

深入浅出HTML与CSS (影印版)

第二版
Updated for HTML5

Head First HTML and CSS

Launch your
web career in
one chapter



A learner's guide
to creating
standards-based
web pages



Watch out for
common HTML & CSS
traps and pitfalls

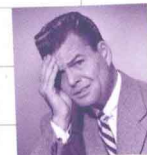


Learn why everything
your friends know about
style is probably wrong

Bend your mind
around 100 puzzles
& exercises



Avoid
embarrassing
validation mistakes



O'REILLY® 东南大學 出版社

Elisabeth Robson & Eric Freeman 著

深入浅出HTML与CSS

Head First HTML & CSS

第二版

Wouldn't it be dreamy if there
were an HTML book that didn't
assume you knew what elements,
attributes, validation, selectors, and
pseudo-classes were, all by page
three? It's probably just a
fantasy...



Elisabeth Robson
Eric Freeman

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南京 东南大学出版社

图书在版编目 (CIP) 数据

深入浅出 HTML 与 CSS: 第 2 版: 英文 / (美) 罗宾逊 (Robson, E.), (美) 弗里曼 (Freeman, E.) 著. —影印本. —南京: 东南大学出版社, 2013.5

书名原文: Head First HTML and CSS, 2E

ISBN 978-7-5641-3894-3

I. ①深… II. ①罗… ②弗… III. ①超文本标记语言—程序设计—英文 ②网页制作工具—英文 IV. ① TP312 ② TP393.092

中国版本图书馆 CIP 数据核字 (2012) 第 273587 号

江苏省版权局著作权合同登记

图字: 10-2012-167 号

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英文原版由 O'Reilly Media, Inc. 出版 2012。

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深入浅出 HTML 与 CSS 第二版 (影印版)

出版发行: 东南大学出版社

地 址: 南京四牌楼 2 号 邮编: 210096

出 版 人: 江建中

网 址: <http://www.seupress.com>

电子邮件: press@seupress.com

印 刷: 扬中市印刷有限公司

开 本: 787 毫米 × 980 毫米 12 开本

印 张: 63.5

彩 插: 12 面

字 数: 1062 千字

版 次: 2013 年 5 月第 1 版

印 次: 2013 年 5 月第 1 次印刷

书 号: ISBN 978-7-5641-3894-3

定 价: 98.00 元 (册)

本社图书若有印装质量问题, 请直接与营销部联系。电话 (传真): 025-83791830

Praise for *Head First HTML and CSS*

“Head First HTML and CSS is a thoroughly modern introduction to forward-looking practices in web page markup and presentation. It correctly anticipates readers’ puzzlements and handles them just in time. The highly graphic and incremental approach precisely mimics the best way to learn this stuff: make a small change and see it in the browser to understand what each new item means.”

— **Danny Goodman, author of *Dynamic HTML: The Definitive Guide***

“Eric Freeman and Elisabeth Robson clearly know their stuff. As the Internet becomes more complex, inspired construction of web pages becomes increasingly critical. Elegant design is at the core of every chapter here, each concept conveyed with equal doses of pragmatism and wit.”

— **Ken Goldstein, Executive Vice President and Managing Director, Disney Online**

“The Web would be a much better place if every HTML author started off by reading this book.”

— **L. David Baron, Technical Lead, Layout and CSS, Mozilla Corporation**
<http://dbaron.org/>

*“I’ve been writing HTML and CSS for 10 years now, and what used to be a long trial-and-error learning process has now been reduced neatly into an engaging paperback. HTML used to be something you could just hack away at until things looked okay on screen, but with the advent of web standards and the movement toward accessibility, sloppy coding practice is not acceptable anymore...from a business standpoint or a social responsibility standpoint. *Head First HTML and CSS* teaches you how to do things right from the beginning without making the whole process seem overwhelming. HTML, when properly explained, is no more complicated than plain English, and the authors do an excellent job of keeping every concept at eye level.”*

— **Mike Davidson, President and CEO, Newsvine, Inc.**

“The information covered in this book is the same material the pros know, but taught in an educational and humorous manner that doesn’t ever make you think the material is impossible to learn or you are out of your element.”

