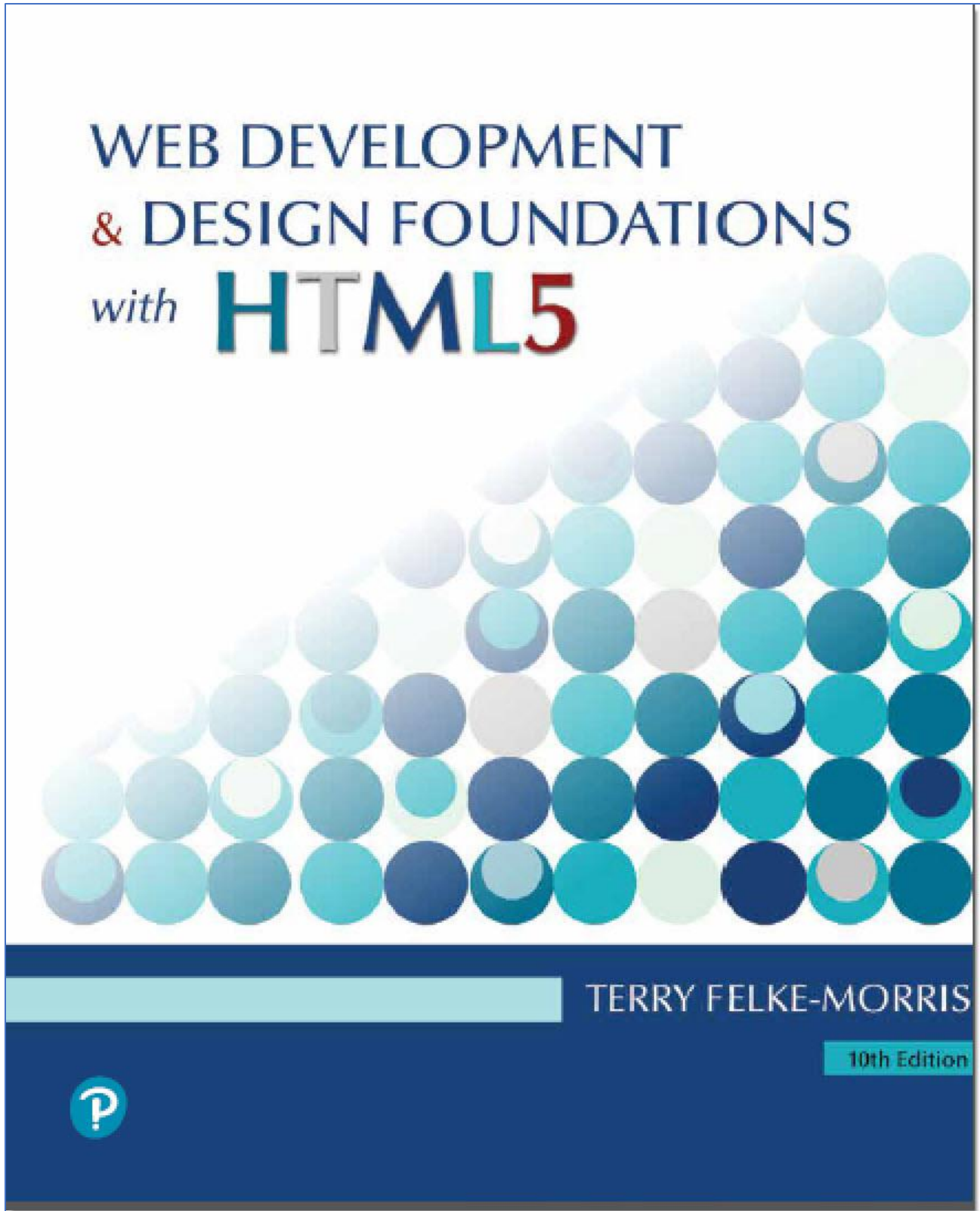


Instructor Solutions Manual



Sample Syllabi

Solutions to End-of-Chapter Hands-On Exercises

Supplemental Activities: Group Website Evaluation, WebQuest, Web Site Project

Sample Syllabus First Semester Web Development Course
16 Week Semester
Course Assignment Schedule

