



## California Open Online Library for Education & Accessibility

COOL4Ed (the California Open Online Library for Education) was created so that faculty can easily find, adopt, utilize, review and/or modify free and open etextbooks for little or no cost. The COOL4Ed accessibility open textbook evaluations can inform faculty, staff, and students how the free and open etextbooks meet 15 accessibility “checkpoints” that could impact the learning of learners with a range of disabilities.

### SUMMARY OF ACCESSIBILITY EVALUATION:

**Textbook:** Cell Biology, Genetics, Molecular Biology, Evolution and Ecology  
**Format of Textbook:** PDF

<b>Assistive Technology (AT) Evaluation Score: Overall</b>	<b>5.9 (Maximum score = 10)</b>
<p><b>Assistive Technologies (AT) Evaluations</b> applies specialized tools and software in the accessibility evaluation process. These specialized assistive technologies, see list below, are typically not used or available by the general public into the accessibility evaluation process.</p> <ul style="list-style-type: none"> <li>• Accessibility features of desktop operating systems (e.g. high-contrast display themes, settings from the Keyboard and Mouse control panels)</li> <li>• Accessibility-related software included with desktop operating systems (e.g. VoiceOver, Microsoft Narrator)</li> <li>• Third-party accessibility software and hardware:</li> <li>• Screen readers (e.g. JAWS, Window Eyes)</li> <li>• Magnification software (e.g. ZoomText Magnifier/Reader, MAGIC Pro with Speech)</li> <li>• Reading software for users with learning disabilities (e.g. Read and Write Gold, Kurzweil 3000)</li> <li>• Refreshable Braille displays</li> </ul>	
<b>Non- Assistive Technology (NAT) Evaluation Score: Overall</b>	<b>6.6 (Maximum score =10)</b>
<p><b>Non-Assistive Technologies (NAT) Evaluations</b> applies only native or basic tools and software such as the keyboard and Narrator in the accessibility evaluation process. These non-assistive technologies are readily available and used by the general public.</p>	



## **COOL4Ed Accessibility Evaluation Methods:**

The California State University [Accessible Technology Initiative](#) and [MERLOT](#) (Multimedia Educational Resources for Learning and Online Teaching) developed the rubric or “checkpoints” for the accessibility evaluation. [CAST](#), a nationally recognized organization with expertise in accessibility and UDL, reviewed and affirmed the appropriateness and value of the accessibility evaluation rubric and contributed the references and support resources to help people learn how best to design, evaluate, and remediate the learning materials to maximize the accessibility of the learning resources for all. The “checkpoints” have been built upon the Section 508 technical standards and has been organized and tailored to the typical characteristics of digital resources used in higher education courses.

The accessibility evaluations were performed by the [Center for Usability in Design and Accessibility](#) at California State University, Long Beach; faculty and graduate students with expertise in human factors, usability, and accessibility performed the evaluations of over 150 free and open etextbooks. COOL4ed.org has published the accessibility evaluation rubric and provides a detailed description of the methodology used to evaluate the accessibility of the etextbooks in COOL4ed.

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## **LOOKING FOR DETAILED ACCESSIBILITY REPORTS?**

[See Detailed Accessibility Evaluation Report using Assistive Technologies](#)

[See Detailed Accessibility Evaluation Report using Non-Assistive Technologies](#)



## DETAILED ACCESSIBILITY EVALUATION REPORT using Assistive Technologies

**Assistive Technologies (AT) Evaluations** applies specialized tools and software in the accessibility evaluation process. These specialized assistive technologies, such as Kurzweil and NVDA, are typically not used or available by the general public into the accessibility evaluation process.

