

SKILLSCOMMONS ACCESSIBILITY CHECKPOINTS

METHODS FOR EPUB3 FORMATS
(NONASSISTIVE TECHNOLOGIES)

Accessibility Checkpoints

1. Accessibility Documentation
2. Text Access
3. Text Adjustment
4. Reading Layout
5. Reading Order
6. Structural Markup/Navigation
7. Tables
8. Hyperlinks
9. Color and Contrast
10. Language
11. Images
12. Multimedia
13. Flickering
14. STEM
15. Interactive Elements

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How to access texts

STEPS:

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Introduction to Statistics

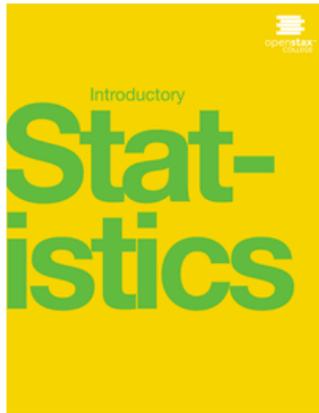


MATH 110

eTextbook	eTextbook Reviews
<i>Introductory Statistics From BC Campus</i>	Tami Matsumoto, CCC Faculty Andrew Noymer, UC Faculty Hasan Rahim, CCC Faculty
<i>Introductory Statistics From Open Stax College</i>	Tami Matsumoto, CCC Faculty Andrew Noymer, UC Faculty Hasan Rahim, CCC Faculty
<i>Online Statistics Education: An Interactive Multimedia Course of</i>	Tami Matsumoto, CCC

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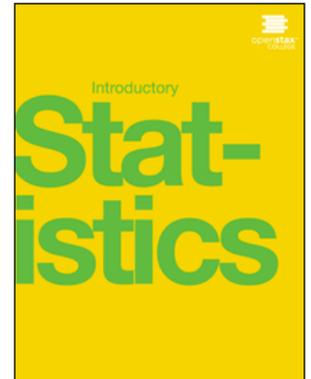
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1. EPUB3
2. HTML
3. Microsoft Word
4. PDF

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Formats

In other words, EPUB3 is ideal, but if it is not available, we move down the list and search for the next available format

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Formats

Note: This is an OpenStax text. Although EPUB3 isn't listed, it is available!

To determine if there is an EPUB3 format for OpenStax texts, additional navigation is required.

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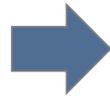
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Introductory Statistics

Book by: OpenStax College

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Preface

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Introductory Statistics

Book by: OpenStax College

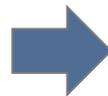
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Preface

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Note: At the time of this writing, only OpenStax texts have been found to need additional navigation. All other texts have been found to clearly list out all available formats.

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Checklist

All information obtained from textbook evaluation will be entered into checklists:

HTML Accessibility Checklist					
Content	Name of book	Format	OS Used	Total Number of Pages	Number of Chapters
HTML					

Check point	Criteria	Amount of Material	Pass/Fail
1 Acc. Documentation	A. URL to Formal Accessibility Policy		
1 Acc. Documentation	B. URL to Accessibility Statement		
1 Acc. Documentation	C. URL to Accessibility Evaluation Report		
2 Text Access	Text to Speech	0	
3 Text Adjustment	A. Compatible		0
3 Text Adjustment	B. Adjust font and colors		0
4 Reading Layout	A. Reflow the text	30 web pages	
4 Reading Layout	B. Page # match printed material & reflow of text	30 web pages	
5 Reading Order	Digital resource layout		
6 Structural Markup	A. Navigation text		
6 Structural Markup	B. Lists		
6 Structural Markup	C. eReader application		
7 Table Markup	Table Markup		
8 Hyperlinks	Hyperlinks (within book)		
8 Hyperlinks	Hyperlink (live on internet)	20 links	
9 Color and Contrast	A. Color redundancy		
9 Color and Contrast	B. Contrast		
10 Language	A. Markup		
10 Language	B. Passage Markup		
11 Images	A. Non-decorative		
11 Images	B. Decorative		
11 Images	C. Complex		
12 Multimedia	A. Text Track		
12 Multimedia	B. Transcript		
12 Multimedia	C. Assistive Player		
13 Flickering	Flickering	10 links	
14 STEM	A. Markup (figures)	10 figures	
14 STEM	A. Markup (graphs)	10 graphs	
14 STEM	A. Markup (equation)	10 equations	
14 STEM	B. Notation Markup (figures)	10 figures	
14 STEM	B. Notation Markup (graphs)	10 graphs	
14 STEM	B. Notation (equation)	10 equations	
15 Interactive Elements	A. Keyboard		
15 Interactive Elements	B. Markup		
15 Interactive Elements	C. Text Prompts		

EPUB Accessibility Checklist					
Content	Name of book	Format	OS Used	Total Number of Pages	Number of Chapters
EPUB					
#	Check point	Criteria	Amount of Material	Pass/Fail	Additional Info
1	Acc. Documentation	A. URL to Formal Accessibility Policy			
1	Acc. Documentation	B. URL to Accessibility Statement			
1	Acc. Documentation	C. URL to Accessibility Evaluation Report			
2	Text Access	Text to Speech	0 pages		
3	Text Adjustment	A. Compatible	0 pages		
3	Text Adjustment	B. Adjust font and colors	0 pages		
4	Reading Layout	A. Reflow the text	0 pages		
4	Reading Layout	B. Page #s match printed material & reflow of text	0 pages		
5	Reading Order	Digital resource layout			
6	Structural Markup	A. Navigation text			
6	Structural Markup	B. Lists			
6	Structural Markup	C. eReader application			
7	Table Markup	Table Markup			
8	Hyperlinks	Hyperlinks (in-book)	30 links		
8	Hyperlinks	Hyperlink (live)	20 links		
9	Color and Contrast	A. Color redundancy			
9	Color and Contrast	B. Contrast			
10	Language	A. Markup			
10	Language	B. Passage Markup			
11	Images	A. Non-decorative			
11	Images	B. Decorative			
11	Images	C. Complex			
12	Multimedia	A. Text Track			
12	Multimedia	B. Transcript			
12	Multimedia	C. Assistive Player			
13	Flickering	Flickering	10 links		
14	STEM	A. Markup (figures)	10 figures		
14	STEM	A. Markup (graphs)	10 graphs		
14	STEM	A. Markup (equation)	10 equations		
14	STEM	B. Notation Markup (figures)	10 figures		
14	STEM	B. Notation Markup (graphs)	10 graphs		
14	STEM	B. Notation (equation)	10 equations		
15	Interactive Elements	A. Keyboard			
15	Interactive Elements	B. Markup			
15	Interactive Elements	C. Text Prompts			

Checklist

For every book, enter the following:

- Content area
- Name of book
- Format (i.e., EPUB, HTML, Word, or PDF)
- OS used (e.g., Microsoft; Windows)
- For EPUB, Word, and PDF formats: Total number of pages (obtained from Word or PDF format preferably, if available)
- For HTML only: Total number of chapters

Note: Only Windows will be used for analysis until Apple equivalents are decided upon.

Checklist

Example for the EPUB format of Introductory Statistics (PDF version has 863 pages)

Select content type from dropdown list

Select format and OS – note: each format has a different checklist

Only for HTML

EPUB Accessibility Checklist					
Content	Name of book	Format	OS Used	Total Number of Pages	Number of Chapters
Introduction to Statistics	Introductory Statistics	EPUB	Windows	863	

Enter name of book in its entirety

Checklist

Note: When certain information is entered such as the number of pages or number of chapters, certain information in the checklist is updated:

EPUB Accessibility Checklist					
Content	Name of book	Format	OS Used	Total Number of Pages	Number of Chapters
Introduction to Statistics	Introductory Statistics	EPUB	Windows	863	
#	Check point	Criteria	Amount of Material	Pass/Fail	Additional Info
1	Acc. Documentation	A. URL to Formal Accessibility Policy			
1	Acc. Documentation	B. URL to Accessibility Statement			
1	Acc. Documentation	C. URL to Accessibility Evaluation Report			
2	Text Access	Text to Speech	172.6 pages		
3	Text Adjustment	A. Compatible	86.3 pages		
3	Text Adjustment	B. Adjust font and colors	86.3 pages		
4	Reading Layout	A. Reflow the text	172.6 pages		
4	Reading Layout	B. Page #s match printed material & reflow of text	172.6 pages		

Checklist

This information is based upon predetermined values for the amount of information that needs to be evaluated. You only need to round up to the next page count (or link count).

EPUB Accessibility Checklist					
Content	Name of book	Format	OS Used	Total Number of Pages	Number of Chapters
Introduction to Statistics	Introductory Statistics	EPUB	Windows	863	
#	Check point	Criteria	Amount of Material	Pass/Fail	Additional Info
1	Acc. Documentation	A. URL to Formal Accessibility Policy			
1	Acc. Documentation	B. URL to Accessibility Statement			
1	Acc. Documentation	C. URL to Accessibility Evaluation Report			
2	Text Access	Text to Speech	172.6 pages		
3	Text Adjustment	A. Compatible	86.3 pages		
3	Text Adjustment	B. Adjust font and colors	86.3 pages		
4	Reading Layout	A. Reflow the text	172.6 pages		
4	Reading Layout	B. Page #'s match printed material & reflow of text	172.6 pages		

173 pages
87 pages
87 pages
173 pages
173 pages



Checklist

The percentages used are included in this presentation, but that is only for your reference – the checklist will fill out this information for you!

