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: **Minerals and Rocks**
Format of Textbook: **PDF**

Assistive Technology (AT) Evaluation Score: Overall	3.1 (Maximum score = 10)
Assistive Technologies (AT) Evaluations 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. • Accessibility features of desktop operating systems (e.g. high-contrast display themes, settings from the Keyboard and Mouse control panels) • Accessibility-related software included with desktop operating systems (e.g. VoiceOver, Microsoft Narrator) • Third-party accessibility software and hardware: • Screen readers (e.g. JAWS, Window Eyes) • Magnification software (e.g. ZoomText Magnifier/Reader, MAGIC Pro with Speech) • Reading software for users with learning disabilities (e.g. Read and Write Gold, Kurzweil 3000) • Refreshable Braille displays	
Non- Assistive Technology (NAT) Evaluation Score: Overall	8.1 (Maximum score =10)
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.	

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.

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.	**Fail**
Additional Information:	**No accessibility documentation was found.**
B. The organization providing the online materials has an accessibility statement.	**Fail**
Additional Information:	**No accessibility documentation was found.**
C. An Accessibility Evaluation Report is available from an external organization.	**Fail**
Additional Information:	**No accessibility documentation was found.**

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.	**Fail**
Additional Information:	**0/5. Pages 5-9 were evaluated. The text does NOT allow for the assistive technology's TTS function. The AT provides the following alert: Empty page. This page appears to be empty. It may contain a…[rater cannot differentiate spoken words]…or it may be part of a malformed document."**

3. Text Adjustment

A. Text is compatible with assistive technology.	**Pass**
Additional Information:	**5/5. Pages 1-5 were evaluated. The text allows the user to adjust the font.**

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, media player, or reader) that offers this functionality).	**Pass**
Additional Information:	**5/5. Pages 11-15 were evaluated. The text allows for adjustment of font and colors.**

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).	**Fail**
Additional Information:	**5/5. Pages 1-5 were evaluated. The text does not allow the user to reflow the text.**
B. If the digital resource is an electronic alternative to printed materials, the page numbers correspond to the printed material.	**N/A**
Additional Information:	**This checkpoint could not be evaluated as no printed material was available.**

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.	**Fail**
Additional Information:	**0/5. Pages 11-15 were evaluated. The text does NOT allow for the assistive technology's TTS function. The AT provides the following alert: Empty page. This page appears to be empty. It may contain …[rater cannot differentiate spoken words]…or it may be part of a malformed document." Readers cannot use AT to read the text.**

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 such as a browser, media player, or reader that offers this functionality).	**Fail**
Additional Information:	**0/5. Pages 11-15 were evaluated. The text does NOT allow for the assistive technology's TTS function. The AT provides the following alert: Empty page. This page appears to be empty. It may contain a…[rater cannot differentiate spoken words]…or it may be part of a malformed document." Readers cannot use AT to read the text.**
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).	**Fail**
Additional Information:	**0/5. Pages 11-15 were evaluated. The text does NOT allow for the assistive technology's TTS function. The AT provides the following alert: Empty page. This page appears to be empty. It may contain a…[rater cannot differentiate spoken words]…or it may be part of a malformed document." Readers cannot use AT to read the text.**
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.	**N/A**
Additional Information:	**This checkpoint cannot be evaluated as no e-reader application is used with this text.**

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).	**Fail**
Additional Information:	**The text does NOT allow for the assistive technology's TTS function. The AT provides the following alert: Empty page. This page appears to be empty. It may contain a …[rater cannot differentiate spoken words].. or it may be part of a malformed document." Readers cannot use AT to read the text.**

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.	**Fail**
Additional Information:	**0/49. Although the text contains links in the form of picture ads, the text does NOT allow for the assistive technology's TTS function. The AT provides the following alert: Empty page. This page appears to be empty. It may contain a …[rater cannot differentiate spoken words]... or it may be part of a malformed document." Readers cannot use AT to read the text.**
B. Live hyperlinks take you to any website or webpages external to the book.	**Fail**
Additional Information:	**0/49. Although the text contains links in the form of picture ads, the text does NOT allow for the assistive technology's TTS function. The AT provides the following alert: Empty page. This page appears to be empty. It may contain a …[rater cannot differentiate spoken words]… or it may be part of a malformed document." Readers cannot use AT to read the text.**