Date	Topics & Reading	Assignment Due
Week 1	Intro to Course Chapter 1 Intro to the Internet & Web	
Week 2	Chapter 2 HTML Basics	Lab 1 Assignment
Week 3	Chapter 3 Configuring Color & Text with CSS	Project: Topic Approval Lab 2 Assignment
Week 4	Chapter 4 Visual Elements & Graphics	Lab 3 Assignment
Week 5	Chapter 5 Web Design	Lab 4 Assignment
Week 6	Chapter 6 Page Layout with CSS	Project: Planning Analysis Sheet Lab 5 Assignment
Week 7	Chapter 7 Responsive Page Layout	Lab 6 Assignment
Week 8	Chapter 8 Tables	Project: Site Map Lab 7 assignment
Week 9	Midterm Exam	Lab 8 Assignment
Week 10	Chapter 9 XHTML Forms	Lab 9 Assignment
Week 11	Chapter 10 Web Site Development	Project: Update 1
Week 12	Chapter 11 Web Multimedia & Interactivity	Work on your project
Week 13	Chapter 12 E-Commerce Overview	Lab 10 Assignment
Week 14	Chapter 13 Promotion for Web Developers	Project: Update 2
Week 15	Chapter 14 Intro to JavaScript	Lab 11 Assignment
Week 16	Present Projects	Publish Project
Finals Week	Final Exam	

The Lab Assignments are chosen from the End of Chapter materials in the text. When I teach this course, the students work on a web project of their own choosing during the entire semester. Assignments relating to the phases of developing this project are due at intervals as shown in the schedule above. An explanation of the website project is in a separate document.

Sample Syllabus First Semester Web Development Course
12 Week Semester
Course Assignment Schedule

Date	Topics & Reading	Assignment Due
Week 1	Intro to Course Chapter 1 Intro to the Internet & Web	
Week 2	Chapter 2 HTML Basics	Lab 1 Assignment
Week 3	Chapter 3 Configuring Color & Text with CSS	Lab 2 Assignment Project: Topic Approval
Week 4	Chapter 4 Visual Element & Graphics	Lab 3 Assignment
Week 5	Chapter 5 Web Design	Project: Planning Analysis Sheet
Week 6	Chapter 6 Page Layout with CSS	Lab 4 Assignment Project: Site Map
Week 7	Chapter 7 Responsive Page Layout	Lab 5 Assignment
Week 8	Chapter 8 Tables	Project: Update 1
Week 9	Chapter 9 Forms	Lab 5 Assignment
Week 10	Chapter 10 Web Site Development	Project: Update 2
Week 11	Chapter 11 Web Media & Interactivity	Lab 6 Assignment
Week 12	Present Project Final Exam	Present Project

The Lab Assignments are chosen from the End of Chapter materials in the text. When I teach this course, the students work on a web project of their own choosing during the entire semester. Assignments relating to the phases of developing this project are due at intervals as shown in the schedule above. An explanation of the website project is in a separate document.

Sample Syllabus First Semester Web Development Course
8 Week Semester
Course Assignment Schedule

Date	Topics & Reading	Assignment Due
Week 1	Intro to Course Chapter 1 Intro to the Internet & Web	
Week 2	Chapter 2 HTML Basics	Lab 1 Assignment Project: Topic Approval
Week 3	Chapter 3 Configuring Color & Text with CSS	Lab 2 Assignment Project: Planning Analysis Sheet
Week 4	Chapter 4 Visual Elements & Graphics Chapter 5 Web Design	Lab 3 Assignment Project: Site Flowchart
Week 5	Chapter 6 Page Layout with CSS	Lab 4 Assignment
Week 6	Chapter 7 Responsive Page Layout	Lab 5 Assignment Project: Update 1
Week 7	Chapter 8 Tables Chapter 9 Forms	Lab 6 Assignment Project: Update 2
Week 8	Chapter 11 Web Media & Interactivity Present Projects	Lab 7 Assignment Publish Project

The Lab Assignments are chosen from the End of Chapter materials in the text. When I teach this course, the students work on a web project of their own choosing during the entire semester. Assignments relating to the phases of developing this project are due at intervals as shown in the schedule above. An explanation of the website project is in a separate document.