EPUB Accessibility Checklist					
Content	Name of book	Format	OS Used	Total Number of Pages	Number of Chapters
Introduction to Statistics	Introductory Statistics	EPUB	Windows	863	
#	Check point	Criteria	Amount of Material	Pass/Fail	Additional Info
1	Acc. Documentation	A. URL to Formal Accessibility Policy			
1	Acc. Documentation	B. URL to Accessibility Statement			
1	Acc. Documentation	C. URL to Accessibility Evaluation Report			
2	Text Access	Text to Speech	172.6 pages		
3	Text Adjustment	A. Compatible	86.3 pages		
3	Text Adjustment	B. Adjust font and colors	86.3 pages		
4	Reading Layout	A. Reflow the text	172.6 pages		
4	Reading Layout	B. Page #s match printed material & reflow of text	172.6 pages		

➔

173 pages
87 pages
87 pages
173 pages
173 pages

Skills Commons Accessibility Checkpoints

All information obtained from textbook evaluation will be entered into the checkpoints document:

3. *Text Adjustment*

PASS/FAIL: _____ Ranking: _____

- A. Text is compatible with assistive technology.
- 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).

Additional Information: Please describe the technologies (hardware and software versions) and methodologies you used to evaluate the accessibility of the resource for this feature.

Enter info such as the pages you evaluated here as well.

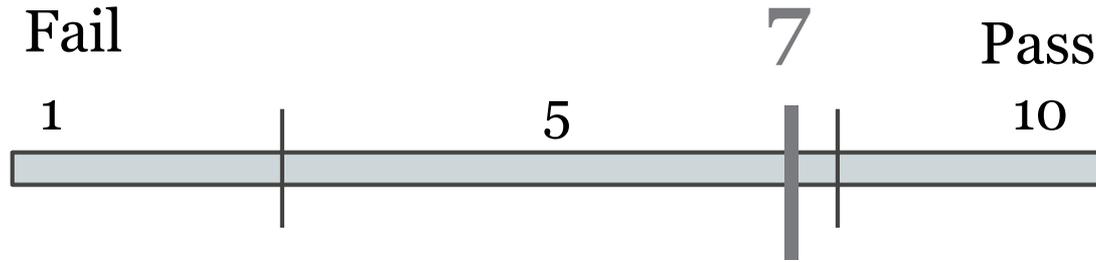


Pass, Fail, or N/A?

- Evaluate material based on the amount of material included in the checklist
- Example: Evaluate 10 links for flickering
 - 7 / 10 links - PASS
 - 6/10 links - FAIL
 - N/A cannot be used here!*

Ratings

- Ratings are on a scale of 1-10



- Failure to meet a checkpoint (Fail) should not be rated above a 7
- Meeting a checkpoint (Pass) should not be rated below a 7

EPUB3

EPUB3 Evaluation Requirements

OS and Native Software

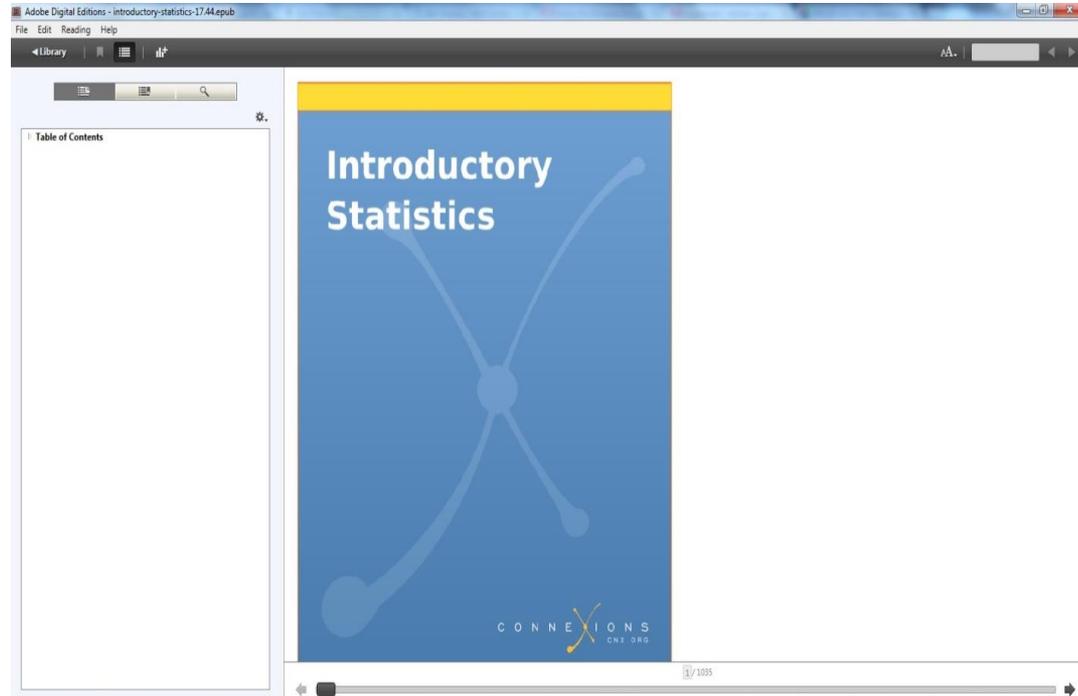
- Windows OS (XP or above)
- Narrator (Windows built-in text-to-speech)

Require Downloading

- Adobe Digital Editions ([Download](#))
- EPUB Check ([Download](#))
- Pagina EPUB Checker ([Download](#))
- Color Contrast Analyzer- CCA ([Download](#))
- Google Chrome ([Download](#))

EPUB3

- To open EPUB files, download Adobe Digital Editions:



EPUB3

To evaluate images:

- EPUB Check (uses command line tool; no GUI)
 - Download EPUB Check @ <https://github.com/IDPF/epubcheck/releases/tag/v3.0.1>
- Pagina EPUB-Checker (provides GUI)
 - Download Pagina EPUB-Checker @ <http://www.pagina-online.de/produkte/epub-checker/>

1. Accessibility Documentation

For the textbooks' organizations, find the following:

- URL to formal Accessibility Policy
 - URL to accessibility statements
 - URL to Accessibility Evaluation Report
-
- Look on the Merlot website for the links.

Accessibility Documentation: Checkpoint 1 parts A, B, and C

Pass =

There was a URL address found for the formal accessibility policy/accessibility statement/accessibility evaluation report. Adobe Digital Editions and Google Chrome were used to access and evaluate this text.

Fail =

There was no URL address found for the formal accessibility policy/accessibility statement/accessibility evaluation report. Adobe Digital Editions and Google Chrome were used to access and evaluate this text.

2. Text Access

- The text of the digital resource allows the user to enable text-to-speech (TTS) functionality
- The text content should be read in a manner that is clear and understandable to the listener.
- If elements of the text are not read adequately take that into account when scoring this checkpoint
- Base your score off of the amount of passing material

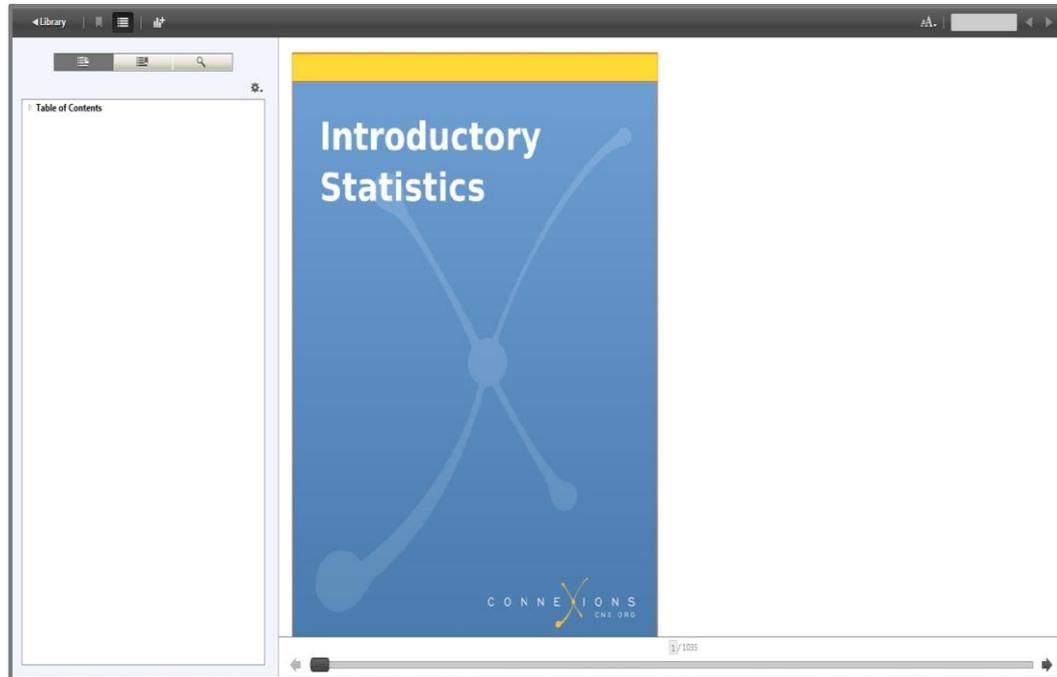
2. Text Access

STEPS:

1. Open up EPUB book with Adobe Digital Editions
2. Use search function to search for "Narrator"
3. Open Narrator
4. Open Adobe Digital Editions to allow Narrator to read text

Text Access

1. Open up the EPUB book with Adobe Digital Editions



Text Access

2. Use the search function from the start menu > type in "Narrator" to search

The screenshot displays a Windows desktop environment. In the foreground, the Start menu search interface is open, showing a search for "narrator". The search results are categorized as follows:

- Programs (1)
 - Narrator
- Control Panel (5)
 - Change the Narrator voice
 - Hear text read aloud with Narrator
 - Use screen reader
- Documents (3)
 - open narrator - text access
 - search for narrator - text access
 - SkillsCommons-Accessibility-Checkpoints v2 (1)
- Pictures (2)
 - SkillsCommons-Accessibility-Checkpoints v2 (1)
 - SkillsCommons-Accessibility-Checkpoints v2
- Files (2)
 - search for narrator - text access

At the bottom of the search window, a search bar contains the text "narrator" and a "shut down" button is visible to its right.