### 1. Accessibility Documentation

A. The organization providing the online materials has a formal accessibility policy.	<b>Fail</b>
Additional Information:	<b>Could not find this information.</b>
B. The organization providing the online materials has an accessibility statement.	<b>Fail</b>
Additional Information:	<b>Could not find this information.</b>
C. An Accessibility Evaluation Report is available from an external organization.	<b>Fail</b>
Additional Information:	<b>Could not find this information.</b>

### 2. Text Access

A. The text of the digital resource is available to assistive technology that allows the user to enable text-to-speech (TTS) functionality.	<b>Pass</b>
Additional Information:	<b>NVDA read all the text on pages 26-30. However, the pace was very fast and sometimes difficult to understand.</b>

### 3. Text Adjustment

A. Text is compatible with assistive technology.	<b>Pass</b>
Additional Information:	<b>Used Adobe Reader XI and the text size was adjustable on pages 26-30.</b>
B. The resource allows the user to adjust the font size and font/background color (or is rendered by an application such as a browser,	<b>Pass</b>



media player, or reader) that offers this functionality).	
Additional Information:	<b>Used Adobe Reader XI to adjust the font and background colors. The colors were adjustable on pages 26-30.</b>

#### **4. Reading Layout**

A. Text of the digital resource is compatible with assistive technology that allows the user to reflow the text by specifying the margins and line spacing (or is rendered by an application such as a browser, media player, or reader that offers this functionality).	<b>Pass</b>
Additional Information:	<b>Used Adobe Reader XI and the text reflowed on pages 26-30.</b>
B. If the digital resource is an electronic alternative to printed materials, the page numbers correspond to the printed material.	<b>N/A</b>
Additional Information:	<b>No printed version.</b>

#### **5. Reading Order**

A. The reading order for digital resource content logically corresponds to the visual layout of the page when rendered by assistive technology.	<b>Pass</b>
Additional Information:	<b>Used NVDA and checked the digital resource layout on pages 26, 28, 29, 30, and 32. The reading order logically corresponds to the page layout.</b>

#### **6. Structural Markup/Navigation**

A. The text of the digital resource includes markup (e.g. tags or styles) that allows for navigation by key structural elements (chapters, headings, pages) using assistive technology (or is rendered by an application	<b>Fail</b>
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such as a browser, media player, or reader that offers this functionality).	
Additional Information:	<b>Used NVDA and checked pages 26-90. No headings were found. "No next heading."</b>
B. The text of the digital resource includes markup for bullets and numbered lists that is compatible with assistive technology (or is rendered by an application such as a browser, media player, or reader that offers this functionality).	<b>Fail</b>
Additional Information:	<b>Used NVDA and checked lists on pages 54, 64, 91, 134, 176, 181, 188, 197, 206, and 213. No lists were found. "No next list."</b>
C. If the text of the digital resource is delivered within an ebook reader application, a method is provided that allows users to bypass the reader interface and move directly to the text content that is compatible with assistive technology.	<b>N/A</b>
Additional Information:	<b>Not using reader application.</b>

## 7. Tables

A. Data tables include markup (e.g. tags or styles) that identifies row and column headers in a manner that is compatible with assistive technology (or are rendered by an application such as a browser, media player, or reader that offers this functionality).	<b>Fail</b>
Additional Information:	<b>Used NVDA to check table markup. 0/10 tables were detected. Checked tables on pages 27, 31, 33, 37, 45, 89, 90, 96, 97, and 107.</b>

## 8. Hyperlinks

A. In-book links take you to a location within the textbook. For example, the table of contents would be considered in-book links and	<b>Fail</b>
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embedded links take you to the correct location in the book.	
Additional Information:	<b>0/30 in book links functioned. Checked in book links on pages 5-23. No other in book links found.</b>
B. Live hyperlinks take you to any website or webpages external to the book.	<b>N/A</b>
Additional Information:	<b>No live links found.</b>
C. Live links take you to the correct webpage that is functioning properly.	<b>N/A</b>
Additional Information:	<b>No live links found.</b>
D. Live links are descriptive enough for the users to know where it should take them.	<b>N/A</b>
Additional Information:	<b>No live links found.</b>