Instructor Materials

Web Development & Design Foundations: HTML5 & CSS3, 10th Edition

Chapter 1

Hands-On Exercise

1. Student answers will vary.
2. Student answers will vary.

Web Research

Students' answers to these research assignments will vary, but they should contain most of the information described below.

1. W3C Research

a. How did the W3C get started?

The W3C was founded in October of 1994. Its purpose was to lead the World Wide Web to its full potential by developing common protocols that promote its evolution and ensure its interoperability. Tim Berners-Lee, inventor of the Web, founded the World Wide Web Consortium (W3C) at the Massachusetts Institute of Technology Laboratory for Computer Science (MIT/LCS) in collaboration with CERN, where the Web originated, with support from DARPA and the European Commission. Tim Berners-Lee is still involved with the W3C (as of 2002) in the role of Director.

Sources: Multiple pages at the W3C website (<https://w3c.org>, <https://www.w3.org/Consortium/>).

b. Who can join the W3C? What is the cost?

Only organizations can join the W3C. Full membership costs \$50,000 per year. Affiliate membership (for non-profit and government organizations) costs \$5,000 per year. Only employees of member organizations can participate fully in W3C activities. However, there are some activities that the general public can be involved in see <http://www.w3.org/Consortium/#public>.

Sources: Multiple pages at the W3C website (<https://w3c.org>, <https://www.w3.org/Consortium/Prospectus/Joining>)

c. The W3C home page lists a number of technologies. Choose one that interests you and click on its link and read the associated pages. List three facts or issues you discovered.

Answers to this will vary. Consider narrowing the scope of this question by assigning specific technologies to the students to investigate. Use <https://w3c.org> as the starting point.

2. The Internet Society Research

Instructor Materials

Web Development & Design Foundations: HTML5 & CSS3, 10th Edition

Chapter 1

a. Why was the Internet Society created?

The Internet Society (ISOC) was formed in December 1992 by a number of people with long-term involvement in the IETF, including Vinton Cerf and Anthony Rutkowski. As a result, one of its principal rationales was to provide an institutional home for and financial support for the Internet Standards process. With the commercialization of the Internet, a fair and valid standards process independently supported was becoming more important. The mission of the Internet Society is "to assure the open development, evolution and use of the Internet for the benefit of all people throughout the world."

Sources: Multiple pages at the Internet Society's website (<https://www.internetsociety.org>, <https://www.internetsociety.org/about-internet-society/>, <https://www.internetsociety.org/mission/>, <https://www.internetsociety.org/history/>)

b. Determine the closest local chapter to your geographical area. Visit their web site. List the web site URL and an activity or service that the chapter provides.

Student answers to this will vary. For example, if they lived in the Chicago Illinois area, the closest chapter is located in Chicago. The URL of their web site is <http://www.isoc-chicago.org>. The chapter meets regularly offering opportunities for networking. They have also had a joint meeting with the ISOC Chapter in Mexico.

Sources: Multiple pages at the Internet Society's site (<https://www.internetsociety.org>, <https://www.internetsociety.org/chapters/>)

c. How can you join the Internet Society? What is the cost? Would you recommend joining the Internet Society to a beginning web developer? Why or why not?

Both individuals and organizations can join the Internet Society. Visit <http://www.isoc.org/isoc/membership/app/> to apply online. There is also a print application. Membership is free. I would recommend joining the Internet Society to a beginning web developer if there is an active local chapter. It could be a good opportunity for networking. (Student answers will vary.)

Sources: Multiple pages at the Internet Society's site (<https://www.internetsociety.org>, <https://www.internetsociety.org/become-a-member/>)

3. HTTP/2 Research

a. Who developed HTTP/2?

The IETF's HTTP Working Group maintains the HTTP protocol and developed HTTP/2. The HTTP Working Group is comprised of a variety HTTP implementers, users, network operators, and HTTP experts. (Source: <https://http2.github.io/faq/#who-made-http2>) Google's work with SPDY (a non-standard improvement to HTTP) served as the basis for HTTP/2 (Source: <https://readwrite.com/2015/02/18/http-update-http2-what-you-need-to-know/>)

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Web Development & Design Foundations: HTML5 & CSS3, 10th Edition

Chapter 1

b. When was the HTTP/2 proposed standard published?