The background document contains the following text:

interpreting and solving statistical problems. To keep the text relevant for students, the examples are drawn from a broad spectrum of practical topics; these include examples about college life and learning, health and medicine, retail and business, and sports and entertainment.

- **Try It** practice problems immediately follow many examples and give students the opportunity to practice as they read the text. **They are usually based on practical and familiar topics, like the Examples themselves.**
- **Collaborative Exercises** provide an in-class scenario for students to work together to explore presented concepts.
- **Using the TI-83, 83+, 84, 84+ Calculator** shows students step-by-step instructions to input problems into their calculator.
- **The Technology Icon** indicates where the use of a TI calculator or computer software is recommended.
- **Practice, Homework, and Bringing It Together** problems give the students problems at various degrees of difficulty while also including real-world scenarios to engage students.

Statistics Labs

These innovative activities were developed by Barbara Illowsky and Susan Dean in order to offer students the experience of designing, implementing, and interpreting statistical analyses. They are drawn from actual experiments and data-gathering processes, and offer a unique hands-on and collaborative experience. The labs provide a foundation for further learning and classroom interaction that will produce a meaningful application of statistics.

Statistics Labs appear at the end of each chapter, and begin with student learning outcomes, general estimates for time on task, and any global implementation notes. Students are then provided step-by-step

• **Webassign Online Homework System**

- **Video Lectures** delivered by Barbara Illowsky are provided for each chapter.

2. About Our Team

- [Senior Contributing Authors](#)
- [Contributors](#)
- [Sample TI Technology](#)

Senior Contributing Authors

Table 1.

Barbara Illowsky	De Anza College
Susan Dean	De Anza College

Contributors

18 / 1035

11:30 AM 7/8/2015

Text Access

3. Open "Narrator"

The screenshot displays the Adobe Digital Editions interface. The main window shows a textbook page with a table of contents on the left and a main content area. The content area includes sections for "Pedagogical Foundation and Features", "Statistics Labs", and "Contributors". A "Microsoft Narrator" window is open in the foreground, displaying settings for keyboard navigation and on-screen text reading. The Narrator window has a red border and contains the following text:

Microsoft Narrator
File Preferences Help

Narrator will read aloud what is on-screen as you navigate using the keyboard.

Main Narrator Settings

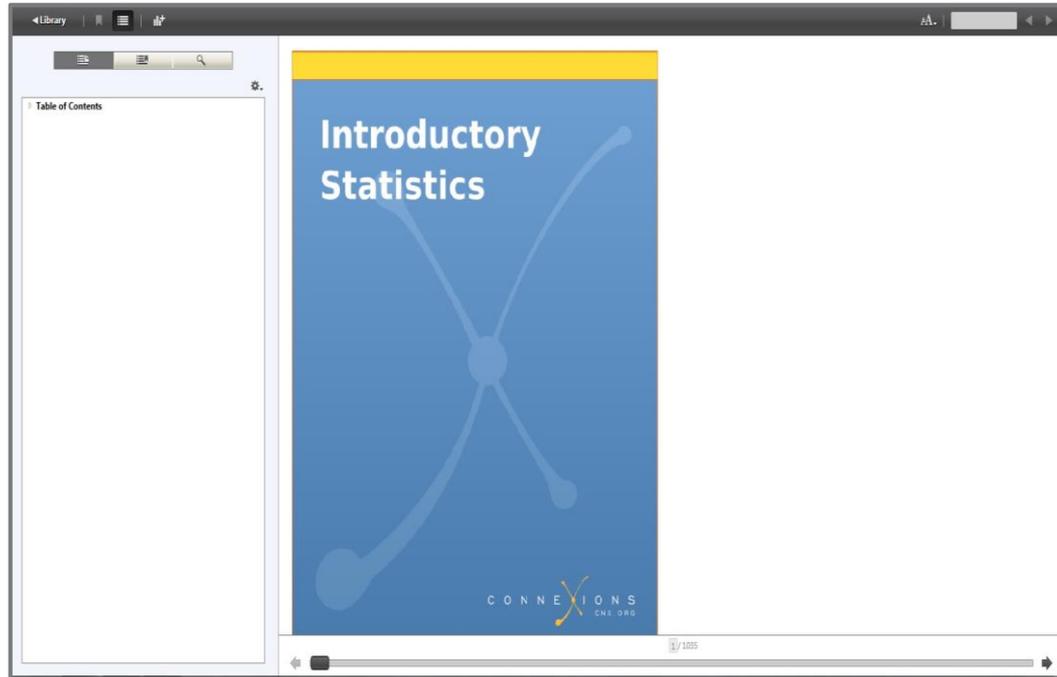
- Echo User's Keystrokes
- Announce System Messages
- Announce Scroll Notifications
- Start Narrator Minimized

Control whether Narrator starts when I log on

Check Main Voice Settings Exit

Text Access

4. Click back on the Adobe Digital Editions window and the program will start reading the text.



Text Access: Checkpoint 2 Text to Speech

Pass =

5/5 pages pass for text to speech. Pages 1 through 5 were used for this checkpoint. All evaluated pages were read by Windows Narrator completely and correctly. Adobe Digital Editions and Windows Narrator were used to access and evaluate this text.

Fail =

0/5 pages pass for text to speech. Pages 1 through 5 were used for this checkpoint. All evaluated pages failed to be read by Windows Narrator correctly. Narrator would skip bolded text, spell out random words, and not read entire paragraphs if a figure was present. Adobe Digital Editions and Windows Narrator were used to access and evaluate this text.

3. Text Adjustment (Size)

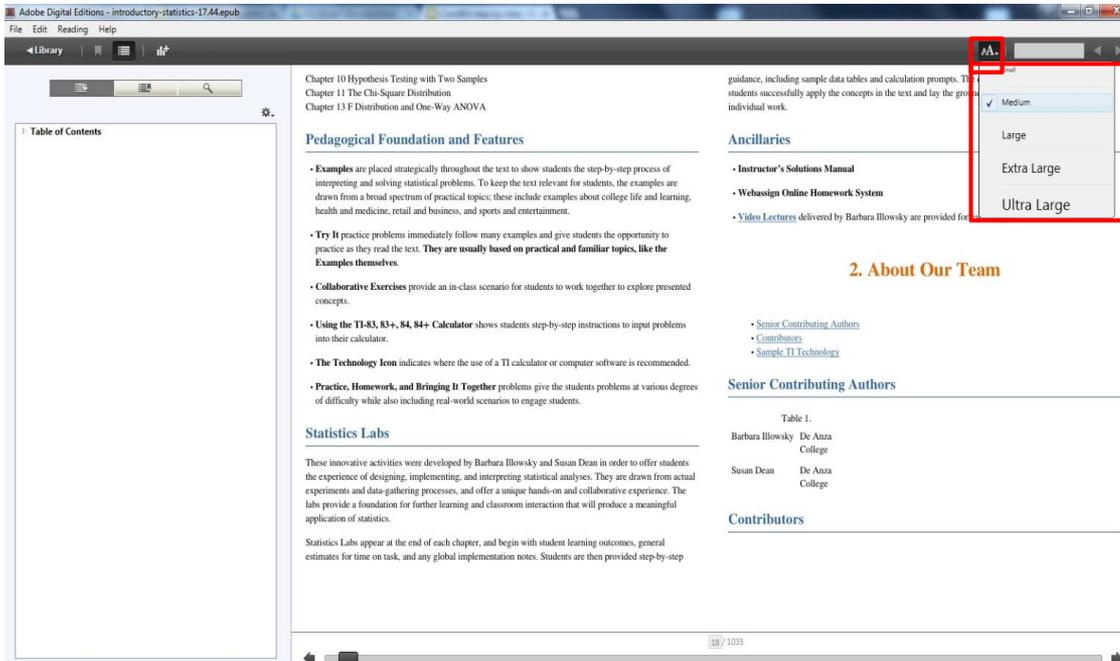
The text allows the user to adjust the font size

STEPS:

1. Open the EPUB file with Adobe Digital Editions
2. Use the AA button (top right corner) or press on Ctrl + for font size increase and Ctrl - for decrease.
3. Do not check for text reflow in this checkpoint

Text Adjustment (Size)

1. Open the EPUB file with Adobe Digital Editions
2. Use the AA button (top right corner) or press on Ctrl + for font size increase and Ctrl - for decrease.



Text Adjustment: Checkpoint 3 A, Compatible (Size)

Pass =

8/8 pages pass for text size adjustment. Pages 7 through 15 were used for this checkpoint. All evaluated pages successfully allowed the user to adjust the font size from small to ultra large. Adobe Digital Editions was used to access and evaluate this text.

Fail =

0/8 pages pass for text size adjustment. Pages 7 through 15 were used for this checkpoint. All evaluated pages failed to allow the user to adjust the font size from small to ultra large. Adobe Digital Editions was used to access and evaluate this text.