— **Christopher Schmitt, author of *The CSS Cookbook* and *Professional CSS*, schmitt@christopher.org**

“Oh, great. You made an HTML book simple enough a CEO can understand it. What will you do next? Accounting simple enough my developer can understand it? Next thing you know, we’ll be collaborating as a team or something.”

— **Janice Fraser, CEO, Adaptive Path**

More Praise for *Head First HTML and CSS*

“I *heart* *Head First HTML and CSS*—it teaches you everything you need to learn in a ‘fun coated’ format!”

— **Sally Applin, UI designer and fine artist, <http://sally.com>**

“This book has humor and charm, but most importantly, it has heart. I know that sounds ridiculous to say about a technical book, but I really sense that at its core, this book (or at least its authors) really care that the reader learns the material. This comes across in the style, the language, and the techniques. Learning—real understanding and comprehension—on the part of the reader is clearly topmost in the minds of the authors. And thank you, thank you, thank you, for the book’s strong and sensible advocacy of standards compliance. It’s great to see an entry-level book, that I think will be widely read and studied, campaign so eloquently and persuasively on behalf of the value of standards compliance in web page code. I even found in here a few great arguments I had not thought of—ones I can remember and use when I am asked (as I still am)—‘what’s the deal with compliance and why should we care?’ I’ll have more ammo now! I also liked that the book sprinkles in some basics about the mechanics of actually getting a web page live—FTP, web server basics, file structures, etc.”

— **Robert Neer, Director of Product Development, Movies.com**

“*Head First HTML and CSS* is a most entertaining book for learning how to build a great web page. It not only covers everything you need to know about HTML and CSS, it also excels in explaining everything in layman’s terms with a lot of great examples. I found the book truly enjoyable to read, and I learned something new!”

— **Newton Lee, Editor-in-Chief, ACM Computers in Entertainment
<http://www.acmcie.org>**

“My wife stole the book. She’s never done any web design, so she needed a book like *Head First HTML and CSS* to take her from beginning to end. She now has a list of websites she wants to build—for our son’s class, our family... If I’m lucky, I’ll get the book back when she’s done.”

— **David Kaminsky, Master Inventor, IBM**

“Beware. If you’re someone who reads at night before falling asleep, you’ll have to restrict *Head First HTML and CSS* to daytime reading. This book wakes up your brain.”

— **Pauline McNamara, Center for New Technologies and Education,
Fribourg University, Switzerland**

Praise for other books by Eric Freeman and Elisabeth Robson

“From the awesome *Head First Java* folks, this book uses every conceivable trick to help you understand and remember. Not just loads of pictures: pictures of humans, which tend to interest other humans. Surprises everywhere. Stories, because humans love narrative. (Stories about things like pizza and chocolate. Need we say more?) Plus, it’s darned funny.”

— **Bill Camarda, READ ONLY**

“This book’s admirable clarity, humor, and substantial doses of clever make it the sort of book that helps even nonprogrammers think well about problem solving.”

— **Cory Doctorow, co-editor of *Boing Boing*
and author of *Down and Out in the Magic Kingdom*
and *Someone Comes to Town, Someone Leaves Town***

“I feel like a thousand pounds of books have just been lifted off of my head.”

— **Ward Cunningham, inventor of the wiki
and founder of the Hillside Group**

“This book is close to perfect, because of the way it combines expertise and readability. It speaks with authority and it reads beautifully. It’s one of the very few software books I’ve ever read that strikes me as indispensable. (I’d put maybe 10 books in this category, at the outside.)”

— **David Gelernter, professor of computer science,
Yale University, and author of *Mirror Worlds* and *Machine Beauty***

“A nosedive into the realm of patterns, a land where complex things become simple, but where simple things can also become complex. I can think of no better tour guides than these authors.”

