

Spotlight on  
Kids Can Code

What Is

# HTML CODE?



Patricia Harris

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# HTML Basics

HTML is one of the most important coding systems in the world. Behind every web page is a page of HTML code. HTML, or hypertext markup language, is a markup language used to create web pages. Markup languages are computer languages that are made for working with text. Markup languages provide a **format** for text files. This determines the text's style and the layout of the web page.

The codes for formatting are called tags. They're called tags because they use special characters—also called tags—to hold the formatting commands. In HTML, the tag characters are < to start the formatting code and > to end it. An example of tags in HTML is <html> to tell where the HTML file starts and </html> to tell where the file ends. The chart on page 5 shows some of the more common HTML tags.

Web pages play an important role in our everyday lives. Without HTML code, businesses wouldn't be able to create or maintain their websites.

```
<h1>...</h1>
```

top-level heading

```
<b>...</b>
```

**bold**

```
<u>...</u>
```

underline

```
<i>...</i>
```

*italics*

```
<p align=left>...
```

left-aligned text

```
<p>...</p>
```

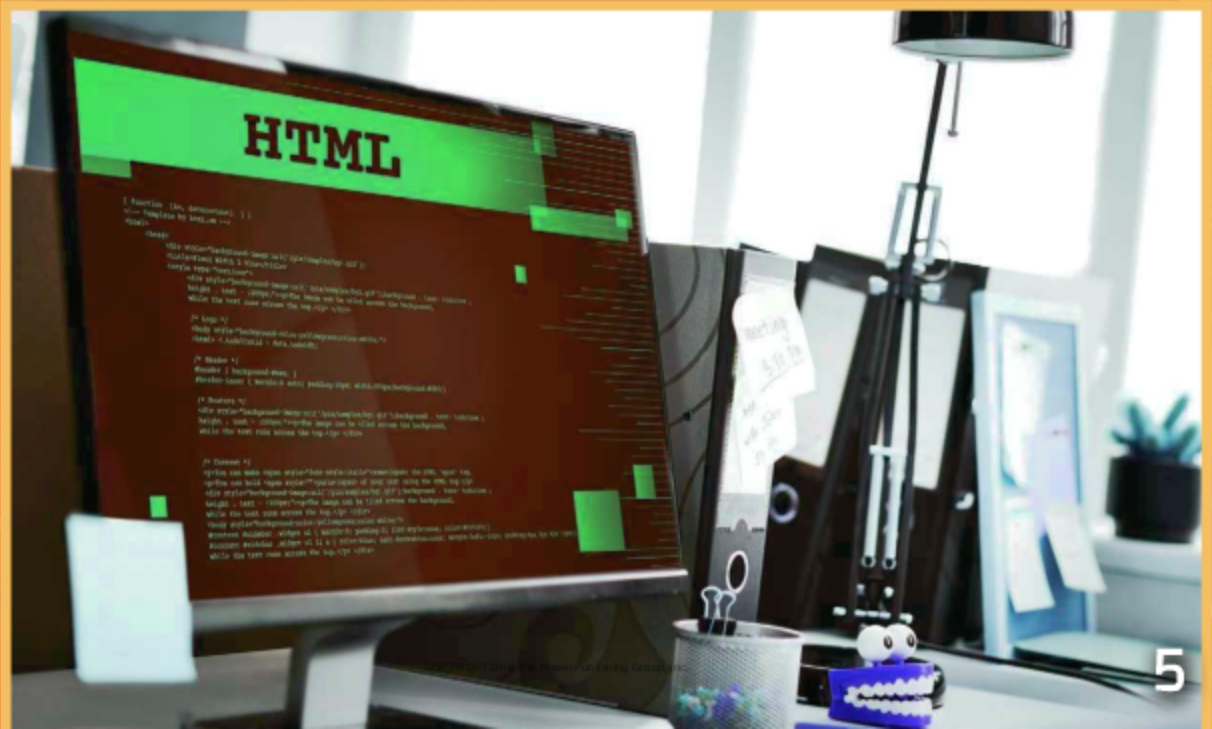
new paragraph

```
<hr>
```

horizontal line

```
<br>
```

line break



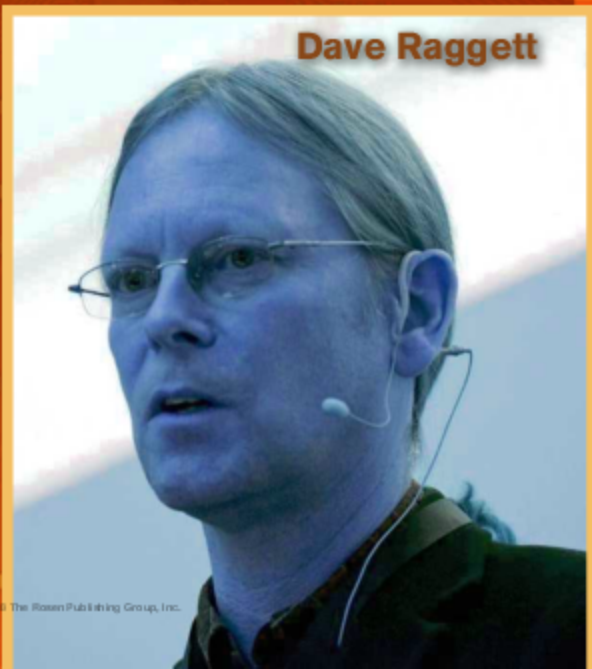
# The History of HTML

In 1980, computer scientist Tim Berners-Lee became interested in creating a system researchers could use to share information. This idea led to something even larger—the World Wide Web. HTML is the publishing language for the World Wide Web, which means it's used to create the web pages we see. Berners-Lee also created HTML.

HTML needs to work on all the different types of computers that are connected to the Internet. It also needs to work with the different publishing methods on each of these computers. HTTP, or hypertext transfer **protocol**, is

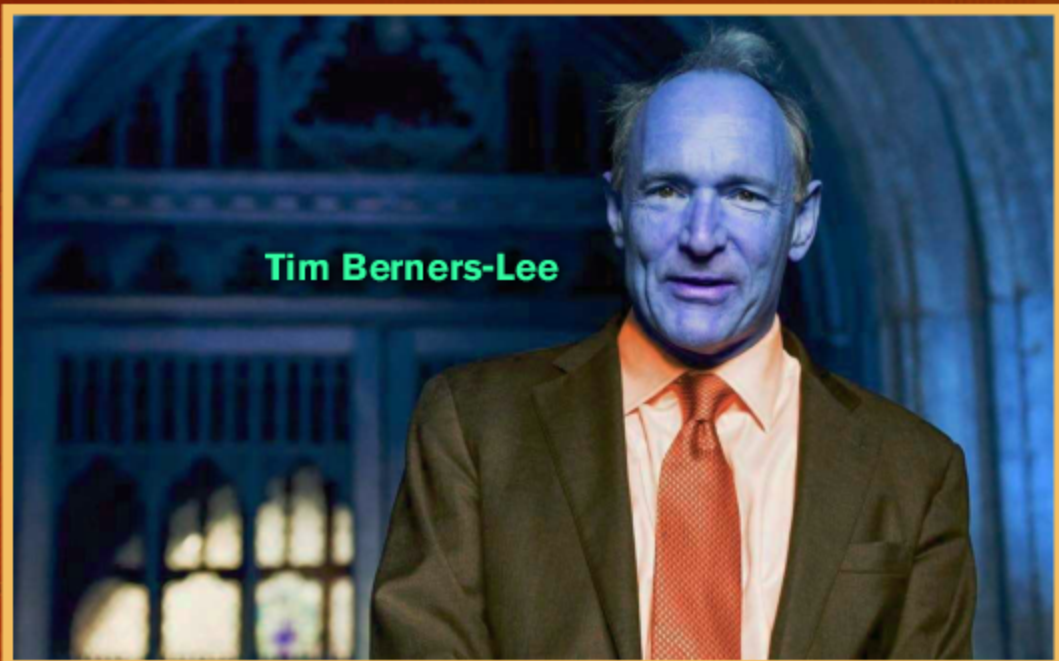
In 1992, Dave Raggett, a researcher for Hewlett-Packard, visited Berners-Lee to further **develop** HTML. After he returned to England, Raggett created a better **version** of HTML called HTML+. HTML has been improved several times. At present, HTML5 is the version most commonly used.