3. Text Adjustment (Color)

The text allows the user to adjust the font color

****Mark N/A: Assistive Technologies are Required****

Text Adjustment: Checkpoint 3 B, Adjust font and colors

N/A =

This checkpoint requires assistive technology which we are not using in the current evaluation. Adobe Digital Editions was used to access and evaluate this text.

4. Reading Layout (Reflow)

- Text of the digital resource allows the user to reflow the text by specifying the margins and line spacing
- Use the Zoom buttons to increase/decrease font size
- Check if the text reflows or if it becomes cutoff requiring horizontal scrolling

Reading Layout: Checkpoint 4 A, Reflow the Text

Pass =

8/8 pages pass for reflow of the text. Pages 7 through 15 were used for this checkpoint. All evaluated pages successfully reflowed the text when the font size was changed from small to ultra large without text becoming cutoff or requiring horizontal scroll bars. Adobe Digital Editions was used to access and evaluate this text.

Fail =

0/8 pages pass for reflow of the text. Pages 7 through 15 were used for this checkpoint. All evaluated pages failed to reflowed the text when the font size was changed from small to ultra large. The text was cutoff and required the use of horizontal scroll bars. Adobe Digital Editions was used to access and evaluate this text.

4. Reading Layout (Page # match)

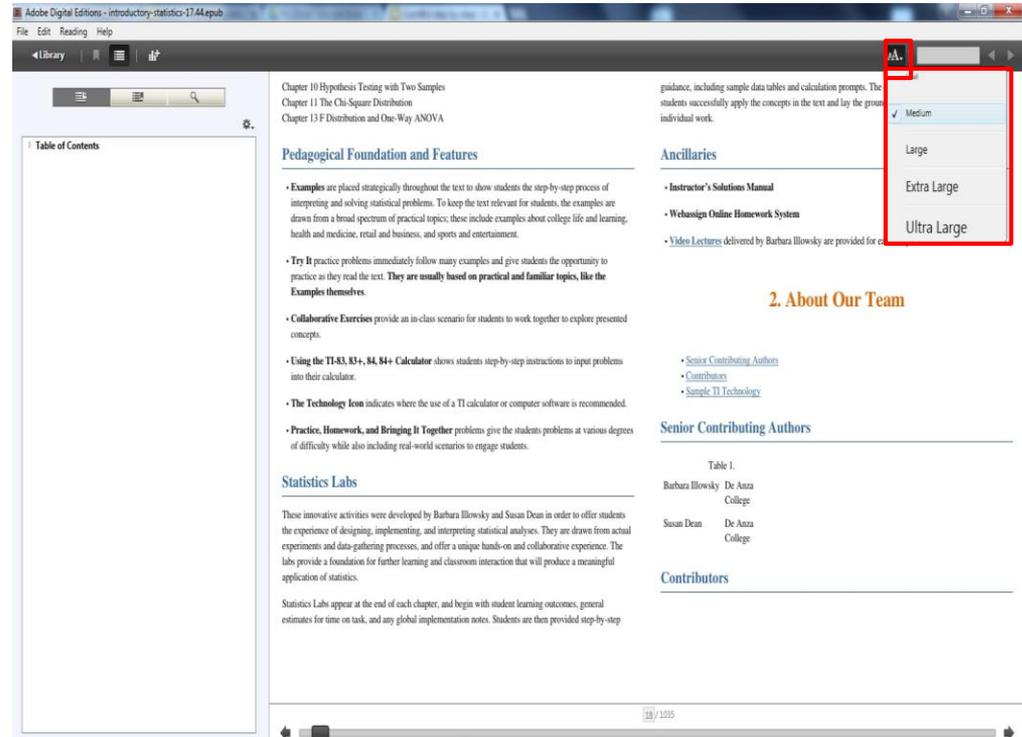
- If the digital resource is an electronic alternative to printed materials, the page numbers correspond to the printed material (PDF)

STEPS:

1. Open the EPUB file with Adobe Digital Editions
2. Use the AA button (top right corner) or press on Ctrl + for font size increase and Ctrl - for decrease
3. Check the page number at the bottom of the page while adjusting the font size

Reading Layout (Page # match)

1. Open the EPUB file with Adobe Digital Editions
2. Use the AA button (top right corner) or press on Ctrl + for font size increase and Ctrl - for decrease



Reading Layout (Page # match)

3. Check the page number at the bottom of the page while adjusting the font size

The screenshot shows the Adobe Digital Editions interface. The title bar reads "Adobe Digital Editions - introductory-statistics-17.44.epub". The menu bar includes "File", "Edit", "Reading", and "Help". The toolbar shows "Library", "Table of Contents", and "Font Size" (set to 14pt). The left sidebar contains a "Table of Contents" with "Introductory Statistics" selected. The main content area displays the following text:

Try It

Exercise 1.

Determine what the key terms refer to in the following study. We want to know the average (mean) amount of money spent on school uniforms each year by families with children at Knoll Academy. We randomly survey 100 families with children in the school. Three of the families spent \$65, \$75, and \$95, respectively.

[Return to Exercise](#)

The **population** is all families with children attending Knoll Academy.

The **sample** is a random selection of 100 families with children attending Knoll Academy.

The **parameter** is the average (mean) amount of money spent on school uniforms by families with children at Knoll Academy.

The **statistic** is the average (mean) amount of money spent on school uniforms by families in the sample.

The **variable** is the amount of money spent by one family. Let X = the amount of money spent on school uniforms by one family with children attending Knoll Academy.

The **data** are the dollar amounts spent by the families. Examples of the data are \$65, \$75, and \$95.

Example 1.2.

Problem

Determine what the key terms refer to in the following study.

A study was conducted at a local college to analyze the average cumulative GPA's of students who graduated last year. Fill in the letter of the phrase that best describes each of the items below.

1. _____ Population 2. _____ Statistic 3. _____ Parameter 4. _____ Sample 5. _____ Variable 6. _____ Data

a) all students who attended the college last year

b) the cumulative GPA of one student who graduated from the college last year

c) 3.65, 2.80, 1.50, 3.90

d) a group of students who graduated from the college last year, randomly selected

e) the average cumulative GPA of students who graduated from the college last year

f) all students who graduated from the college last year

g) the average cumulative GPA of students in the study who graduated from the college last year

[Return to Problem](#)

1. f, 2. g, 3. e, 4. d, 5. b, 6. c

Example 1.3.

Problem

Determine what the key terms refer to in the following study.

As part of a study designed to test the safety of automobiles, the National Transportation Safety Board collected and reviewed data about the effects of an automobile crash on test dummies. Here is the criterion they used:

Speed at which Cars Crashed	Location of "drive" (i.e. dummies)
35 miles/hour	Front Seat

Cars with dummies in the front seats were crashed into a wall at a speed of 35 miles per hour. We want to know the proportion of dummies in the driver's seat that would have had head injuries, if they had been actual drivers. We start with a simple random sample of 75 cars.

[Return to Problem](#)

The **population** is all cars containing dummies in the front seat.

The **sample** is the 75 cars, selected by a simple random sample.

The **parameter** is the proportion of driver dummies (if they had been real people) who would have suffered head injuries in the population.

The **statistic** is proportion of driver dummies (if they had been real people) who would have suffered head injuries in the sample.

At the bottom right of the page, the page number "27 / 1035" is displayed and highlighted with a red box.

Reading Layout: Checkpoint 4 B, Page # match printed material & reflow of text

Pass =

8/8 pages pass for page number matching printed material. Pages 7 through 15 were used for this checkpoint. All evaluated page numbers in the EPUB format match the content on the given page numbers in the PDF version of the text when text size was increased. Adobe Acrobat Pro DC and Adobe Digital Editions were used to access and evaluate the text.

Fail =

0/8 pages pass for page number matching printed material. Pages 7 through 15 were used for this checkpoint. All evaluated page numbers in the EPUB format failed to match the content on the given page numbers in the PDF version of the text when text size was increased. Adobe Acrobat Pro DC and Adobe Digital Editions were used to access and evaluate the text.

N/A =

There was no PDF or printed version of this text available. Adobe Acrobat Pro DC and Adobe Digital Editions were used to access and evaluate the text.

5. Reading Order

- Reading order for digital resource content logically corresponds to the visual layout of the page when rendered by assistive technology
 1. Locate pages (include page # in the reports) that contains a more complicated layout
 2. Use Narrator to check if the reading order is logical (please refer to checkpoint #2 for instructions on Narrator)

Reading Order: Checkpoint 5, Digital Resource Layout

Pass =

5/5 pages pass for digital resource layout. Pages 25 through 30 were used for this checkpoint. All evaluated pages were successfully read in a manner that followed the visual layout of the page without skipping content. Adobe Digital Editions and Windows Narrator were used to access and evaluate this text.

Fail =

0/5 pages pass for digital resource layout. Pages 25 through 30 were used for this checkpoint. All evaluated pages failed to be read in a manner that followed the visual layout of the page. Narrator would randomly skip sentences within paragraphs. Adobe Digital Editions and Windows Narrator were used to access and evaluate this text.

6. Structural Markup / Navigation Text

- 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

****Mark N/A: Requires Assistive Technologies****

Structural Markup: Checkpoint 6 A, Navigation Text

N/A =

We are not using assistive technology in this evaluation. Adobe Digital Edition and Windows Narrator were used to access and evaluate this text.

6. Structural Markup / Lists

- The text of the digital resource includes markup for bullets and numbered lists that is compatible with assistive technology

Mark as N/A: Requires Assistive Technologies

Structural Markup: Checkpoint 6 B, Lists

N/A =

We are not using assistive technology in this evaluation. Adobe Digital Edition and Windows Narrator were used to access and evaluate this text.