— **Miko Matsumura, industry analyst, The Middleware Company
former Chief Java Evangelist, Sun Microsystems**

“I laughed, I cried, it moved me.”

— **Daniel Steinberg, Editor-in-Chief, java.net**

“Just the right tone for the geeked-out, casual-cool guru coder in all of us. The right reference for practical development strategies—gets my brain going without having to slog through a bunch of tired, stale professor-speak.”

— **Travis Kalanick, founder of Scour and Red Swoosh,
member of the MIT TR100**

“I literally love this book. In fact, I kissed this book in front of my wife.”

— **Satish Kumar**

Browser wars? You'll
find out in Chapter 6.



To the W3C, for saving us from the browser wars and
for their brilliance in separating structure (HTML) from
presentation (CSS)...

And for making HTML and CSS complex enough that
people need a book to learn it.

Authors of Head First HTML and CSS



←
Eric Freeman



↖ Elisabeth Robson

Eric is described by Head First series co-creator Kathy Sierra as “one of those rare individuals fluent in the language, practice, and culture of multiple domains from hipster hacker, corporate VP, engineer, think tank.”

Professionally, Eric recently ended nearly a decade as a media company executive—having held the position of CTO of Disney Online and Disney.com at the Walt Disney Company. Eric is now devoting his time to WickedlySmart, a startup he co-created with Elisabeth.

By training, Eric is a computer scientist, having studied with industry luminary David Gelernter during his Ph.D. work at Yale University. His dissertation is credited as the seminal work in alternatives to the desktop metaphor, and also as the first implementation of activity streams, a concept he and Dr. Gelernter developed.

In his spare time, Eric is deeply involved with music; you'll find Eric's latest project, a collaboration with ambient music pioneer Steve Roach, available on the iPhone App Store under the name Immersion Station.

Eric lives with his wife and young daughter on Bainbridge Island. His daughter is a frequent visitor to Eric's studio, where she loves to turn the knobs of his synths and audio effects.

Write to Eric at eric@wickedlysmart.com or visit his site at <http://ericfreeman.com>.

Elisabeth is a software engineer, writer, and trainer. She has been passionate about technology since her days as a student at Yale University, where she earned a master's of science in computer science and designed a concurrent, visual programming language and software architecture.

Elisabeth's been involved with the Internet since the early days; she co-created the award-winning website, the Ada Project, one of the first websites designed to help women in computer science find career and mentorship information online.