C. Live links take you to the correct webpage that is functioning properly.	**Pass**
Additional Information:	**49/49. The text contains a total of 49 links in the form of picture ads on pages 4, 5, 6, 7, 10, 15, 18, 23, 27, 30, 33, 37, 40, 43, 46, 49, 53, 56, 58, 63, 66, 69, 73, 77, 80, 84, 87, 90, 94, 97, 100, 105, 109, 112, 116, 119, 123, 126, 129, 132, 136, 139, 141, 144, 147, 150, 153, 157, and 161. All links were found to be functional.**
D. Live links are descriptive enough for the users to know where it should take them.	**Fail**
Additional Information:	**0/17. The text contains a total of 17 links in the form of picture ads on pages 4, 5, 6, 12, 16, 18, 22, 26, 29, 32, 35, 38, 41, 44, 47, 50, and 53. None of the 17 links were found to have descriptons.**

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.	**N/A**
Additional Information:	**Pages 1-10 were evaluated. The text does not use color to convey information. This checkpoint cannot be assessed.**
B. Information is conveyed from the sub-categories for contrast.	**Pass**
Additional Information:	**Pages 1-10 were evaluated. The entirety of the text is black (#030000) on a white background (#FFFFFF). The entire text has sufficient contrast for both headers and text.**
C. Contrast for headers passed WCAG AA standards for large texts (contrast ratio 3:1).	**Pass**
Additional Information:	**Pages 1-10 were evaluated. The entirety of the text is black (#030000) on a white background (#FFFFFF).**

		The entire text has sufficient contrast for both headers and text.
D. Contrast for text passed WCAG AA standards for normal texts (contrast ratio of 4.5:1).		**Pass**
Additional Information:		**Pages 1-10 were evaluated. The entirety of the text is black (#030000) on a white background (#FFFFFF). The entire text has sufficient contrast for both headers and text.**
E. Contrast for simple images (for example, images of atoms) passed WCAG AA standards (contrast ratio of 4.5:1).		**Pass**
Additional Information:		**Pages 1-10 were evaluated. The entirety of the text is black (#030000) on a white background (#FFFFFF). The entire text has sufficient contrast for both headers and text.**

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.		**Fail**
Additional Information:		**The document does not contain any language markup.**
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.		**Fail**
Additional Information:		**The document does not contain any language markup.**

11. Images

A. Non-decorative images have alternative text that is compatible with assistive technology (or is rendered by an application such as a		**Fail**

browser, media player, or reader that offers this functionality).	
Additional Information:	**The text does NOT allow for the assistive technology's TTS function. The AT provides the following alert: Empty page. This page appears to be empty. It may contain a …[rater cannot differentiate spoken words].. or it may be part of a malformed document." Readers cannot use AT to read the text.**
B. Decorative images are marked with null alternate text or contain markup that allows them to be ignored by assistive technology.	**Fail**
Additional Information:	**The text does NOT allow for the assistive technology's TTS function. The AT provides the following alert: Empty page. This page appears to be empty. It may contain a …[rater cannot differentiate spoken words].. or it may be part of a malformed document." Readers cannot use AT to read the text.**
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).	**Fail**
Additional Information:	**The text does NOT allow for the assistive technology's TTS function. The AT provides the following alert: Empty page. This page appears to be empty. It may contain a …[rater cannot differentiate spoken words].. or it may be part of a malformed document." Readers cannot use AT to read the text.**

12. Multimedia

A. A synchronized text track (e.g. open or closed captions) is provided with all video content.	**N/A**
Additional Information:	**Pages 1-50 were evaluated. No multimedia was found in the text.**
B. A transcript is provided with all audio content.	**N/A**

Additional Information:	**Pages 1-50 were evaluated. No multimedia was found in the text.**
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.	**N/A**
Additional Information:	**Pages 1-50 were evaluated. No multimedia was found in the text.**