6. Structural Markup / eReader Application

- 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

Mark as N/A: We are not using an additional e-Reader application

Structural Markup: Checkpoint 6 C, eReader Application

N/A =

We are not using an additional ereader application in this evaluation. Adobe Digital Edition and Windows Narrator were used to access and evaluate this text.

7. Tables

- Data tables include markup (e.g. tags or styles) that identifies row and column headers in a manner that is compatible with assistive technology

****Mark as N/A: Requires Assistive Technologies****

Structural Markup: Checkpoint 7, Table Markup

N/A =

We are not using assistive technology in this evaluation. Adobe Digital Edition and Windows Narrator were used to access and evaluate this text.

8. Hyperlinks (Within Book and Live Links)

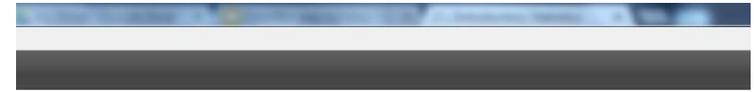
- Functionality:** Links (e.g. website or email addresses) within the text of the digital resource are rendered as active that allows them to be activated
- Check that the link redirects to the correct location, if it does not then it would fail
- If the link does nothing when clicked on then it would fail

8. Hyperlinks

- Descriptive**: The link is descriptive enough for the users to know where the link will take them.
- If the link appears as an URL = fail this sub category.
- Check both within-book links and live hyperlinks for both functionality and descriptiveness

8. Hyperlinks

1. Open up the EPUB book with Adobe Digital Editions
2. Select hyperlinks See if it takes you to the correct location (section of book/website)



Introductory Statistics

By: OpenStax College

Online: <https://legacy.cnx.org/content/col11562/1.17>

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Collection structure revised: 2018

For copyright and attribution information for the modules contained in this collection, see the "Attribution" section at the end of the collection.

The screenshot shows the OpenStax CNX website interface. At the top, there is a navigation bar with links for Home, Content, Lenses, About Us, Help, and MyCNX. Below the navigation bar, the page title is "Introductory Statistics" and it is identified as a textbook by OpenStax College. A "Start" button is visible. On the left side, there is a "TABLE OF CONTENTS" section with a list of chapters: Preface, 1. Sampling and Data, 2. Descriptive Statistics, 3. Probability Topics, 4. Discrete Random Variables, 5. Continuous Random Variables, 6. The Normal Distribution, 7. The Central Limit Theorem, 8. Confidence Intervals, and 9. Hypothesis Testing with One Sample. The main content area on the right includes a summary of the book and a "GIVE FEEDBACK" button.

8. Hyperlinks

Check for functionality & descriptive link

● Amount of Material to Be Evaluated

*** Sample 30 in-book links ***

10 from the beginning of the book

10 from the middle of the book

10 from the end of the book

Ex. Links that takes you to a certain chapter

*** Sample 20 website hyperlinks ***

Hyperlink that takes you somewhere outside of the book

Ex. Links to a live website

Introductory Statistics

Table of Contents

- Preface
 - 1. About *Introductory Statistics*
 - Coverage and Scope
 - Alternate Sequencing
 - Pedagogical Foundation and Feature
 - Statistics Labs
 - Ancillaries
 - 2. About Our Team
 - Senior Contributing Authors
 - Contributors
 - Sample TI Technology
- Chapter 1. Sampling and Data
 - 1.1. Definitions of Statistics, Probability, and Key Terms
 - Probability
 - Key Terms
 - 1.2. Data, Sampling, and Variation in Data and Sampling

Introductory Statistics

By: OpenStax College

Online: <<https://legacy.cnx.org/content/col11562/1.17>>

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Collection structure revised: 2014/05/09

For copyright and attribution information for the modules contained in this collection, see the "Attributions" section at the end of the collection.

Hyperlinks: Checkpoint 8, Within-book Hyperlinks

Pass =

30/30 within book hyperlinks pass for functionality and descriptiveness. Pages 5 through 54 were used for this checkpoint. Links were found on pages 5(4), 12(7), 27(8), 36(4), 44(3), and 54(4). All evaluated links redirected to the correct location when selected and were descriptive enough to inform the user where the link would go. Adobe Digital Editions was used to access and evaluate this text.

Fail =

30/30 within book hyperlinks pass for functionality and 0/30 within book links pass for descriptiveness. Pages 5 through 54 were used for this checkpoint. Links were found on pages 5(4), 12(7), 27(8), 36(4), 44(3), and 54(4). All evaluated links pass functionality because they redirected to the correct location when selected. All evaluated links failed descriptiveness because they were in the form of a URL address. Adobe Digital Editions was used to access and evaluate this text.

Hyperlinks: Checkpoint 8, Hyperlink Functionality (Live)

Hyperlink (Live on Internet) =

This is a combined average of the following two subsections (functionality and descriptiveness). Adobe Digital Edition was used to access the text for this evaluation and Google Chrome was used to access the links online.

Pass =

30/30 within book hyperlinks pass for functionality. Pages 5 through 54 were used for this checkpoint. Links were found on pages 5(4), 12(7), 27(8), 36(4), 44(3), and 54(4). All evaluated links redirected to the correct location when selected. Adobe Digital Editions and Google Chrome were used to access and evaluate this text.

Fail =

0/30 within book hyperlinks pass for functionality. Pages 5 through 54 were used for this checkpoint. Links were found on pages 5(4), 12(7), 27(8), 36(4), 44(3), and 54(4). All evaluated links failed functionality because they were non-responsive when selected. Adobe Digital Editions and Google Chrome were used to access and evaluate this text.

Hyperlinks: Checkpoint 8, Hyperlink Descriptiveness (Live)

Pass =

30/30 within book hyperlinks pass for descriptiveness. Pages 5 through 54 were used for this checkpoint. Links were found on pages 5(4), 12(7), 27(8), 36(4), 44(3), and 54(4). All evaluated links were descriptive enough to inform the user where the link would go. Adobe Digital Editions and Google Chrome were used to access and evaluate this text.

Fail =

0/30 within book hyperlinks pass for descriptiveness. Pages 5 through 54 were used for this checkpoint. Links were found on pages 5(4), 12(7), 27(8), 36(4), 44(3), and 54(4). All evaluated links failed descriptiveness because they were in the form of a URL address. Adobe Digital Editions and Google Chrome were used to access and evaluate this text.

9. Color & Contrast (Color Redundancy)

- Color redundancy (information is not conveyed by color alone) needs to be checked manually
- Consider the amount of failing content in each chapter/section when determining the score

*** Sample 5% of the pages ***

Color and Contrast: Checkpoint 9 A, Color Redundancy

Pass =

5/5 pages pass for color redundancy. Pages 1 through 3 and 12 through 13 were used for this checkpoint. The evaluated pages were color redundant. The only text content that required color redundancy were links which were both underlined and in brackets. Adobe Digital Edition was used to access and evaluate this text.

Fail =

0/5 pages pass for color redundancy. Pages 1 through 3 and 12 through 13 were used for this checkpoint. The evaluated pages were color not redundant. The only text content that required color redundancy were links which were not distinguishable from surrounding text aside from their blue coloring. Adobe Digital Edition was used to access and evaluate this text.

9. Color & Contrast (Contrast Ratio)

- The visual presentation of text and images of text in the digital resource has a contrast ratio of at least 4.5:1

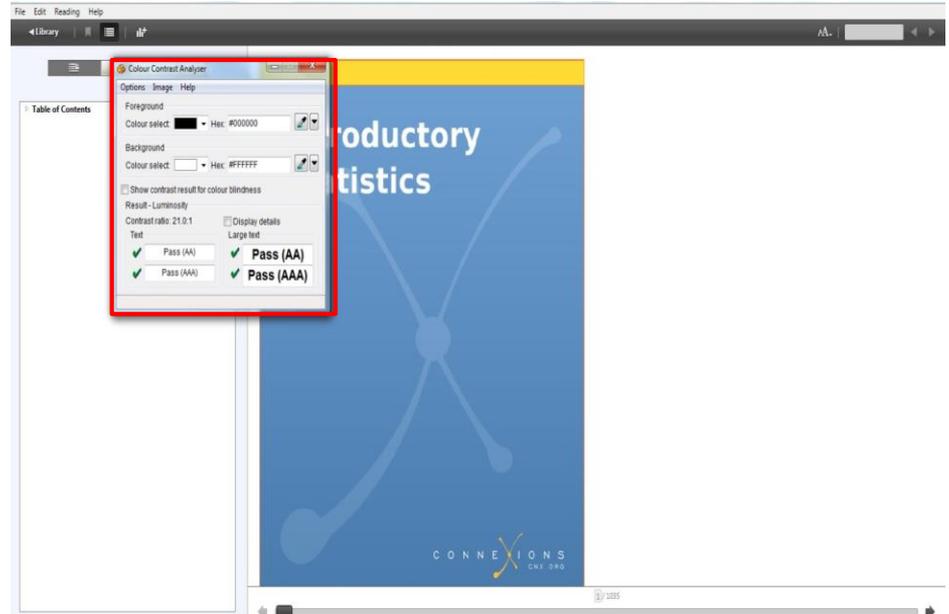
STEPS:

1. [Download Colour Contrast Analyzer Tool](#)
2. Open the document you want to evaluate
3. Open the application
4. Make sure you are in the **Result --Luminosity** mode.
5. Click the **Foreground eye dropper** tool, hover over and click the foreground color to select it.
6. Click the **Background eye dropper** tool, hover over and click the background color.
7. Check and compare the ratio to 4.5:1