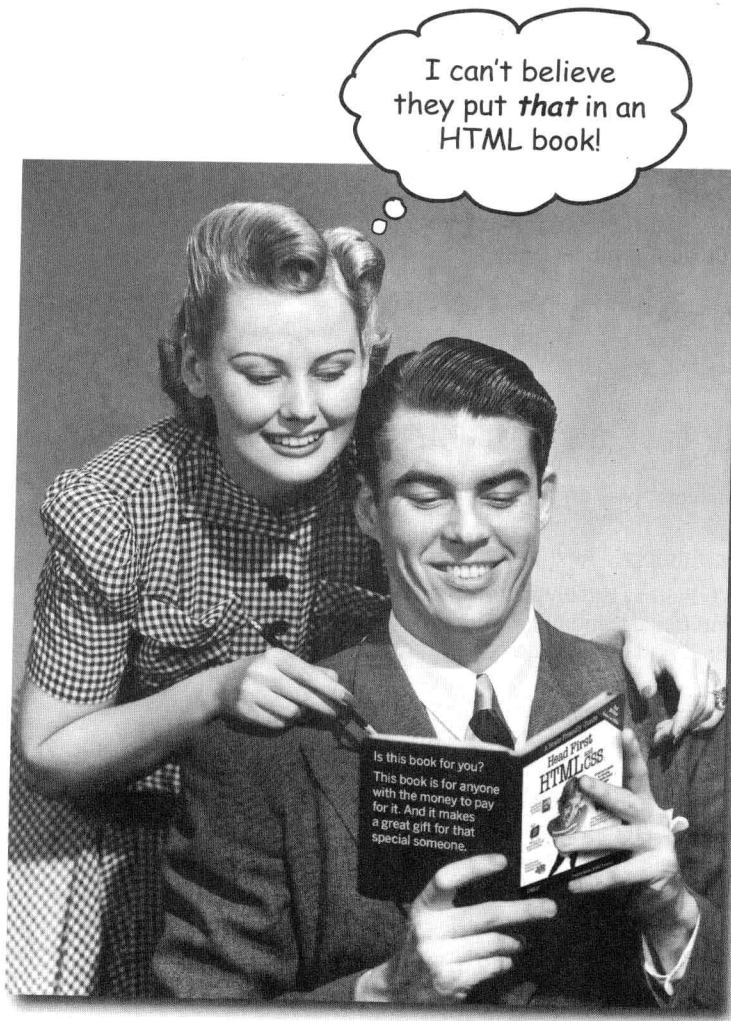
She's currently co-founder of WickedlySmart, an online education experience centered on web technologies, where she creates books, articles, videos and more. Previously, as Director of Special Projects at O'Reilly Media, Elisabeth produced in-person workshops and online courses on a variety of technical topics and developed her passion for creating learning experiences to help people understand technology. Prior to her work with O'Reilly, Elisabeth spent time spreading fairy dust at the Walt Disney Company, where she led research and development efforts in digital media.

When not in front of her computer, you'll find Elisabeth hiking, cycling or kayaking in the great outdoors, with her camera nearby, or cooking vegetarian meals.

You can send her email at beth@wickedlysmart.com or visit her blog at <http://elisabethrobson.com>.

how to use this book

Intro



In this section, we answer the burning question:
"So, why DID they put that in an HTML book?"

Who is this book for?

If you can answer “yes” to all of these:

- ① Do you have access to a computer with a **web browser** and a **text editor**?
- ② Do you want to **learn, understand, and remember** how to **create** web pages using the best techniques and the most recent standards?
- ③ Do you prefer **stimulating dinner-party conversation** to **dry, dull, academic lectures**?

this book is for you.

← If you have access to any computer manufactured in the last decade, the answer is yes.

Who should probably back away from this book?

If you can answer “yes” to any one of these:

- ① **Are you completely new to computers?**
(You don’t need to be advanced, but you should understand folders and files, simple text editing applications, and how to use a web browser.)
- ② Are you a kick-butt web developer looking for a **reference book**?
- ③ Are you **afraid to try something different**? Would you rather have a root canal than mix stripes with plaid? Do you believe that a technical book can’t be serious if HTML tags are anthropomorphized?

this book is not for you.



[Note from marketing: this book is for anyone with a credit card.]

We know what you're thinking.

"How can this be a serious book?"

"What's with all the graphics?"

"Can I actually learn it this way?"

And we know what your brain is thinking.

Your brain craves novelty. It's always searching, scanning, *waiting* for something unusual. It was built that way, and it helps you stay alive.

Today, you're less likely to be a tiger snack. But your brain's still looking. You just never know.

So what does your brain do with all the routine, ordinary, normal things you encounter? Everything it *can* to stop them from interfering with the brain's *real* job—recording things that *matter*. It doesn't bother saving the boring things; they never make it past the "this is obviously not important" filter.

How does your brain *know* what's important? Suppose you're out for a day hike and a tiger jumps in front of you—what happens inside your head and body?