### 9. Color and Contrast

A. All information within the material that is conveyed using color is also available in a manner that is compatible with those that do not perceive color, and information conveyed by color is also conveyed in other ways.	<b>Pass</b>
Additional Information:	<b>When color is used to indicate something is a link it is also underlined, therefore showing color redundancy. Checked pages 5-70.</b>
B. Information is conveyed from the sub-categories for contrast.	<b>Pass</b>
Additional Information:	<b>Used Adobe Acrobat XI and Colour Contrast Analyzer to check the headers, text, and simple images for color contrast requirements. All headers pass the color contrast requirements. Most of the text passed. However, whenever pink text was used it did not pass. No simple images found. Checked pages 26-90.</b>
C. Contrast for headers passed WCAG AA standards for large texts (contrast ratio 3:1).	<b>Pass</b>



Additional Information:	<b>Used Adobe Acrobat XI and Colour Contrast Analyzer to check the headers and all headers pass the color contrast requirements. Checked pages 26-90.</b>
D. Contrast for text passed WCAG AA standards for normal texts (contrast ratio of 4.5:1).	<b>Pass</b>
Additional Information:	<b>Used Adobe Acrobat XI and Colour Contrast Analyzer to check text and most of the text passed. However whenever pink text was used it did not pass. Checked pages 26-90.</b>
E. Contrast for simple images (for example, images of atoms) passed WCAG AA standards (contrast ratio of 4.5:1).	<b>N/A</b>
Additional Information:	<b>No simple images found.</b>

### **10. Language**

A. The text of the digital resource includes markup that declares the language of the content in a manner that is compatible with assistive technology.	<b>N/A</b>
Additional Information:	<b>Cannot check this because do not have Adobe Acrobat Pro.</b>
B. If the digital resource includes passages in a foreign language, these passages include markup that declares the language in a manner that is compatible with assistive technology.	<b>N/A</b>
Additional Information:	<b>Cannot check this because do not have Adobe Acrobat Pro.</b>

### **11. Images**

A. Non-decorative images have alternative text that is compatible with assistive technology (or is rendered by an application such as a browser, media player, or reader that offers this functionality).	<b>Fail</b>
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Additional Information:	<b>NVDA did not detect non-decorative images, there was no alternative text and the descriptions were not descriptive enough. Checked pages 26-155.</b>
B. Decorative images are marked with null alternate text or contain markup that allows them to be ignored by assistive technology.	<b>N/A</b>
Additional Information:	<b>No decorative images found.</b>
C. Complex images, charts, and graphs have longer text descriptions that are compatible with assistive technology (or are rendered by an application such as a browser, media player, or reader) that offers this functionality).	<b>Fail</b>
Additional Information:	<b>NVDA did not detect complex images, there was no alternative text and the descriptions were not descriptive enough. Checked pages 26-155.</b>

### **12.Multimedia**

A. A synchronized text track (e.g. open or closed captions) is provided with all video content.	<b>N/A</b>
Additional Information:	<b>No multimedia found.</b>
B. A transcript is provided with all audio content.	<b>N/A</b>
Additional Information:	<b>No multimedia found.</b>
C. Audio/video content is delivered via a media player that is compatible with assistive technology. This includes support for all criteria listed in Section 15 below.	<b>N/A</b>
Additional Information:	<b>No multimedia found.</b>

### **13.Flickering**

A. The digital resource content does not contain anything that flashes more than three times in any one-second period.	<b>Pass</b>
Additional Information:	<b>No flickering found.</b>