9. Color & Contrast (Contrast Ratio)

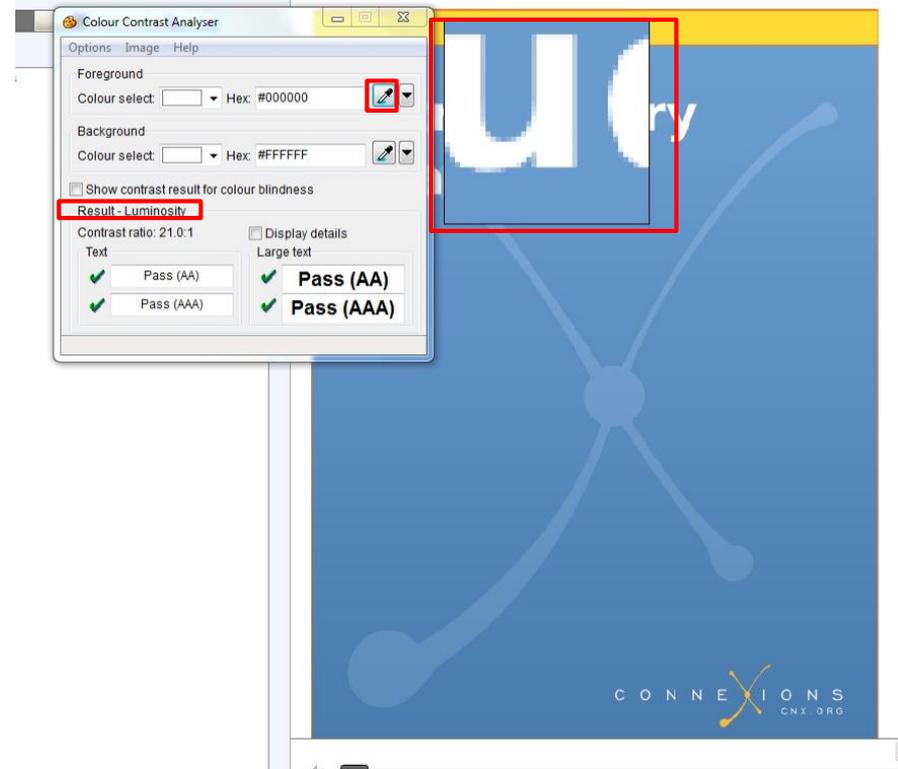
Colour Contrast Analyzer (CCA)

1. Download Colour Contrast Analyzer Tool
2. Open the document you want to evaluate
3. Open the application



9. Color & Contrast (Contrast Ratio)

4. Make sure you are in the **Result -- Luminosity** mode.
5. Click the **Foreground eye dropper** tool, hover over and click the foreground color to select it.



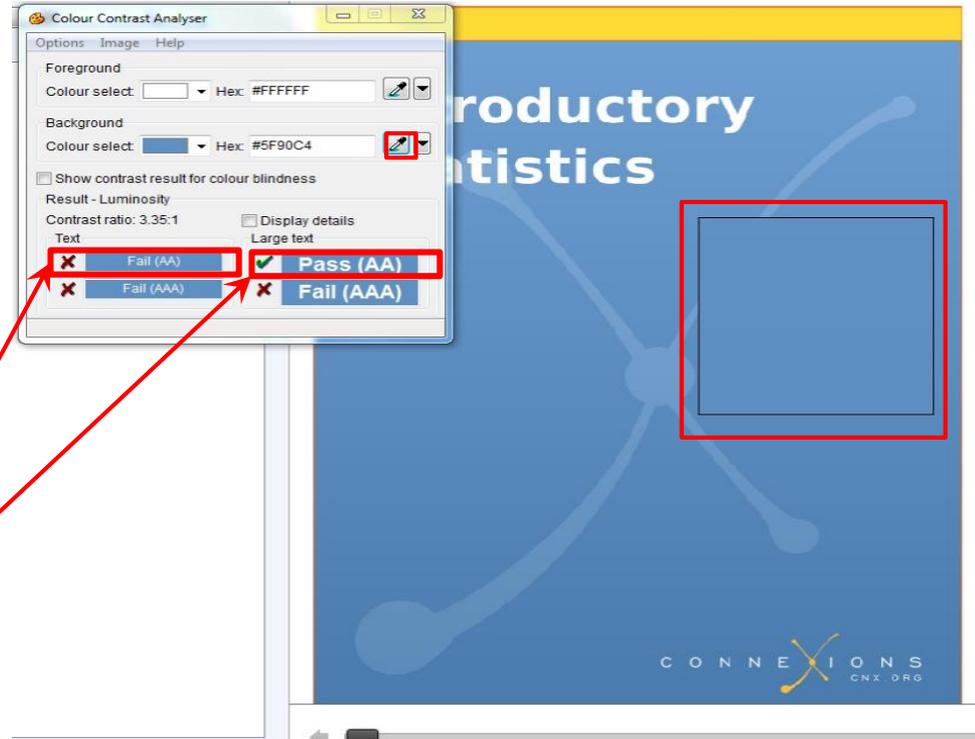
9. Color & Contrast (Contrast Ratio)

6. Click the **Background eye dropper** tool, hover over and click the background color.

7. Determine if the text is greater than 18 points (e.g. Header).

Small text: Check under "Text"

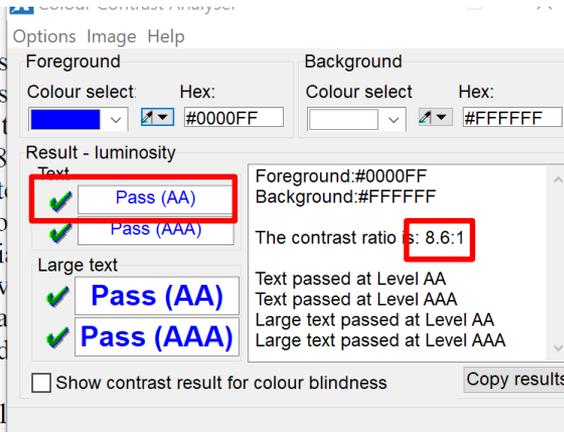
Large text (18+): Check under "Large text"



Reporting Contrast results

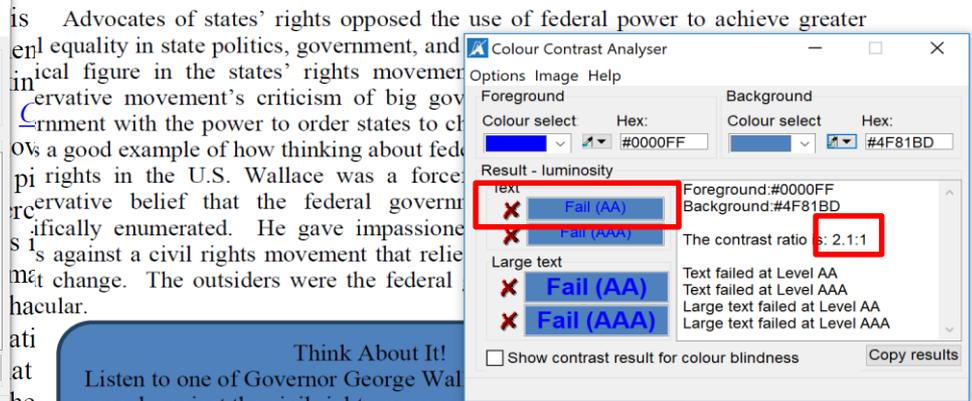
When content passes, report the color combination but not the ratio:

“The blue text on white background passed.”



When content fails, report the color combination and the ratio:

“The blue text on blue background fails with a ratio of 2:1:1.”



Think About It!

Listen to one of Governor George Wallace's speech against the civil rights movement.

<http://www.youtube.com/watch?v=QW6ikSCDaRQ&feature=endscreen&NR=1>

The first era of federalism of federalism that describes equal sovereigns. Each is Supreme Court endorsed *Board of Port Wardens* (18 could require that ships enter Constitution gives the nation the states. The Philadelphia commerce. The Court developed for local or national regulation their nature national, or adjusted justly be said to...require national and require local Doctrine assumes that the national and state governments have separate responsibility. For example, the national government would have exclusive power

Advocates of states' rights opposed the use of federal power to achieve greater equality in state politics, government, and political figure in the states' rights movement. The conservative movement's criticism of big government with the power to order states to change. A good example of how thinking about federal rights in the U.S. Wallace was a forceful conservative belief that the federal government specifically enumerated. He gave impassioned speeches against a civil rights movement that relied on change. The outsiders were the federal hacular.

Example Simple Image

When content passes, report the color combination but not the ratio:
“The simple image was found on page 45 and the black on white background passed with the Colour Contrast Analyzer.”

\$50,000 REWARD.—WHO DESTROYED THE MAINE?—\$50,000 REWARD.
EDITION FOR GREATER NEW YORK
NEW YORK JOURNAL AND ADVERTISER.
VOL. LXXXI. NO. 100. TUESDAY, FEBRUARY 15, 1915. PAGES
THE JOURNAL WILL PAY \$50,000 FOR INFORMATION CONCERNING THE PERPETRATOR OF THE MAINE OUTRAGE WHO SENT THE MAINE TO HER DEATH.

DESTRUCTION OF THE WAR SHIP MAINE WAS THE WORK OF AN ENEMY

\$50,000! Assistant Secretary Roosevelt Convinced the Explosion of the War Ship Was Not an Accident.