13. Flickering

A. The digital resource content does not contain anything that flashes more than three times in any one-second period.	**Pass**
Additional Information:	**Pages 1-50 were evaluated. No flickering was found in the text.**

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

A. STEM figures have appropriate markup that indicates that the image is a figure.	**Fail**
Additional Information:	**The text does NOT allow for the assistive technology's TTS function. The AT provides the following alert: Empty page. This page appears to be empty. It may contain a …[rater cannot differentiate spoken words].. or it may be part of a malformed document." Readers cannot use AT to read the text.**
B. STEM graphs have appropriate markup that indicates that the image is a graph.	**Fail**
Additional Information:	**The text does NOT allow for the assistive technology's TTS function. The AT provides the following alert: Empty page. This page appears to be empty. It may contain a …[rater cannot differentiate spoken words].. or it may be part of a malformed document." Readers cannot use AT to read the text.**
C. STEM equations have appropriate markup that indicates that the image is an equation.	**Fail**

Additional Information:	**The text does NOT allow for the assistive technology's TTS function. The AT provides the following alert: Empty page. This page appears to be empty. It may contain a …[rater cannot differentiate spoken words].. or it may be part of a malformed document." Readers cannot use AT to read the text.**
D. STEM tables have appropriate markup that indicates the image is a table.	**Fail**
Additional Information:	**The text does NOT allow for the assistive technology's TTS function. The AT provides the following alert: Empty page. This page appears to be empty. It may contain a …[rater cannot differentiate spoken words].. or it may be part of a malformed document." Readers cannot use AT to read the text.**
E. STEM figures have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	**Fail**
Additional Information:	**The text does NOT allow for the assistive technology's TTS function. The AT provides the following alert: Empty page. This page appears to be empty. It may contain a …[rater cannot differentiate spoken words].. or it may be part of a malformed document." Readers cannot use AT to read the text.**
F. STEM graphs have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	**Fail**
Additional Information:	**The text does NOT allow for the assistive technology's TTS function. The AT provides the following alert: Empty page. This page appears to be empty. It may contain a …[rater cannot differentiate spoken words].. or it may be part of a malformed document." Readers cannot use AT to read the text.**
G. STEM equations have appropriate notation markup that conveys both the notation	**Fail**

(presentation) and meaning (semantics) of the STEM content.	
Additional Information:	**The text does NOT allow for the assistive technology's TTS function. The AT provides the following alert: Empty page. This page appears to be empty. It may contain a …[rater cannot differentiate spoken words].. or it may be part of a malformed document." Readers cannot use AT to read the text.**
H. Assistive technology used can access the content from the STEM tables.	**Fail**
Additional Information:	**The text does NOT allow for the assistive technology's TTS function. The AT provides the following alert: Empty page. This page appears to be empty. It may contain a …[rater cannot differentiate spoken words].. or it may be part of a malformed document." Readers cannot use AT to read the text.**

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.	**N/A**
Additional Information:	**Pages 1-50 were evaluated. No interactive elements were found in the text.**
B. Each interactive element conveys information to assistive technology regarding the element's name, type, and status (e.g. "Play, button, selected").	**N/A**
Additional Information:	**Pages 1-50 were evaluated. No interactive elements were found in the text.**
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).	**N/A**

Additional Information:	**Pages 1-50 were evaluated. No interactive elements were found in the text.**

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.	**Fail**
Additional Information:	**No Content Found.**
B. The organization providing the online materials has an accessibility statement.	**Fail**
Additional Information:	**No Content Found.**
C. An Accessibility Evaluation Report is available from an external organization.	**Fail**
Additional Information:	**No Content Found.**

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.	**Pass**
Additional Information:	**Pgs 8-13 were checked. The text is available to assistive technology that allows user to enable text-to-speech functionality.**

3. Text Adjustment

A. Text is compatible with assistive technology.	**Pass**
Additional Information:	**Pgs 1-5 were checked. When the window page chaged in size, a horizontal bar did not appear. The font size of all pages checked could be adjusted.**
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, media player, or reader) that offers this functionality).	**Fail**
Additional Information:	**Pgs 1-5 were checked. When changing the font/background color to green text on black, the background color did change to black and the font color did change to green. However for page 4, the text on the screen flicked in green and then the text disappeared. The text-to-speech function was able to read the text however, it was not visible for this page.**