Neurons fire. Emotions crank up. *Chemicals surge.*

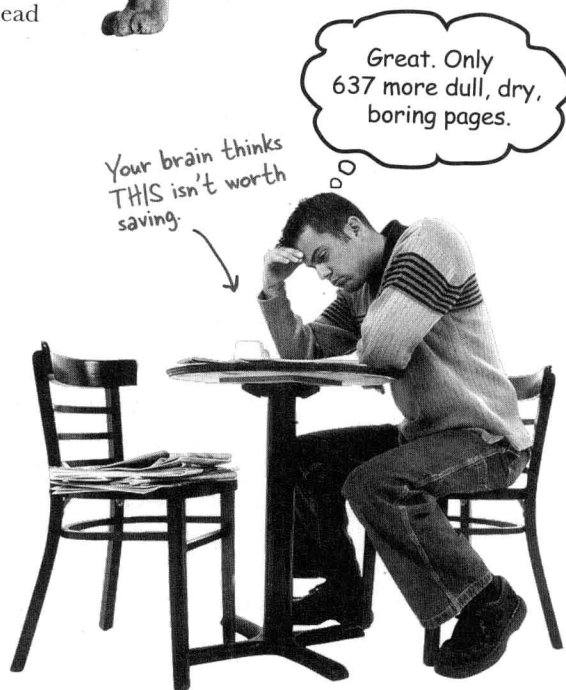
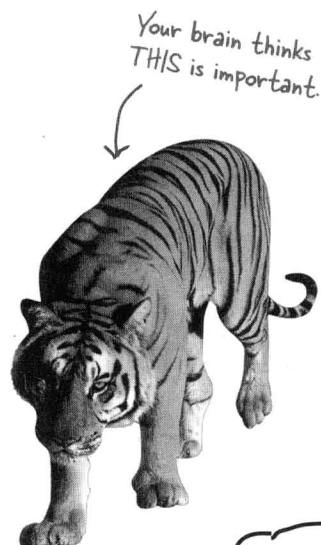
And that's how your brain knows...

This must be important! Don't forget it!

But imagine you're at home, or in a library. It's a safe, warm, tiger-free zone. You're studying. Getting ready for an exam. Or trying to learn some tough technical topic your boss thinks will take a week, 10 days at the most.

Just one problem. Your brain's trying to do you a big favor. It's trying to make sure that this *obviously* non-important content doesn't clutter up scarce resources. Resources that are better spent storing the really *big* things. Like tigers. Like the danger of fire. Like how you should never again snowboard in shorts.

And there's no simple way to tell your brain, "Hey brain, thank you very much, but no matter how dull this book is, and how little I'm registering on the emotional Richter scale right now, I really *do* want you to keep this stuff around."

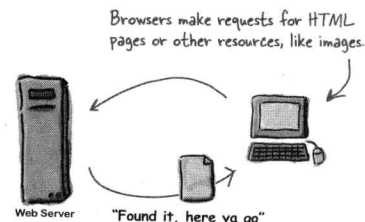


We think of a “Head First” reader as a learner.

So what does it take to *learn* something? First, you have to *get* it, then make sure you don’t *forget* it. It’s not about pushing facts into your head. Based on the latest research in cognitive science, neurobiology, and educational psychology, *learning* takes a lot more than text on a page. We know what turns your brain on.

Some of the Head First learning principles:

Make it visual. Images are far more memorable than words alone, and make learning much more effective (up to 89% improvement in recall and transfer studies). It also makes things more understandable. **Put the words within or near the graphics** they relate to, rather than on the bottom or on another page, and learners will be up to twice as likely to solve problems related to the content.



It really sucks to forget your <body> element.



The head element is where you put things about your page.

Use a conversational and personalized style. In recent studies, students performed up to 40% better on post-learning tests if the content spoke directly to the reader, using a first-person, conversational style rather than taking a formal tone. Tell stories instead of lecturing. Use casual language. Don’t take yourself too seriously. Which would you pay more attention to: a stimulating dinner-party companion, or a lecture?

Get the learner to think more deeply. In other words, unless you actively flex your neurons, nothing much happens in your head. A reader has to be motivated, engaged, curious, and inspired to solve problems, draw conclusions, and generate new knowledge. And for that, you need challenges, exercises, and thought-provoking questions, and activities that involve both sides of the brain, and multiple senses.