### *14. Science, Technology, Engineering, and Math (STEM)*

A. STEM figures have appropriate markup that indicates that the image is a figure.	<b>Fail</b>
Additional Information:	<b>3/10 figures had labels. Checked figures on pages 26, 28, 29, 30, 38, 39, 40, 41, 42, and 43.</b>
B. STEM graphs have appropriate markup that indicates that the image is a graph.	<b>Pass</b>
Additional Information:	<b>9/10 graphs had labels. Checked graphs on pages 391, 458, 459, 470, 471, 792, 885, 886, 895, and 993.</b>
C. STEM equations have appropriate markup that indicates that the image is an equation.	<b>Fail</b>
Additional Information:	<b>0/10 equations had labels. Checked equations pages 40, 108, 209, 210, 212, 213, 222, 224, 226, and 232.</b>
D. STEM tables have appropriate markup that indicates the image is a table.	<b>Pass</b>
Additional Information:	<b>10/10 tables had labels. Checked tables on pages 27, 31, 33, 37, 45, 89, 90, 96, 97, and 107.</b>
E. STEM figures have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	<b>Fail</b>
Additional Information:	<b>0/10 figures had acceptable descriptions and the reader skips over the images. Checked figures on pages 26, 28, 29, 30, 38, 39, 40, 41, 42, and 43.</b>
F. STEM graphs have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	<b>Fail</b>
Additional Information:	<b>0/10 graphs had acceptable descriptions and the reader skips over the graph. Checked graphs on pages 391, 458, 459, 470, 471, 792, 885, 886, 895, and 993.</b>
G. STEM equations have appropriate notation markup that conveys both the notation	<b>Fail</b>



(presentation) and meaning (semantics) of the STEM content.	
Additional Information:	<b>0/10 equations had descriptions and reader read the equations incorrectly. Checked equations pages 40, 108, 209, 210, 212, 213, 222, 224, 226, and 232.</b>
H. Assistive technology used can access the content from the STEM tables.	<b>Fail</b>
Additional Information:	<b>0/10 tables were detected. Checked tables on pages 27, 31, 33, 37, 45, 89, 90, 96, 97, and 107.</b>

### ***15. Interactive Elements***

A. Each interactive element (e.g. menu, hyperlink, button) and function (e.g. annotations) allows keyboard-only operation both with and without assistive technology.	<b>N/A</b>
Additional Information:	<b>No interactive elements found.</b>
B. Each interactive element conveys information to assistive technology regarding the element's name, type, and status (e.g. "Play, button, selected").	<b>N/A</b>
Additional Information:	<b>No interactive elements found.</b>
C. All instructions, prompts, and error messages necessary to complete forms are conveyed as text to assistive technology (or are rendered by an application such as a browser, media player, or reader that offers this functionality).	<b>N/A</b>
Additional Information:	<b>No interactive elements found.</b>



## DETAILED ACCESSIBILITY EVALUATION REPORT using Non-Assistive Technologies

**Non-Assistive Technologies (NAT) Evaluations** applies only native or basic tools and software such as the keyboard and Narrator in the accessibility evaluation process. These non-assistive technologies are readily available and used by the general public.

### 1. Accessibility Documentation

A. The organization providing the online materials has a formal accessibility policy.	<b>Fail</b>
Additional Information:	<b>No Content Found</b>
B. The organization providing the online materials has an accessibility statement.	<b>Fail</b>
Additional Information:	<b>No Content Found</b>
C. An Accessibility Evaluation Report is available from an external organization.	<b>Fail</b>
Additional Information:	<b>No Content Found</b>

### 2. Text Access

A. The text of the digital resource is available to assistive technology that allows the user to enable text-to-speech (TTS) functionality.	<b>Pass</b>
Additional Information:	<b>Pgs 26-31 were checked. The text is available to assistive technology that allows user to enable text-to-speech functionality.</b>

### 3. Text Adjustment

A. Text is compatible with assistive technology.	<b>Pass</b>
Additional Information:	<b>Pgs 60-65 were checked. When the window page chaged in size, no horizontal bar appeared. The font size of all pages checked could be adjusted.</b>
B. The resource allows the user to adjust the font size and font/background color (or is rendered by an application such as a browser,	<b>Fail</b>



media player, or reader) that offers this functionality).	
Additional Information:	<b>Pgs 60-65 were checked. When changing the font/background color to green text on black, the background color changed to black, and the font color changed to green. However there were certain words throughout the pages checked where words were a pink color such as in page 63.</b>