Dave Raggett



## Breaking the Code

Most people think that the Internet and the World Wide Web are the same thing, but they aren't. The Internet is a network that connects millions of computers all over the world. The World Wide Web is a way people share information over the Internet. Without the Internet, the World Wide Web would not be possible.



the way files are retrieved, or brought back, from an Internet-connected computer.

Berners-Lee encouraged other people to work to make the World Wide Web and HTML better. In September 1991, he created the WWW-talk mailing list, which allowed people to share their ideas.

# Sample Program

A good way to start learning about coding in HTML is to study a sample program. Here's a simple program for printing out the words "Hello world!" In the example on the next page, you can see how tags are used in HTML. You will see that tags are nested under, or used within, other tags.

The first step when coding with HTML is to type `<!DOCTYPE html>`. This states what type of **document** you're creating. Although it looks like an HTML tag, it just tells the browser that you are writing a file in HTML5. This opening line is followed by: `<html>` (the opening tag), which says the file is now starting. At the end, you see `</html>` (the closing tag), which says this is the end of the file. Almost all opening tags in HTML require a closing tag.



```
1 <!DOCTYPE html>
2 <html>
3 <head>
4   <title>This is a title</title>
5 </head>
6 <body>
7   <p>Hello world!</p>
8 </body>
9 </html>
```

The output of your HTML code appears on your browser screen. Output is the information produced by a computer.



Between the tags `<head>` and `</head>` and `<body>` and `</body>`, the information is **indented** so it's easier to see the nested tags. The opening tag `<head>` tells the browser that what follows is not to be shown on the screen. It is followed by the tag `<title>` to say this is the title that appears in the browser tab for this page but not on the actual page.

The line that has `<p>Hello world!</p>` tells the browser screen to show the sentence "Hello world!" The tags `<p>` and `</p>` indicate that these words make a paragraph.

In simple HTML documents, you can use special tags to describe how the text and background should look. If the line `<p>Hello world!</p>` was rewritten as `<p>Hello<strong>world</strong>!</p>`, "world" would appear in bold print. The tag `<strong>` is an HTML5 tag that is preferred to the old `<b>`, or bold, tag.

This is heading 1

This is heading 2

This is heading 3

This is heading 4

This is heading 5

This is heading 6

1

2

3

```
<h1>This is heading 1</h1>
```

4

```
<h2>This is heading 2</h2>
```

5

```
<h3>This is heading 3</h3>
```

6

```
<h4>This is heading 4</h4>
```

7

```
<h5>This is heading 5</h5>
```

8

```
<h6>This is heading 6</h6>
```

HTML has six levels of headings that can be used for your output. The tag `<h1>` is used for the top level. You can use headings to show lines of text in different sizes. They should only be used for separate headings, not for text in paragraphs.

# Making Modifications to HTML

In the past, HTML included tags to change **fonts** or colors for web page text or backgrounds. This wasn't too difficult for simple web pages. However, it was more difficult to use these for **complex** web pages. A new system called Cascading Style Sheets (CSS) was added to HTML5. CSS states how elements will appear on a screen and can be applied to several screens. Web designers can even store style sheets—or style guidelines for commonly used fonts and layouts—in separate files and use them for many web pages.

If you want to add your CSS rules right into your HTML file, you add code to the `<head>` part of your file. You would add the tag `<style>`. This code would be followed by any style rules you want to use. It would end with `</style>`. The style tag can also be used to insert a rule right in the line of HTML code, but then the rule only works for the code between the tags.

```
1 <head>
2   <style>
3   body {
4     background-color: lightblue;
5   }
6
7   h1 {
8     color: white;
9     text-align: center;
10  }
11
12  p {
13    font-family: verdana;
14    font size: 20px;
15  }
16  </style>
17 </head>
```

This CSS code has been written in an HTML editor that shows the various parts of the code in color. This code would apply to all top-level headings and paragraphs included in your code.