The HTTP/2 proposed standard was published as IETF RFC 7540 in May 2015.

(Source: <https://tools.ietf.org/html/rfc7540>)

c. Describe three methods used by HTTP/2 intended to decrease latency and provide for quicker loading of web pages in browsers.

Students may describe three of the following five methods:

1. **Single Constant Connection.** HTTP/2 improves speed of page load by creating a single constant connection between the web browser and the web server.
2. **Multiplexing.** HTTP/2 can transfer and receive multiple messages at the same time.
3. **Prioritization.** HTTP/2 can transfer more important data first.
4. **Compression.** HTTP/2 reduces overhead by using header compression,
5. **Server Push.** When using HTTP/2, a web server can “guess” what might be requested next and send it ahead of time.
6. **Binary.** HTTP/2 is binary instead of text-based. This provides for more efficient and compact transfer of information.

(Sources: <https://www.engadget.com/2015/02/24/what-you-need-to-know-about-http-2/>, <https://http2.github.io/faq>)

Web Research: Focus on Design

Visit Any of the Web Sites That Interested You in the Chapter

1. What is the purpose of the site?
2. Who is their intended audience?
3. Do you believe they reach their audience?
4. Was this site useful to you? Why or why not?
5. List one interesting fact or issue that this site addressed.
6. Would you encourage others to visit this site?
7. How could this site be improved?

The answers to the questions above will be quite basic in the beginning of the course and should become more detailed and technical as the semester progresses. At this stage of the course, the goal of this question is to get the students thinking about web sites in a (most likely) new and different manner. Student answers will vary greatly.

Apply Your Knowledge

1. Predict the Result.

The students will sketch out a page with the following components: "Predict the Result" page title, "Favorite Sites" as a heading in italics, an ordered list containing hyperlinks to facebook.com and google.com, and a page footer with copyright symbol and information in a small font size.

2. Fill in the Missing Code.

The missing code is shown in red.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Door County Wildflowers</title>
  <meta charset="utf-8">
</head>
<body>
<header>
  <h1>Door County Wild Flowers</h1>
</header>
<main>
  <dl>
    <dt>Trillium</dt>
    <dd>This white flower blooms from April through June in
wooded areas.</dd>
    <dt>Lady Slipper</dt>
    <dd>This yellow orchid blooms in June in wooded areas.</dd>
  </dl>
</main>
</body>
</html>
```

3. Find the Error.

The h1 element is coded with two opening tags. Replace the <h1> with </h1>.

Hands-On Exercises

1. <h1>Your Name Here</h1>

2. A suggested solution is:

```
<a href="http://harpercollege.edu">Harper College</a>
```

Student answers will substitute the URL and name of your school


```
3. <ul>
  <li>Monday</li>
  <li>Tuesday</li>
  <li>Wednesday</li>
  <li>Thursday</li>
  <li>Friday</li>
  <li>Saturday</li>
  <li>Sunday</li>
</ul>
```

```
4. <ol type="A">
  <li>wake up</li>
  <li>eat breakfast</li>
  <li>go to school</li>
</ol>
```

5. Answers will vary. Here is a sample solution.

```
<h1>Arthur C. Clarke</h1>
<blockquote>Any sufficiently advanced technology is indistinguishable from
magic.</blockquote>
```

6. **<p>A diagram of the organization of a web site is called a site map. A site map represents the structure, or organization, of pages in a website in a visual manner. Creating the site map is one of the initial steps in developing a web site.</p>**

7. Answers will vary. Here is a sample with the minimum requirements.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Blockquote Example</title>
  <meta charset="utf-8">
</head>
<body>
<h1>The Power of the Web</h1>
<p>According to Tim Berners-Lee at
<a href="https://www.w3.org/WAI/">https://www.w3.org/WAI/</a>:</p>
<blockquote>
The power of the Web is in its universality. Access by everyone
regardless of disability is an essential aspect.
</blockquote>
</body>
</html>
```