#### **4. Reading Layout**

A. Text of the digital resource is compatible with assistive technology that allows the user to reflow the text by specifying the margins and line spacing (or is rendered by an application such as a browser, media player, or reader that offers this functionality).	<b>Fail</b>
Additional Information:	<b>Pgs 60-65 were checked. I was able to reflow the text, however, when reflowing the text, the text to speech function said "warning empty page." This was consistent on all pages checked.</b>
B. If the digital resource is an electronic alternative to printed materials, the page numbers correspond to the printed material.	<b>N/A</b>
Additional Information:	<b>Need additional information. We do not have printed material to compare it too.</b>

#### **5. Reading Order**

A. The reading order for digital resource content logically corresponds to the visual layout of the page when rendered by assistive technology.	<b>Pass</b>
Additional Information:	<b>Pgs 80-85 were checked. The reading order was logical on all five pages.</b>



## 6. Structural Markup/Navigation

<p>A. The text of the digital resource includes markup (e.g. tags or styles) that allows for navigation by key structural elements (chapters, headings, pages) using assistive technology (or is rendered by an application such as a browser, media player, or reader that offers this functionality).</p>	<p><b>Fail</b></p>
<p>Additional Information:</p>	<p><b>Bookmark was found that allowed me to go to a specific chapter. The tagged PDF, Title, and Headings all failed using the accessibility checker. However, the boomarks passed.</b></p>
<p>B. The text of the digital resource includes markup for bullets and numbered lists that is compatible with assistive technology (or is rendered by an application such as a browser, media player, or reader that offers this functionality).</p>	<p><b>Fail</b></p>
<p>Additional Information:</p>	<p><b>There were no list structural markups. The tagged PDF, Title, and Headings all failed using the accessibility checker. However, boomarks passed.</b></p>
<p>C. If the text of the digital resource is delivered within an ebook reader application, a method is provided that allows users to bypass the reader interface and move directly to the text content that is compatible with assistive technology.</p>	<p><b>N/A</b></p>
<p>Additional Information:</p>	<p><b>No additional eReader used.</b></p>

## 7. Tables

<p>A. Data tables include markup (e.g. tags or styles) that identifies row and column headers in a manner that is compatible with assistive technology (or are rendered by an application such as a browser, media player, or reader that offers this functionality).</p>	<p><b>Pass</b></p>
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Additional Information:	Tables on pages 31, 33, 37, 45, and 89 were checked manually. The text to speech function separated and read the tables by row. Using the accessibility checker, the rows, TH and TD, headers and regularity all passed.
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## 8. Hyperlinks

A. In-book links take you to a location within the textbook. For example, the table of contents would be considered in-book links and embedded links take you to the correct location in the book.	<b>Fail</b>
Additional Information:	<b>0/30 total in-book links worked. All links appeared to be links but did not function as links. Nothing happened when I clicked on all 30 links. ---&gt; Because there were no within book links in the middle of the book or at the end of the book, all 30 links for this assessment were can be found on pages 5-7--&gt; Using the accessibility checker, navigations links passed.</b>
B. Live hyperlinks take you to any website or webpages external to the book.	<b>N/A</b>
Additional Information:	<b>No Live Links found throughout the book.</b>
C. Live links take you to the correct webpage that is functioning properly.	<b>N/A</b>
Additional Information:	<b>No Live Links found throughout the book.</b>
D. Live links are descriptive enough for the users to know where it should take them.	<b>N/A</b>
Additional Information:	<b>No Live Links found throughout the book.</b>