Does it make sense to create a bathtub class for my style, or just to style the whole bathroom?



Get—and keep—the reader’s attention. We’ve all had the “I really want to learn this, but I can’t stay awake past page one” experience. Your brain pays attention to things that are out of the ordinary, interesting, strange, eye-catching, unexpected. Learning a new, tough, technical topic doesn’t have to be boring. Your brain will learn much more quickly if it’s not.

Touch their emotions. We now know that your ability to remember something is largely dependent on its emotional content. You remember what you *care* about. You remember when you *feel* something. No, we’re not talking heart-wrenching stories about a boy and his dog. We’re talking emotions like surprise, curiosity, fun, “what the...?”, and the feeling of “I rule!” that comes when you solve a puzzle, learn something everybody else thinks is hard, or realize you know something that “I’m more technical than thou” Bob from engineering *doesn’t*.



Metacognition: thinking about thinking

If you really want to learn, and you want to learn more quickly and more deeply, pay attention to how you pay attention. Think about how you think. Learn how you learn.

Most of us did not take courses on metacognition or learning theory when we were growing up. We were *expected* to learn, but rarely *taught* how to learn.

But we assume that if you're holding this book, you really want to learn how to create web pages. And you probably don't want to spend a lot of time. And you want to *remember* what you read, and be able to apply it. And for that, you've got to *understand* it. To get the most from this book, or *any* book or learning experience, take responsibility for your brain. Your brain on *this* content.

The trick is to get your brain to see the new material you're learning as Really Important. Crucial to your well-being. As important as a tiger. Otherwise, you're in for a constant battle, with your brain doing its best to keep the new content from sticking.

So how **DO** you get your brain to think HTML & CSS are as important as a tiger?

There's the slow, tedious way, or the faster, more effective way. The slow way is about sheer repetition. You obviously know that you *are* able to learn and remember even the dullest of topics, if you keep pounding on the same thing. With enough repetition, your brain says, "This doesn't *feel* important to him, but he keeps looking at the same thing *over and over and over*, so I suppose it must be."

The faster way is to do **anything that increases brain activity**, especially different *types* of brain activity. The things on the previous page are a big part of the solution, and they're all things that have been proven to help your brain work in your favor. For example, studies show that putting words *within* the pictures they describe (as opposed to somewhere else in the page, like a caption or in the body text) causes your brain to try to make sense of how the words and picture relate, and this causes more neurons to fire. More neurons firing = more chances for your brain to *get* that this is something worth paying attention to, and possibly recording.

A conversational style helps because people tend to pay more attention when they perceive that they're in a conversation, since they're expected to follow along and hold up their end. The amazing thing is, your brain doesn't necessarily *care* that the "conversation" is between you and a book! On the other hand, if the writing style is formal and dry, your brain perceives it the same way you experience being lectured to while sitting in a roomful of passive attendees. No need to stay awake.

But pictures and conversational style are just the beginning.



Here's what WE did:

We used **pictures**, because your brain is tuned for visuals, not text. As far as your brain's concerned, a picture really *is* worth 1,024 words. And when text and pictures work together, we embedded the text *in* the pictures because your brain works more effectively when the text is *within* the thing the text refers to, as opposed to in a caption or buried in the text somewhere.

We used **redundancy**, saying the same thing in *different* ways and with different media types, and *multiple senses*, to increase the chance that the content gets coded into more than one area of your brain.

We used concepts and pictures in **unexpected** ways because your brain is tuned for novelty, and we used pictures and ideas with at least *some emotional content*, because your brain is tuned to pay attention to the biochemistry of emotions. That which causes you to *feel* something is more likely to be remembered, even if that feeling is nothing more than a little **humor**, **surprise**, or **interest**.