# Adding Photos to Web Pages

Web pages look better when you include pictures.

HTML allows you to do that. The pictures must be stored in the same place your HTML file is located. Make sure your image works well with your text and don't forget to check about photo **copyright**.

You use the <img> tag to include pictures on your website. The line might look like this:

```
<img src = "house.gif" alt="house picture" height="42"  
width="42">
```

"Src"—which is short for "source"—lets you name the file for the picture. "Alt" lets you add text that tells what the picture is in case the picture doesn't load correctly. The height and width set the size of the picture.

To create a link to an image on another web page, you use the form:

```
<a href="http://www.webpage.com">words for the link name  
that shows on the web page</a>
```

Wikipedia article for "Gray wolf" showing text, a table of contents, and a sidebar with a conservation status table.

**Gray wolf**

From Wikipedia, the free encyclopedia

"**Gray wolves**" redirects here. For other uses, see **Gray Wolves (disambiguation)**.  
 "Wolf" redirects here. For other uses, see **Wolf (disambiguation)**.  
 See also: *Blue wolf (disambiguation)*

This article is about the wild subspecies of *Canis lupus* collectively known as the gray wolf. For the domesticated subspecies of *Canis lupus*, see Dog. For the wild dog, see Dingy.

The **gray wolf** or **grey wolf** (*Canis lupus*<sup>[a]</sup>), also known as the **timber wolf**<sup>[b]</sup> or **western wolf**,<sup>[c]</sup> is a canine native to the wilderness and remote areas of Eurasia and North America. It is the largest extant member of its family, with males averaging 43–45 kg (95–99 lb), and females 30–36.2 kg (79–80 lb).<sup>[d]</sup> Like the red wolf, it is distinguished from other *Canis* species by its larger size and less pointed features, particularly on the ears and muzzle.<sup>[d]</sup> Its winter fur is long and bushy, and predominantly a mottled gray in color, although nearly pure white, red, or brown to black also occur.<sup>[d]</sup> As of 2006,<sup>[e]</sup> 37 subspecies of *C. lupus* are recognized by MSW3.

The gray wolf is the second-most specialized member of the genus *Canis*, after the Chinchipan wolf, as demonstrated by its morphological adaptations to hunting large prey, its more gregarious nature,<sup>[f]</sup> and its highly advanced cooperative behavior.<sup>[g][h]</sup> It is sometimes closely related enough to smaller *Canis* species, such as the eastern wolf,<sup>[i]</sup> coyote,<sup>[j]</sup> and golden jackal<sup>[k][l]</sup> to produce fertile hybrids. It is the only species of *Canis* to have a range encompassing both the Old and New Worlds,<sup>[m]</sup> and originated in Eurasia during the Pliocene, colonizing North America on at least three separate occasions during the Pleistocene.<sup>[n]</sup> It is a social animal, travelling in nuclear families consisting of a mated pair, accompanied by the pair's adult offspring.<sup>[o]</sup> The gray wolf is typically an apex predator throughout its range, with only humans and tigers<sup>[p][q][r]</sup> posing a serious threat to it, it feeds primarily on large ungulates, though it also eats smaller animals, livestock, carrion, and garbage.<sup>[s]</sup>

The gray wolf is one of the world's best known and best researched animals, with probably more books written about it than any other wildlife species.<sup>[t]</sup> It has a long history of association with humans, having been depicted and hunted in most *pastoral* communities because of its attacks on livestock, while conversely being respected in some *agrarian* and *hunter-gatherer* societies.<sup>[u]</sup> Although the fear of wolves is pervasive in many human societies, the majority of recorded attacks on people have been attributed to animals suffering from rabies. Non-rated wolves have attacked and killed people, mainly children, but this is rare, as wolves are relatively few, far away from people, and have developed a fear of humans from hunters and shepherds.<sup>[v]</sup>