## 9. Color and Contrast

A. All information within the material that is conveyed using color is also available in a manner that is compatible with those that do not perceive color, and information conveyed by color is also conveyed in other ways.	<b>Pass</b>
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<p>Additional Information:</p>	<p><b>Pgs 26-91 were checked. Information not conveyed by color alone. Size of font, and type of font (Bold versus Non-Bold font) were used. The chapter titles were in black font, bold font, and the size was larger than the rest of the text. The word "chapter" and the number of the chapter were on a red background. The word "chapter" was in white, and teh chapter number was in black and large in size. In addition key terms were highlighted in pink and were in bold.</b></p>
<p>B. Information is conveyed from the sub-categories for contrast.</p>	<p><b>Fail</b></p>
<p>Additional Information:</p>	<p><b>Pgs 26-91 were checked. Most pages had the contrast ratio of 4.51:1 and above (21.0:1). The chapter titles were in black font, bold font, and the size was larger than the rest of the text: Had a ratio of 21.0:1. The word "chapter" and the number of the chapter were on a red background. The word "chapter" was in white, and the chapter number was in black and large in size. In addition key terms were highlighted in pink and were in bold. The word "Chapter" had a ratio of 4.03:1 which failed, and the chapter number had a ratio of 5.21:1 which passed. Key terms had a ratio of 3.92:1 which failed.</b></p>
<p>C. Contrast for headers passed WCAG AA standards for large texts (contrast ratio 3:1).</p>	<p><b>Pass</b></p>
<p>Additional Information:</p>	<p><b>Pgs 26-91 were checked. Large chapter headings passed with a ratio of 21.0:1. Headers in red had a ratio of 5.89:1 which passed. Headers in Blue had a ratio of 10.49:1.</b></p>
<p>D. Contrast for text passed WCAG AA standards for normal texts (contrast ratio of 4.5:1).</p>	<p><b>Pass</b></p>
<p>Additional Information:</p>	<p><b>Pgs 26-91 were checked. Most of the text was above the ratio 4.51:1 (21.0:1). Large text and small text both had a ratio of 21.0:1.</b></p>
<p>E. Contrast for simple images (for example, images of atoms) passed WCAG AA standards (contrast ratio of 4.5:1).</p>	<p><b>Pass</b></p>



Additional Information:	<b>Pgs 26-91 were checked. Simple images passed with a ratio of 4.51:1 and above (16.9:1 on page 27).</b>
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### 10. Language

A. The text of the digital resource includes markup that declares the language of the content in a manner that is compatible with assistive technology.	<b>Fail</b>
Additional Information:	<b>Using the accessibility checker the primary language failed.</b>
B. If the digital resource includes passages in a foreign language, these passages include markup that declares the language in a manner that is compatible with assistive technology.	<b>Fail</b>
Additional Information:	<b>Using the accessibility checker the primary language failed.</b>

### 11. Images

A. Non-decorative images have alternative text that is compatible with assistive technology (or is rendered by an application such as a browser, media player, or reader that offers this functionality).	<b>Fail</b>
Additional Information:	<b>10/10 images include descriptions. Pgs 28 (2 images), 30, 43, 46, 47, 9, 51, 52, and 53 all had images and were checked manually. Overall images did not include descriptions but did not include markups.--&gt; Using the accessibility checker, figures alternate text passed.</b>
B. Decorative images are marked with null alternate text or contain markup that allows them to be ignored by assistive technology.	<b>Fail</b>
Additional Information:	<b>10/10 decorative images did not include markups or descriptions. Pg's 24, 26, 38, 39, 48(2images), 55,</b>





	<b>57(2 imageS) all had images and were checked manually.</b>
C. Complex images, charts, and graphs have longer text descriptions that are compatible with assistive technology (or are rendered by an application such as a browser, media player, or reader) that offers this functionality).	<b>Fail</b>
Additional Information:	<b>10/10 image descriptions did not convey meaning (descriptions were minimal). Pgs 31, 33, 37, 45, 89, 67, 96, 97, 107, 114 had images and were checked. All images did not contain descriptions. Using the accessibility checker, figures alternate text passed.</b>