We used a personalized, **conversational style**, because your brain is tuned to pay more attention when it believes you're in a conversation than if it thinks you're passively listening to a presentation. Your brain does this even when you're *reading*.

We included more than 100 **activities**, because your brain is tuned to learn and remember more when you **do** things than when you *read* about things. And we made the exercises challenging-yet-doable, because that's what most *people* prefer.

We used **multiple learning styles**, because *you* might prefer step-by-step procedures, while someone else wants to understand the big picture first, while someone else just wants to see a code example. But regardless of your own learning preference, *everyone* benefits from seeing the same content represented in multiple ways.

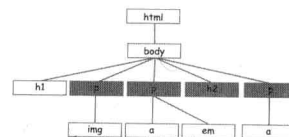
We include content for **both sides of your brain**, because the more of your brain you engage, the more likely you are to learn and remember, and the longer you can stay focused. Since working one side of the brain often means giving the other side a chance to rest, you can be more productive at learning for a longer period of time.

And we included **stories** and exercises that present **more than one point of view**, because your brain is tuned to learn more deeply when it's forced to make evaluations and judgments.

We included **challenges**, with exercises, and by asking **questions** that don't always have a straight answer, because your brain is tuned to learn and remember when it has to *work* at something. Think about it—you can't get your *body* in shape just by *watching* people at the gym. But we did our best to make sure that when you're working hard, it's on the *right* things. That **you're not spending one extra dendrite** processing a hard-to-understand example, or parsing difficult, jargon-laden, or overly terse text.

We used **people**. In stories, examples, pictures, etc., because, well, because *you're* a person. And your brain pays more attention to *people* than it does to *things*.

We used an **80/20** approach. We assume that if you're going to be a kick-butt web developer, this won't be your only book. So we don't talk about *everything*. Just the stuff you'll actually *need*.



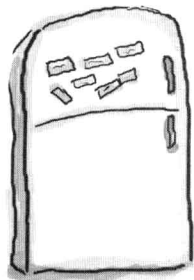
Be the Browser



BULLET POINTS

Puzzles





Here's what YOU can do to bend your brain into submission

So, we did our part. The rest is up to you. These tips are a starting point; listen to your brain and figure out what works for you and what doesn't. Try new things.

Cut this out and stick it on your refrigerator.

① **Slow down. The more you understand, the less you have to memorize.**

Don't just *read*. Stop and think. When the book asks you a question, don't just skip to the answer. Imagine that someone really is asking the question. The more deeply you force your brain to think, the better chance you have of learning and remembering.

② **Do the exercises. Write your own notes.**

We put them in, but if we did them for you, that would be like having someone else do your workouts for you. And don't just *look* at the exercises. **Use a pencil.** There's plenty of evidence that physical activity *while* learning can increase the learning.

③ **Read the "There Are No Dumb Questions."**

That means all of them. They're not optional sidebars—***they're part of the core content!*** Don't skip them.

④ **Make this the last thing you read before bed. Or at least the last *challenging* thing.**

Part of the learning (especially the transfer to long-term memory) happens *after* you put the book down. Your brain needs time on its own, to do more processing. If you put in something new during that processing time, some of what you just learned will be lost.

⑤ **Drink water. Lots of it.**

Your brain works best in a nice bath of fluid. Dehydration (which can happen before you ever feel thirsty) decreases cognitive function.

⑥ **Talk about it. Out loud.**

Speaking activates a different part of the brain. If you're trying to understand something, or increase your chance of remembering it later, say it out loud. Better still, try to explain it out loud to someone else. You'll learn more quickly, and you might uncover ideas you hadn't known were there when you were reading about it.

⑦ **Listen to your brain.**

Pay attention to whether your brain is getting overloaded. If you find yourself starting to skim the surface or forget what you just read, it's time for a break. Once you go past a certain point, you won't learn faster by trying to shove more in, and you might even hurt the process.