\$50,000! For the Detection of the Perpetrator of the Maine Outrage!

\$50,000! For the Detection of the Perpetrator of the Maine Outrage!

The Journal Offers \$50,000 Reward for the Conviction of the Criminals Who Sent 258 American Sailors to Their Death. Naval Officers Unanimous That the Ship Was Destroyed.

NAVAL OFFICERS THINK THE MAINE WAS DESTROYED BY A SUBMARINE TORPEDO.

Shells—Survivors Brought to Key West Scout the Idea of Accident—Spanish Officials Protest Too Much—Our Cabinet Orders a Searching Inquiry—Journal Sends Divers to Havana to Report Upon the Condition of the Wreck.

Executive

Legislative

Bureaucratic

Colour Contrast Analyser

Options Image Help

Foreground Background

Colour select Hex: Colour select Hex:

#000000 #4F81BD

Result - luminosity

Text

Pass (AA)

Fail (AAA)

Large text

Pass (AA)

Pass (AAA)

Foreground:#000000
Background:#4F81BD
The contrast ratio is: 5.2:1

Text passed at Level AA
Text failed at Level AAA
Large text passed at Level AA
Large text passed at Level AAA

Show contrast result for colour blindness Copy results

“The simple image found on page 91 passed with the black text on the blue background.”

9. Color & Contrast (Contrast Ratio)

- Provide color combinations for passing and failing content
- Provide contrast ratios only for failing content
- Amount of Material to Be Evaluated

Contrast Ratio

*** Sample 10% of the pages ***

Color and Contrast: Checkpoint 9 A, Headers

Contrast =

This is a combined average of the following three subsections (Header, Text, and Simple Images). Adobe Digital Edition was used to access the text for this evaluation and the Colour Contrast Analyzer tool was used to determine contrast ratios.

A) Contrast – Headers =

Pass =

3/3 Header color combinations pass for color contrast. Pages 1 through 31 were used for this checkpoint. The passing header color combinations were black text on a white background, black text on a light green background, and dark blue text on a light grey background. Adobe Digital Edition was used to access the text for this evaluation and the Colour Contrast Analyzer tool was used to determine contrast ratios.

Fail =

1/3 Header color combinations pass for color contrast. Pages 1 through 31 were used for this checkpoint. The passing header color combination was black text on a white background. The failing header color combinations were light green text on a light blue background with a contrast ratio of 1.27:1, and light orange text on a light blue background with a contrast ratio of 1.18:1. Adobe Digital Edition was used to access the text for this evaluation and the Colour Contrast Analyzer tool was used to determine contrast ratios.

Color and Contrast: Checkpoint 9 B, Text

B) Contrast – Text =

Pass =

3/3 Text color combinations pass for color contrast. Pages 1 through 31 were used for this checkpoint. The passing text color combinations were black text on a white background, black text on a light green background, and dark blue text on a light grey background. Adobe Digital Edition was used to access the text for this evaluation and the Colour Contrast Analyzer tool was used to determine contrast ratios.

Fail =

1/3 Text color combinations pass for color contrast. Pages 1 through 31 were used for this checkpoint. The passing text color combination was black text on a white background. The failing text color combinations were light green text on a light blue background with a contrast ratio of 1.27:1, and light orange text on a light blue background with a contrast ratio of 1.18:1. Adobe Digital Edition was used to access the text for this evaluation and the Colour Contrast Analyzer tool was used to determine contrast ratios.

Color and Contrast: Checkpoint 9 C, Simple Images

C) Contrast – Simple Images =

Pass =

2/2 Simple images pass for color contrast. Pages 1 through 31 were used for this checkpoint. Simple images were found on pages 24 and 30. The passing color combinations for simple images was black on a white background. Adobe Digital Edition was used to access the text for this evaluation and the Colour Contrast Analyzer tool was used to determine contrast ratios.

Fail =

1/2 Simple images pass for color contrast. Pages 1 through 31 were used for this checkpoint. Simple images were found on pages 24 and 30. The passing color combination for the simple image on page 24 was black on a white background. The failing color combination for the simple image on page 30 was light green on a light blue background with a contrast ratio of 1.27:1. Adobe Digital Edition was used to access the text for this evaluation and the Colour Contrast Analyzer tool was used to determine contrast ratios.

10. Language

- The text of the digital resource includes markup that declares the language of the content
- If the digital resource includes passages in a foreign language, these passages include markup that declares the language

****Mark N/A: Requires Assistive Technologies****

Language: Checkpoint 10 (A: Markup, B: Passage Markup)

N/A =

We are not using assistive technology in this evaluation. Adobe Digital Edition and Windows Narrator were used to access and evaluate this text.

11. Images

- 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)
- A non-decorative image is an image that is directly related and relevant to the text content

11. Images

- Decorative images are marked with null alternate text or contain markup that allows them to be ignored
- Decorative images are images that are not related in any way to the content of the text
- Complex images, charts, and graphs have longer text descriptions that are compatible with Narrator

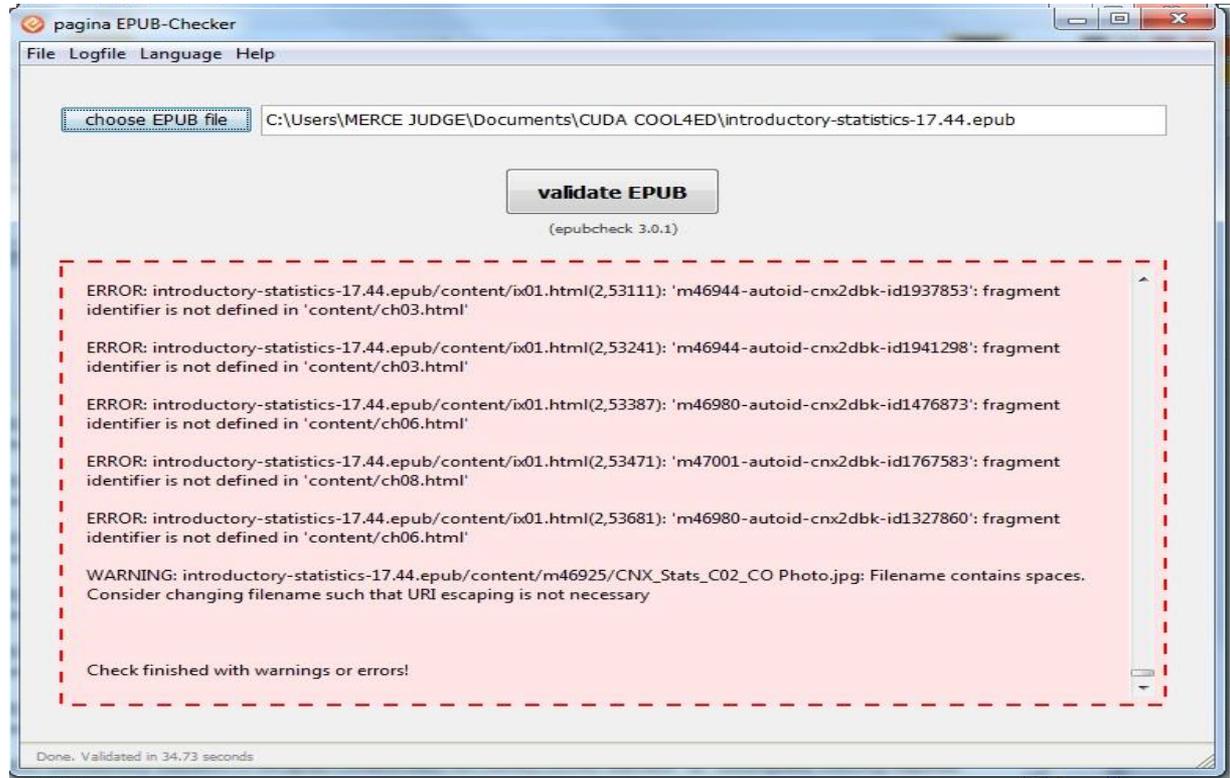
11. Images

STEPS:

1. Open Pagina EPUB-Checker
2. Choose EPUB file
3. Click on Validate
4. Look for error message contains "img" or "media"
5. Include the number of errors found within your write-up

11. Images

1. Open Pagina EPUB-Checker
2. Choose EPUB file
3. Click on Validate



11. Images

4. Look for error message contains "img" or "media"

ERROR: Intro Chem.epub/content/ch03.html(248,142): element "img" missing required attribute "alt"

WARNING: Intro Chem.epub/content/ch03.html(248): Token ';' not allowed here, expecting a property value