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).	**Pass**
Additional Information:	**Pgs 1-5 were checked. When reflowing the text, the text to speech function did work. The text was available for assistive technology. The text was able to reflow.**
B. If the digital resource is an electronic alternative to printed materials, the page numbers correspond to the printed material.	**N/A**
Additional Information:	**Need additional information. We do not have printed material to compare it too.**

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.	**Pass**
Additional Information:	**Pgs 8-13 were checked. The reading order was logical on all five pages.**

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 such as a browser, media player, or reader that offers this functionality).	**Fail**
Additional Information:	**The tagged PDF, Title, and Headings all failed using the accessibility checker. Bookmarks passed.**
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).	**Fail**
Additional Information:	**There were no list structural markups. The Tagged PDF, Title, and Headings all failed using the accessibility checker. Bookmarks passed.**
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.	**Fail**
Additional Information:	**There was none found. The Tagged PDF, Title, and Headings all failed using the accessibility checker. Bookmarks passed.**

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).	**Fail**
Additional Information:	**0/5 tables included markups that identified rows and columns headers. The tables were on pages 17, 23, 77, 87, and 95. The text-to-speech function read the tables by row but did not identify the rows or column headers. Using the accessibility checker, the rows TH and TD, headers and regularity all failed.**

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.	**Pass**
Additional Information:	**30/30 within hyperlinks worked. All within links were found on pages 4 and 5. All links worked and were descriptive enough to convey meaning. Using the Acessibility checker, navigation links passed.**
B. Live hyperlinks take you to any website or webpages external to the book.	**Fail**
Additional Information:	**20/20 live links worked. The link were found on pages 3, 5, 6, 7, 10, 15, 18, 23, 27, 30, 33, 37, 40, 43, 46, 49, 53, 56, 58, and 63. Links on pages 5, 6, 7, 10, 15, 18, 23, 27, 30, 33, 37, 40, 43, 46, 49, 53, 56, 58, and 63, were within an image and the image itself acted as a link. The link on page 3 is in URL form. The text-to-speech function read the link in URL form. The links themselves all worked but they were in URL form within the image. Using the accessibility checker, the navigation links passed.**

C. Live links take you to the correct webpage that is functioning properly.	**Pass**
Additional Information:	**20/20 live links worked. The link were found on pages 3, 5, 6, 7, 10, 15, 18, 23, 27, 30, 33, 37, 40, 43, 46, 49, 53, 56, 58, and 63. The accessibility checker showed nagivation links passed.**
D. Live links are descriptive enough for the users to know where it should take them.	**Fail**
Additional Information:	**0/20 live links were descriptive enough. The link were found on pages 3, 5, 6, 7, 10, 15, 18, 23, 27, 30, 33, 37, 40, 43, 46, 49, 53, 56, 58, and 63. The links on pages 5, 6, 7, 10, 15, 18, 23, 27, 30, 33, 37, 40, 43, 46, 49, 53, 56, 58, and 63, were in URL (www.) form embedded within an image. The text-to-speech function read the links in URL form. The link on page 3 was in URL form. Using the accessibility checker, navigation links passed.**

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.	**Pass**
Additional Information:	**Pgs 8-17 were checked. Information not conveyed by color alone. Size of font was used to convey information as well as the style (bold vs non-bold text, italics vs print). The chapter titles larger is size compared to the rest of the text.**
B. Information is conveyed from the sub-categories for contrast.	**Fail**
Additional Information:	**Pgs 8-17 were checked. Most pages had the contrast ratio of 4.51:1 and above (12.35:1). The chapter titles were larger in size compared to the rest of the text. The chapter titles passed with 19.6:1. There was text in italics which passed with a ratio of 13.83:1. Small**