### **12.Multimedia**

A. A synchronized text track (e.g. open or closed captions) is provided with all video content.	<b>N/A</b>
Additional Information:	<b>No content found.</b>
B. A transcript is provided with all audio content.	<b>N/A</b>
Additional Information:	<b>No content found.</b>
C. Audio/video content is delivered via a media player that is compatible with assistive technology. This includes support for all criteria listed in Section 15 below.	<b>N/A</b>
Additional Information:	<b>No content found.</b>

### **13.Flickering**

A. The digital resource content does not contain anything that flashes more than three times in any one-second period.	<b>Pass</b>
Additional Information:	<b>Pgs 20-30 were checked. No flickering content was observed. Using the accessibility checker, screen flicker passed.</b>



### 14. Science, Technology, Engineering, and Math (STEM)

A. STEM figures have appropriate markup that indicates that the image is a figure.	<b>Fail</b>
Additional Information:	<b>0/10 figure markups did not convey meaning. Pgs 28 (2 figures), 30, 43, 46, 47, 49, 51, 52, and 53 all had images and were checked. Overall the (labels/tags) did not convey meaning.</b>
B. STEM graphs have appropriate markup that indicates that the image is a graph.	<b>N/A</b>
Additional Information:	<b>No Graphs were found throughout the book.</b>
C. STEM equations have appropriate markup that indicates that the image is an equation.	<b>N/A</b>
Additional Information:	<b>No equations were found throughout the book.</b>
D. STEM tables have appropriate markup that indicates the image is a table.	<b>Fail</b>
Additional Information:	<b>0/10 table markups did not provide enough information to convey meaning. Pgs 31, 33, 37, 45, 89, 67, 96, 97, 107, and 114 all had tables and were checked. Overall markups did not convey meaning.</b>
E. STEM figures have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	<b>Fail</b>
Additional Information:	<b>0/10 notation markups were sufficient to convey meaning. The descriptions of the figures were minimal and did not help to describe the figures. Pgs 28 (2 figures), 30, 43, 46, 47, 49, 51, 52, and 53 all had figures and were checked. The notation markups were not sufficient enough to convey presentation.</b>
F. STEM graphs have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	<b>N/A</b>
Additional Information:	<b>No graphs were found throughout the book.</b>
G. STEM equations have appropriate notation markup that conveys both the notation	<b>N/A</b>



(presentation) and meaning (semantics) of the STEM content.	
Additional Information:	<b>No equations were found throughout the book.</b>
H. Assistive technology used can access the content from the STEM tables.	<b>Fail</b>
Additional Information:	<b>0/10 notation markups provided good descriptions sufficient enough to convey meaning. Pgs 31, 33, 37, 45, 89, 67, 96, 97, 107, and 114 all had tables and were checked. Notation markups were minimal and did not help to convey presentation.</b>

### ***15. Interactive Elements***

A. Each interactive element (e.g. menu, hyperlink, button) and function (e.g. annotations) allows keyboard-only operation both with and without assistive technology.	<b>Fail</b>
Additional Information:	<b>On pages 5-7 there are interactive elements present. I was able to go down the table of contents with the tab key. However, once I clicked enter on the chapter I wanted to go to, nothing happened.</b>
B. Each interactive element conveys information to assistive technology regarding the element's name, type, and status (e.g. "Play, button, selected").	<b>N/A</b>
Additional Information:	<b>No Interactive Elements Present.</b>
C. All instructions, prompts, and error messages necessary to complete forms are conveyed as text to assistive technology (or are rendered by an application such as a browser, media player, or reader that offers this functionality).	<b>N/A</b>
Additional Information:	<b>No Interactive Elements Present.</b>



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