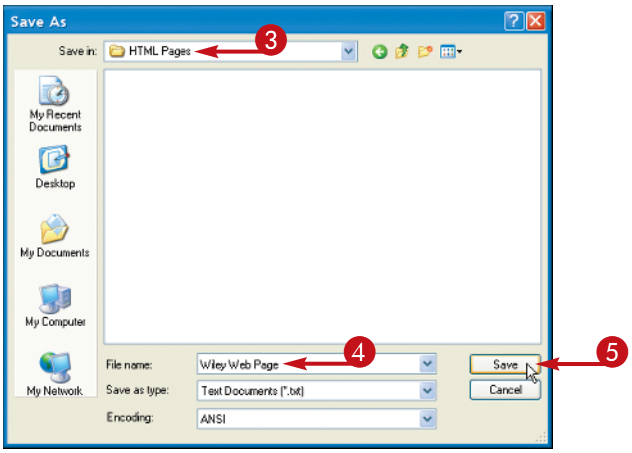
1. With the source code window open, click **File**.
2. Click **Save As** (Internet Explorer) or **Save Page As** (Navigator).



The Save As dialog box appears.

3. Navigate to the folder where you want to store the page.
4. Type a name for the page.
5. Click **Save**.

The page is saved.



TIPS

Can I copy the source code from another page?

You can copy HTML code you see on other pages; however, you should always obtain permission to reuse it yourself. Most Web page authors are happy to share their code with others, especially something complex and innovative, but make sure it is okay before attempting to do so.



How do I print the HTML code from the viewer window?

You can print the code from the text viewer window by clicking **File** and clicking **Print**. This opens the Print dialog box, where you can choose a printer or click **Print** to print your code. This technique works in both Internet Explorer and Navigator.



Plan a Web Site

Planning is essential for creating a Web site, whether your site consists of one page or many. Start by deciding what your goal is for the site and the type of information you want to convey. Next, gather all the necessary information you need to build your pages, including text, images, multimedia files, and other pertinent data. Choose a text editor in which to write your HTML code and you are ready to begin.



A Home Page

Most Web sites start with a home page, the main page of the site. A home page includes an introduction to the site as well as links to other pages on the site. The home page is usually the first page users see when they visit your Web site, and it often uses index.html or index.htm as the filename.



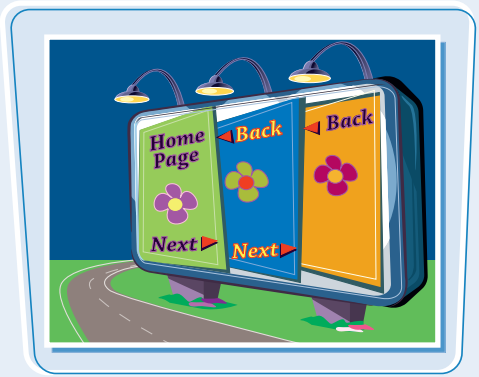
Design Options

When designing your site, you need to decide how you want your pages organized in terms of flow. For example, do you want the user to start with a home page and progress to each page on the site, or do you want to allow the user to jump to different pages radiating off the home page? Take time to sketch out the flow of your site and how each page is connected, starting with the main page.



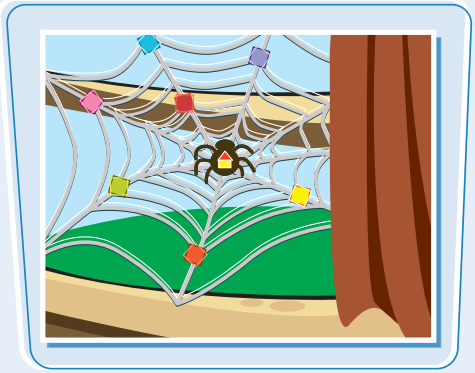
Linear

A linear site layout moves the user through your pages in a linear fashion. Linear layouts are good for presenting a series of steps or graduated information. Linear layouts usually link the user to the next or previous page, allowing your visitor to move forward and backward in the site.



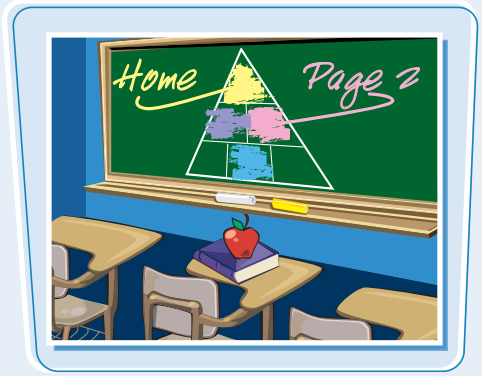
Spider Web

A Web layout flows out from the home page much like a spider web. Users can link to different pages without progressing from page to page in a certain order. With a Web layout, pages include links to other pages on the site, which allow the user to move freely from topic to topic.



Hierarchical

A hierarchical layout resembles a pyramid, with the home page at the top and other pages linking out from the top page. Hierarchical layouts are good for introducing brief topics on the top page in the layout and presenting greater topic details in subsequent pages.



Study Other Web Sites

Research can really help you determine how you want your site to flow and help you gather ideas for page design. Visit your favorite Web sites and study how the Web developer lays out the content. Take note of the design details that make some Web sites more user-friendly and appealing than others, and try to emulate those same principles in your own pages.