⑧ **Feel something!**

Your brain needs to know that this *matters*. Get involved with the stories. Make up your own captions for the photos. Groaning over a bad joke is *still* better than feeling nothing at all.

⑨ **Create something!**

Apply this to something new you're designing, or rework an older project. Just do *something* to get some experience beyond the exercises and activities in this book. All you need is a pencil and a problem to solve...a problem that might benefit from using HTML and CSS.

Read me

This is a learning experience, not a reference book. We deliberately stripped out everything that might get in the way of learning whatever it is we're working on at that point in the book. And the first time through, you need to begin at the beginning, because the book makes assumptions about what you've already seen and learned.

We begin by teaching basic HTML, then standards-based HTML5.

To write standards-based HTML, there are a lot of technical details you need to understand that aren't helpful when you're trying to learn the basics of HTML. Our approach is to have you learn the basic concepts of HTML first (without worrying about these details), and then, when you have a solid understanding of HTML, teach you to write standards-compliant HTML (the most recent version of which is HTML5). This has the added benefit that the technical details are more meaningful after you've already learned the basics.

It's also important that you be writing compliant HTML when you start using CSS, so we make a point of getting you to standards-based HTML before you begin any serious work with CSS.

We don't cover every single HTML element or attribute or CSS property ever created.

There are a *lot* of HTML elements, a *lot* of attributes, and a *lot* of CSS properties. Sure, they're all interesting, but our goal was to write a book that weighs less than the person reading it, so we don't cover them all here. Our focus is on the core HTML elements and CSS properties that *matter* to you, the beginner, and making sure that you really, truly, deeply understand how and when to use them. In any case, once you're done with *Head First HTML and CSS*, you'll be able to pick up any reference book and get up to speed quickly on all the elements and properties we left out.

This book advocates a clean separation between the structure of your pages and the presentation of your pages.

Today, serious web pages use HTML to structure their content, and CSS for style and presentation. Nineties-era pages often used a different model, one where HTML was used for both structure and style. This book teaches you to use HTML for structure and CSS for style; we see no reason to teach you outdated bad habits.

We encourage you to use more than one browser with this book.

While we teach you to write HTML and CSS that are based on standards, you'll still (and

probably always) encounter minor differences in the way web browsers display pages. So, we encourage you to pick at least two modern browsers and test your pages using them. This will give you experience in seeing the differences among browsers and in creating pages that work well in a variety of them.

We often use tag names for element names.

Rather than saying “the a element,” or “the ‘a’ element,” we use a tag name, like “the <a> element.” While this may not be technically correct (because <a> is an opening tag, not a full-blown element), it does make the text more readable, and we usually follow the name with the word “element” to avoid confusion.

The activities are NOT optional.

The exercises and activities are not add-ons; they’re part of the core content of the book. Some of them are to help with memory, some are for understanding, and some will help you apply what you’ve learned. ***Don’t skip the exercises.*** The crossword puzzles are the only things you don’t *have* to do, but they’re good for giving your brain a chance to think about the words in a different context.

The redundancy is intentional and important.

One distinct difference in a Head First book is that we want you to *really* get it. And we want you to finish the book remembering what you’ve learned. Most reference books don’t have retention and recall as a goal, but this book is about *learning*, so you’ll see some of the same concepts come up more than once.

The examples are as lean as possible.

Our readers tell us that it’s frustrating to wade through 200 lines of an example looking for the two lines they need to understand. Most examples in this book are shown within the smallest possible context, so that the part you’re trying to learn is clear and simple. Don’t expect all of the examples to be robust, or even complete—they are written specifically for learning, and aren’t always fully functional.

We’ve placed all the example files on the Web so you can download them. You’ll find them at <http://wickedlysmart.com/hfhtmlcss/>.

The Brain Power exercises don’t have answers.

For some of them, there is no right answer, and for others, part of the learning experience of the Brain Power activities is for you to decide if and when your answers are right. In some of the Brain Power exercises, you will find hints to point you in the right direction.