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- Taxonomy and evolution
  - Taxonomy
  - Evolution and relationship with the dog
  - Population structure
  - Hybridization with other *Canis*
- Physical description
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  - Stout and dentition
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- Communication
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    - Decline
    - Recovery
  - Axis
    - Historical range and decline
    - Modern range
  - North America
    - Historical range and decline

**Conservation status**

Conservation status	
<span></span>	<span></span>
<div> <div><span></span></div> <div>Least Concern <span>(IUCN 3.1)</span></div> </div>	<div> <div><span></span></div> <div>Least Concern <span>(IUCN 3.1)</span></div> </div>

**Scientific classification**

Kingdom:	Animalia
Phylum:	Chordata
Class:	Mammalia
Order:	Carnivora
Suborder:	Carnivora
Family:	Canidae
Genus:	<i>Canis</i>
Species:	<i>C. lupus</i>

**Bionomial name**

***Canis lupus***  
 Linnaeus, 1758

**Subspecies**

Numerous and disputed, see Subspecies of *Canis lupus*

It's important to make sure your text and pictures support each other. If they don't, your **audience** may get confused.

# Make Your Own Web Page

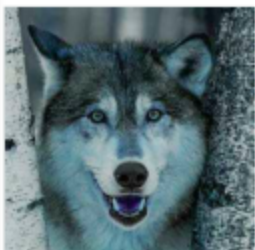
Now it's your turn to create a simple web page using HTML. First you must plan what you want to code. You can create a simple web page with your name in color, a sentence you feel is important, a link to an existing web page that you like, and a picture from your own files.

The web page you create will be on your own computer, not on the Internet, so no one will be able to see it except for you. The environment you'll use is just the text editor on your computer. (See page 8.) You'll create a folder on your desktop to hold your HTML file and your picture file. Remember to start your HTML file with the required opening. (See page 10.)





## I am called Wolf Coder



My favorite saying is:

To live wild and free also means having a pack.