8. Answers will vary. Here is a sample with the minimum requirements.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Network Protocols</title>
  <meta charset="utf-8">
</head>
<body>
<header>
<h1>Network Protocols</h1>
</header>
<main>
<dl>
  <dt>TCP Transmission Control Protocol</dt>
  <dd>TCP is a set of rules that breaks files and messages into individual
units called packets, verifies the integrity of the packets upon receipt, and
reassembles the packets into the file or message at the destination. </dd>
  <dt>IP Internet Protocol</dt>
  <dd>IP is a set of rules that controls how data is sent between computers
on the Internet. It usually works together with TCP. Each computer connected to
the Internet is assigned at least one numeric IP address that uniquely
identifies it. </dd>
  <dt>HTTP Hypertext Transfer Protocol</dt>
  <dd>HTTP is a set of rules for exchanging files such as text, graphic
images, sound, video, and other multimedia files on the Web. Web browsers and
web servers usually use this protocol.</dd>
</dl>
<p><a href=
"http://compnetworking.about.com/od/networkprotocols/Network_Protocols.htm">Mor
e information about protocols</a></p>
</main>
</body>
</html>
```

9. Answers will vary. Here is a sample with the minimum requirements.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>The Beatles</title>
  <meta charset="utf-8">
</head>
<body>
<header>
<h1><a href="http://beatles.com">The Beatles</a></h1>
</header>
<main>
<h3>Group Members:</h3>
<ul type="square">
  <li>John Lennon</li>
  <li>Paul McCartney</li>
  <li>George Harrison</li>
  <li>Ringo Starr</li>
</ul>
<h3>Favorite CDs:</h3>
<dl>
  <dt>Abbey Road</dt>
```

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Chapter 2

```
<dd>This is considered by most to be the Beatles best album. Favorite
tracks: Something, Oh! Darling, Here Comes the Sun</dd>
<dt>Let It Be</dt>
<dd>This is the last album that the Beatles recorded. Favorite tracks: Let
It Be, Across the Universe, The Long and Winding Road.</dd>
<dt>Help!</dt>
<dd>This album features Paul's masterpiece: Yesterday. Favorite tracks:
Help!, Ticket to Ride, Yesterday</dd>
</dl>
</main>
</body>
</html>
```

10. Answers will vary. Here is a sample with the minimum requirements.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Macroni Salad</title>
  <meta charset="utf-8">
</head>
<body>
<header>
<h1>Macaroni Salad</h1>
</header>
<main>
<ul>
  <li>1 cup elbow macaroni</li>
  <li>1 cup mayonnaise (more or less to taste)</li>
  <li>1 tablespoon finely chopped onion</li>
  <li>3 or 4 medium radishes, grated</li>
  <li>2 hard boiled eggs, chopped</li>
  <li>1 dozen medium black olives, chopped</li>
</ul>
<ol>
  <li>Prepare 1 cup elbow macaroni according to directions on package. Rinse in
cold water and drain.</li>
  <li>Combine remaining ingredients in a large bowl.</li>
  <li>Stir in macaroni.</li>
  <li>Chill for several hours before serving.</li>
</ol>
Serves 8.
<div><a href="http://allrecipes.com">More Recipes</a></div>
</main>
</body>
</html>
```

11. Answers will vary. Here is a sample with the minimum requirements.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Web Development Resource Blog</title>
  <meta charset="utf-8">
</head>
<body>
<header>
<h1>Web Development Resource Blog</h1>
</header>
<main>
<article>
<header><h2>Textbook Companion Website</h2></header>
<time datetime="2020-02-01">February 1, 2020</time>
<a href="https://webdevfoundations.net">https://webdevfoundations.net</a>
<p>This website is a companion to our textbook and provides helpful
resources for each chapter.</p>
</article>
<header><h2>HTML Validation</h2></header>
<time datetime="2020-02-02">February 2, 2020</time>
<a href="https://validator.w3.org/">https://validator.w3.org/</a>
<p>This website provides a tool to validate the HTML on our web pages.</p>
</article>
</main>
<footer>Copyright &copy; 2020 Your Name Here</footer>
</body>
</html>
```

Web Research

Your students' answers to these research assignments will vary, but they should contain most of the information described below.