		headers at the top of the page failed with a ratio of 2.95:1.
C.	Contrast for headers passed WCAG AA standards for large texts (contrast ratio 3:1).	**Pass**
Additional Information:		**Pgs 8-17 were checked. Large chapter headings passed with a ratio of 19.6:1. Small headers at the top of the page failed with a ratio of 2.95:1.**
D.	Contrast for text passed WCAG AA standards for normal texts (contrast ratio of 4.5:1).	**Pass**
Additional Information:		**Pgs 8-17 were checked. The text on pages checked had the contrast ratio of 4.51:1 and above (12.35:1). The chapter titles were larger in size compared to the rest of the text. The chapter titles passed with 19.6:1. There was text in italics which passed with a ratio of 13.83:1. Small headers at the top of the page failed with a ratio of 2.95:1.**
E.	Contrast for simple images (for example, images of atoms) passed WCAG AA standards (contrast ratio of 4.5:1).	**Fail**
Additional Information:		**Pgs 8-17 were checked. Simples images failed with a ratio of 4.51:1 and below (Example: On page 14, the simple image failed with a ratio of 2.53:1).**

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.	**Fail**
Additional Information:		**Using the accessibility checker the primary language failed.**
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.	**Fail**

Additional Information:	**Using the accessibility checker the primary language failed.**

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).	**Fail**
Additional Information:	**10/10 non-decorative images included alternative text. Images were found on pages 8 (2 images), 14, 19, 20 (2 images), 21 (2 images), 22, and 24. Figures alternative text failed.**
B. Decorative images are marked with null alternate text or contain markup that allows them to be ignored by assistive technology.	**N/A**
Additional Information:	**No decorative images found. Figures alternative text failed.**
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).	**Pass**
Additional Information:	**10/10 complex images had descriptive alternative text. Images were found on pages 11, 13, 28, 30, 40, 45, 46, 61, 82, and 89. All complex images had alternative text that conveyed meaning on the images. Figures alternative text failed.**

12.Multimedia

A. A synchronized text track (e.g. open or closed captions) is provided with all video content.	**N/A**
Additional Information:	**No content found.**
B. A transcript is provided with all audio content.	**N/A**

Additional Information:	**No content found.**
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.	**N/A**
Additional Information:	**No content found.**

13. Flickering

A. The digital resource content does not contain anything that flashes more than three times in any one-second period.	**Pass**
Additional Information:	**Pgs 1-10 were checked. No flickering content was observed. Using the accessibility checker, screen flicker passed.**

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

A. STEM figures have appropriate markup that indicates that the image is a figure.	**Pass**
Additional Information:	**10/10 figures markups are compatible with assistive technology and were sufficient to convey meaning. Figures were found on pages 8 (2 images), 11, 13, 14, 19, 20 (2 images), and 21.**
B. STEM graphs have appropriate markup that indicates that the image is a graph.	**N/A**
Additional Information:	**Graphs were under figure markups.**
C. STEM equations have appropriate markup that indicates that the image is an equation.	**N/A**
Additional Information:	**No equations were found throughout the book.**
D. STEM tables have appropriate markup that indicates the image is a table.	**N/A**
Additional Information:	**Tables were under figure markups.**
E. STEM figures have appropriate notation markup that conveys both the notation	**Pass**

(presentation) and meaning (semantics) of the STEM content.	
Additional Information:	**10/10 figures notation markups are compatible with assistive technology and were sufficient to convey meaning and presentation. Figures were found on pages 8 (2 images), 11, 13, 14, 19, 20 (2 images), and 21.**
F. STEM graphs have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	**N/A**
Additional Information:	**Graphs were under figure notation markups.**
G. STEM equations have appropriate notation markup that conveys both the notation (presentation) and meaning (semantics) of the STEM content.	**N/A**
Additional Information:	**No equations were found throughout the book.**
H. Assistive technology used can access the content from the STEM tables.	**N/A**
Additional Information:	**Tables were under figure notation markups.**

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.	**N/A**
Additional Information:	**No Interactive Element Present.**
B. Each interactive element conveys information to assistive technology regarding the element's name, type, and status (e.g. "Play, button, selected").	**N/A**
Additional Information:	**No Interactive Element Present.**
C. All instructions, prompts, and error messages necessary to complete forms are conveyed as text to assistive technology (or are rendered	**N/A**

by an application such as a browser, media player, or reader that offers this functionality).	
Additional Information:	**No Interactive Element Present.**