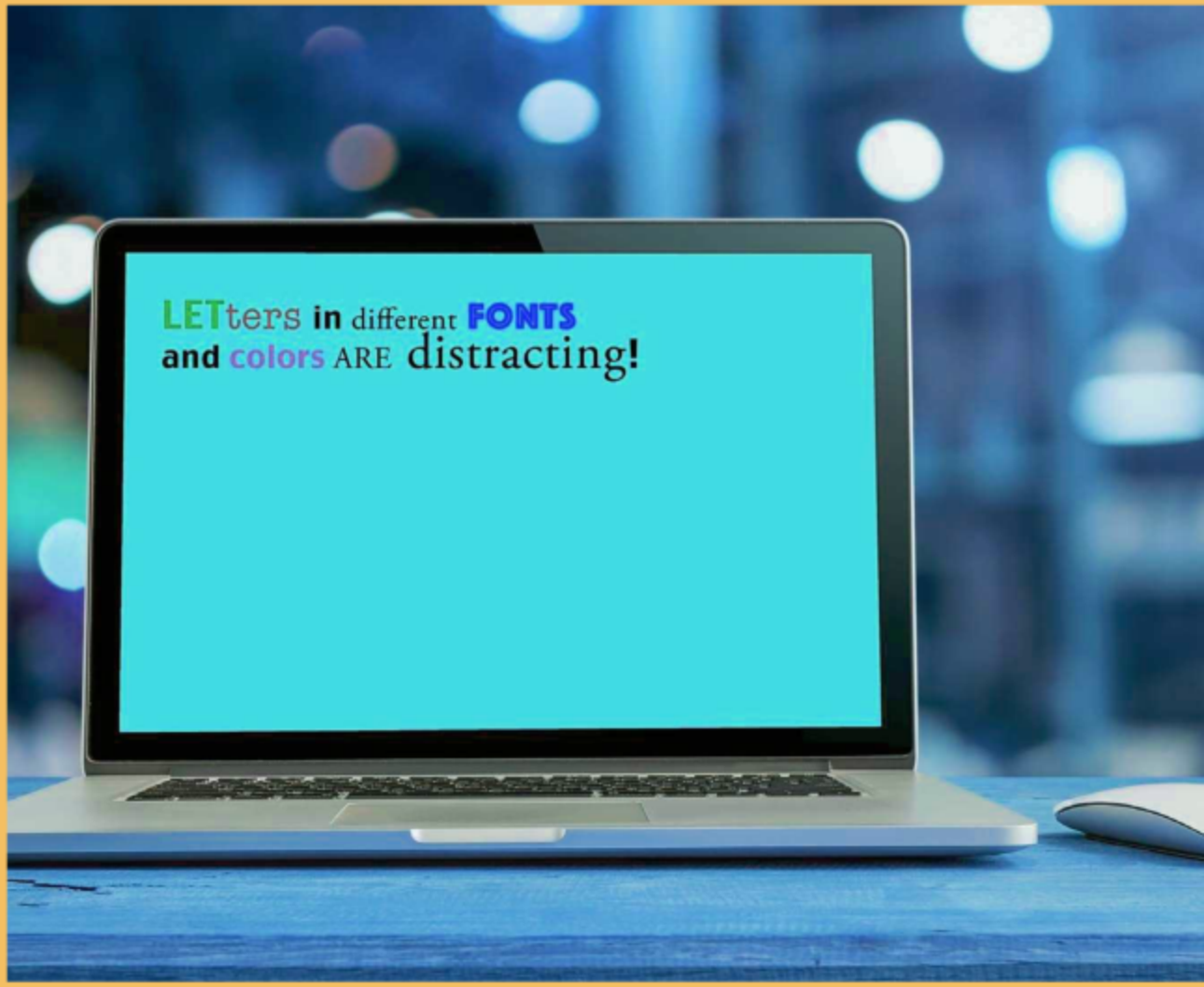
[A web page about wolves](#)

This web page includes a heading in color, an important sentence, a link to a web page, and a picture. Need more help coding your own page? Go to page 22 to see the code for this page.

# Don't Forget!

After you've thought about the content of your web page, you'll also need to think about the style you want for your page. You'll want to think about things like background color, text size, and text color. While you're coding your web page, you'll want to look at the results as you go to be sure your code reflects your plan.

One thing some HTML coders sometimes forget is the saying, "Just because you can doesn't mean you should." You can add many font changes and font colors to your web page, but too many fonts and too many colors can **distract** from your content. The text, pictures, and links on your page are important. Don't let a busy **presentation** take away from your content.



**LET**ters in different **FONT**S  
and **color**s ARE **distracting!**

If fonts and colors distract your audience, they may not actually read your content. They may even leave your web page and find another one that is easier to read.

# Code for Web Page from Page 19

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4      <title>My first coded web page</title>
5      <style>
6          h1 {color:blue;}
7      </style>
8  </head>
9  <body>
10     <h1>I am called Wolf Coder</h1>
11     
13     <p>
14     <p>My favorite saying is:
15     </p>
16     <p>To live wild and free also means having a
17     pack.</p>
18     <p>
19     <a href="https://en.wikipedia.org/wiki/Gray_wolf">A
20     web page about wolves</a>t
21     </p>
22 </body>
23 </html>
```

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# Websites

Due to the changing nature of Internet links, PowerKids Press has developed an online list of websites related to the subject of this book. This site is updated regularly. Please use this link to access the list: [www.powerkidslinks.com/skcc/html](http://www.powerkidslinks.com/skcc/html)

# Book Index



What Is HTML Code?

**What Is HTML Code?** *Patricia Harris. Spotlight on Kids Can Code*  
New York, NY: PowerKids Press, 2018. 24 pp.

This book shows readers how HTML provides the front end for even the biggest websites and gets them started on simple page design. Additional web languages and the future of HTML5, the history of HTML code, as well as the key figures who made it possible, are among the topics discussed.

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