A. HTML5 Tutorial Research

A sample page:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>HTML5 Tutorial Research</title>
  <meta charset="utf-8">
</head>
<body>
<header>
<h1>EchoEcho.com</h1>
</header>
<main>
<dl>
```

Instructor Material

Web Development & Design Foundations: HTML5 & CSS3, 10th Edition

Chapter 2

```
<dt>URL:</dt>
  <dd>http://echoecho.com/html.htm</dd>
<dt>Level:</dt>
  <dd>This tutorial is geared for beginners, but may be useful to use as a
reference by more experienced developers.</dd>
<dt>Recommendation:</dt>
  <dd>I would recommend this site to others. It is easy to find topics and
the examples are good.</dd>
</dl>
<h2>Two Concepts Learned:</h2>
<ol>
  <li>Links are the most fundamental part of the world wide web. It is the
links that tie it all together. There are three different kinds of links you
can have on your website: Links to anchors on the current page (Internal).
Links to other pages within the current site (Local) Links to pages outside the
current site (Global).
  </li>
  <li>Colors in HTML are specified using hexadecimal numbers. Hexadecimal
numbers are numbers based on the value of 16 rather than the classical numbers
based on the value of 10. When you count to 15 using hexadecimal numbers it
goes like this: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F.
  </li>
</ol>
</main>
</body>
</html>
```

B. Web Research: Focus on Design

Expect very basic comments at this point in the course.

A Sample Page:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Appealing Website</title>
  <meta charset="utf-8">
</head>
<body>
<header>
<h1>Focus on Web Design</h1>
</header>
<main>
<h2>Adobe</h2>
<h3>URL: http://adobe.com</h3>
<h4>This Page is Appealing Because...</h4>
<ol>
  <li>It is easy to read. There is good contrast between the text and the
background color.
  </li>
  <li>There is movement and interactivity on the page. This makes it more
interesting.
  </li>
  <li>It is easy to find what I need. The navigation is easy to use.</li>
</ol>
<h2>Galleria Furnishings</h2>
<h3>URL: http://www.galleriafurnishings.com/</h3>
```

Instructor Material

Web Development & Design Foundations: HTML5 & CSS3, 10th Edition

Chapter 2

```
<h4>This Page is Unappealing Because...</h4>
<ol>
  <li>I have to scroll down to see what I want. There doesn't seem to be any
good organization.
  </li>
  <li>The bottom of the home page has some policy information way off to the
right side. I wonder why they did that?
  </li>
  <li>I can't search for what I want. Instead I'll have to start looking at
other pages.</li>
</ol>
<h4>Suggestions for Improvement:</h4>
<ol>
  <li>I would place more information in the top portion of the web page so that
is is accessible when the page is loaded. This way visitors would not have to
scroll so much.
  </li>
  <li>I would eliminate the extra blank space on the page and move the position
of the store policy information.
  </li>
  <li>I would add a search function to the home page so that customers could
get right to the products they are looking for.
  </li>
</ol>
</main>
</body>
</html>
```

Apply Your Knowledge

1. Predict the Result.

The students will sketch out a page with the following components: “Trillium Media Design” page title, a web page with blue background color and gray text using Arial font, “Trillium Media Design” as a heading with blue text and a white background color, blue text, a navigation area with hyperlinks to the designated files, a paragraph of text, and a page footer with copyright information displayed in italic, small font.

2. Fill in the Missing Code.

The suggested solution is below with the missing code is shown in red.

```
<!DOCTYPE html>
<html lang="en">
<head>
<title>Trillium Media Design</title>
<meta charset="utf-8">
<style>
  body { background-color: #0066CC;
        color: #FFFFFF; }
  header { font-family: Arial, sans-serif }
</style>
</head>
<body>
<header><h1>Trillium Media Design</h1></header>
  <p>Our professional staff takes pride in its working relationship
    with our clients by offering personalized services that listen to
    their needs, develop their target areas, and incorporate these items
    into a website that works.
  </p>
</body>
</html>
```

3. Find the Error.

The page is missing the closing `</style>` tag.

Hands-On Exercises

1. `<p style="background-color:#00FF00;color:#FFFFFF">text goes here</p>`

2.

```
<style>
  body { background-color: #eaeaea;
        color: #000033; }
</style>
```