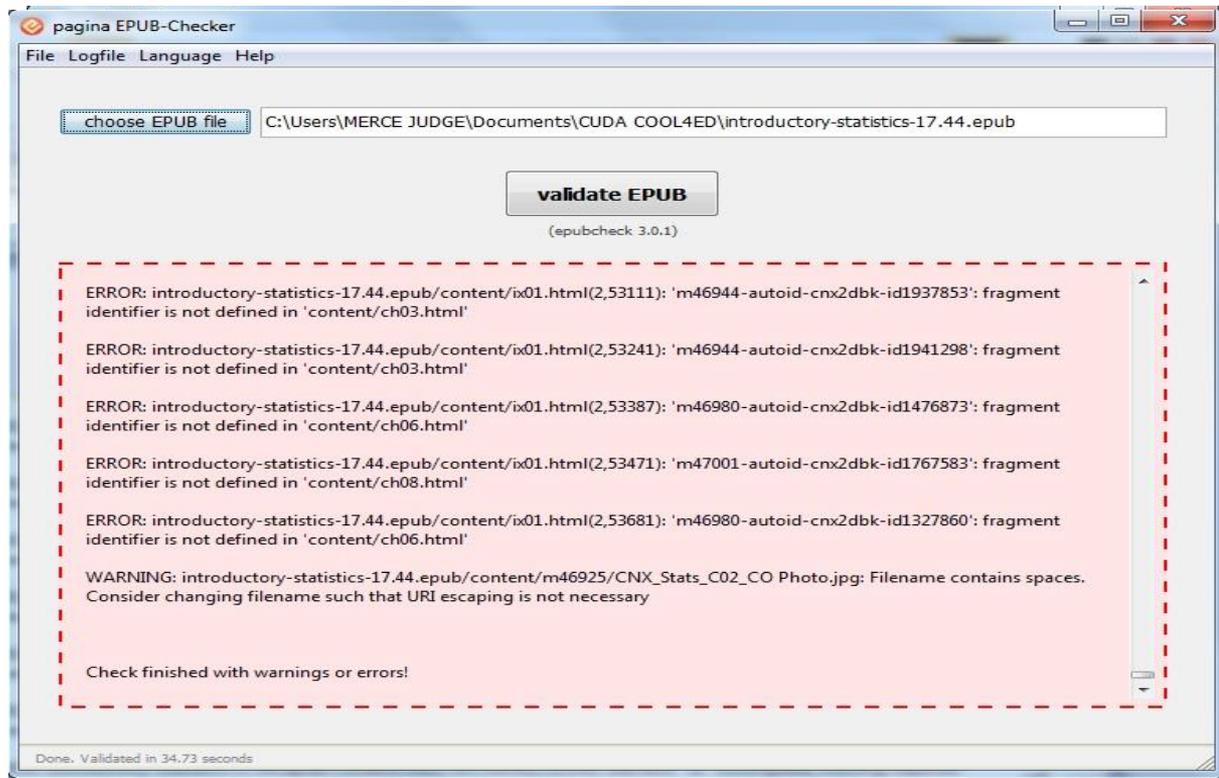
ERROR: Intro Chem.epub/content/ch03.html(256,129): element "img" missing required attribute "alt"

WARNING: Intro Chem.epub/content/ch03.html(256): Token ';' not allowed here, expecting a property value

ERROR: Intro Chem.epub/content/ch03.html(397,132): element "img" missing required attribute "alt"

WARNING: Intro Chem.epub/content/ch03.html(397): Token ';' not allowed here, expecting a property value

ERROR: Intro Chem.epub/content/ch03.html(399,148): element "img" missing required attribute "alt"



11. Images

- An additional manual check is required.
 - Make sure the descriptions for the images are descriptive enough for both non-decorative images and complex images using Windows Narrator
- Rule of thumb: if the image cannot be described in one sentence, it's complex!

*** Sample 10% of the pages ***

Images: Checkpoint 11 A, Non-Decorative Images

Pass =

3/3 non-decorative images pass. Pages 7 through 50 were used to evaluate this checkpoint. There were only three non-decorative images within the evaluated pages and they were found on pages 9, 24, and 48. All images have adequate descriptions that are sufficiently read by Windows Narrator. The EPUB Checker tool indicated that there were no errors related to images. Adobe digital edition and Windows Narrator were used to access and evaluate this text.

Fail =

0/3 non-decorative images pass. Pages 7 through 50 were used to evaluate this checkpoint. There were only three non-decorative images within the evaluated pages and they were found on pages 9, 24, and 48. All images failed to provide descriptions that were sufficiently read by Windows Narrator. The EPUB Checker tool indicated that there were no errors related to images. Adobe digital edition and Windows Narrator were used to access and evaluate this text.

Images: Checkpoint 11 B, Decorative Images

Pass =

3/3 decorative images pass. Pages 7 through 50 were used to evaluate this checkpoint. There were only three decorative images within the evaluated pages and they were found on pages 9, 24, and 48. All images and subtext related to the images were not read by Windows Narrator but were skipped. The EPUB Checker tool indicated that there were no errors related to images. Adobe digital edition and Windows Narrator were used to access and evaluate this text.

Fail =

0/3 decorative images pass. Pages 7 through 50 were used to evaluate this checkpoint. There were only three decorative images within the evaluated pages and they were found on pages 9, 24, and 48. All images were read by Windows Narrator. The EPUB Checker tool indicated that there were no errors related to images. Adobe digital edition and Windows Narrator were used to access and evaluate this text.

Images: Checkpoint 11 C, Complex Images

Pass =

3/3 complex images pass. Pages 7 through 50 were used to evaluate this checkpoint. There were only three complex images within the evaluated pages and they were found on pages 9, 24, and 48. All images had longer text descriptions that were sufficiently read by Windows Narrator. The EPUB Checker tool indicated that there were no errors related to images. Adobe digital edition and Windows Narrator were used to access and evaluate this text.

Fail =

0/3 complex images pass. Pages 7 through 50 were used to evaluate this checkpoint. There were only three complex images within the evaluated pages and they were found on pages 9, 24, and 48. All images failed to provide longer text descriptions that could be sufficiently read by Windows Narrator. The EPUB Checker tool indicated that there were no errors related to images. Adobe digital edition and Windows Narrator were used to access and evaluate this text.

12. Multimedia

- Part A: A synchronized text track (e.g. open or closed captions) is provided with all video content
- Part B: A transcript is provided with all audio content
- Part C: Audio/video content is delivered via a media player that is compatible with assistive technology

12. Multimedia (Text Track)

1. Find multimedia
2. Search for availability of a text track

Opera narendra modi - YouTube x Impressed with Narendra | x +

www.youtube.com/watch

YouTube

Subscribe to NDTV

NDTV

THE BILL CLINTON INTERVIEW

Impressed with Narendra Modi's economic policies: Bill Clinton to NDTV

NDTV

Subscribe

Click on a Video that you would like to watch.

CC

Settings

Full Screen

Autoplay

Annotations

Speed Normal

Subtitles/CC (1) English (United Kingdom)

Quality Auto 720p HD

Autoplay

Annotations

Speed Normal

Subtitles/CC (1) English (United Kingdom)

Quality Auto 720p HD

CC

Settings

Full Screen

Multimedia: Checkpoint 12 A, Text Track

Multimedia (Text track) present:

Pass =

3/3 multimedia pass for text track. The entire text was used for this checkpoint. Only three multimedia were found and they were on page 24, 37, and 67. All multimedia included a text track that could be enabled by the user. Adobe Digital Edition was used to access and evaluate this text.

Fail =

0/3 multimedia pass for text track. The entire text was used for this checkpoint. Only three multimedia were found and they were on page 24, 37, and 67. The multimedia did not include a text track that could be enabled by the user. Adobe Digital Edition was used to access and evaluate this text.

Multimedia (text track) not present:

N/A =

There were no multimedia found within this text. Adobe Digital Edition was used to access and evaluate this text.

12. Multimedia (Transcript)

1. Find multimedia
2. Search for availability of a transcript

Why look at art?
Total energy points **266**



0:54 / 0:00

Why look at art? This was the question we posed to several of our colleagues at a conference for museum professionals. Special thanks to Laura Mann, Anna Velez, an anonymous professional, and David Torgersen whose voices and insights are included here.

Options Share Info



Options Share

1/4x 1/2x 1x 1 1/2x 2x

Interactive transcript

Embedded questions

12. Multimedia (Transcript)

Why look at art? This was the question we posed to several of our colleagues at a conference for museum professionals. Special thanks to Laura Mann, Anna Velez, an anonymous professional, and David Torgersen whose voices and insights are included here.

 Options ▾  Share ▾  Info

0:00 [MUSIC PLAYING]

0:05 SPEAKER 1: I think it's important

0:07 that people look at art because we live in a visual world.

0:11 And understanding, and looking at,

0:14 and thinking about the way images

0:16 communicate in all kinds of ways is important to being alive

0:21 today.

0:22 SPEAKER 2: If one has heightened visual acumen, which

0:26 you get from spending time looking at things, whether it's

Multimedia: Checkpoint 12 B, Transcript

Multimedia (Transcript) present:

Pass =

3/3 multimedia pass for transcript. The entire text was used for this checkpoint. Only three multimedia were found and they were on page 24, 37, and 67. All multimedia included a transcript of the audio content that could be enabled by the user. Adobe Digital Edition was used to access and evaluate this text.

Fail =

0/3 multimedia pass for transcript. The entire text was used for this checkpoint. Only three multimedia were found and they were on page 24, 37, and 67. The multimedia did not include a transcript of the audio content that could be enabled by the user. Adobe Digital Edition was used to access and evaluate this text.

Multimedia (Transcript) not present:

N/A =

There were no multimedia found within this text. Adobe Digital Edition was used to access and evaluate this text.

12. Multimedia Assistive Player

- Audio/video content is delivered via a media player that is compatible with assistive technology

Mark as N/A: We are not using an assistive player for this evaluation

Multimedia: Checkpoint 12 C, Assistive Player

N/A =

We are not using as assistive player for this evaluation. Adobe Digital Edition was used to access and evaluate this text.

13. Flickering

- Resources should not contain anything that flashes more than three times in any one-second period

- If any content within the eBook flashes more than 3 times in a 1 seconds period then Fail this checkpoint

Note: No examples have been found for this format

Flickering: Checkpoint 13, Flickering

Pass =

No content was found to flicker during the evaluation of this text. The entire text was used for this checkpoint. Adobe Digital Edition was used to access and evaluate this text.

Fail =

During the evaluation of this text certain content was found to flicker. The entire text was used for this checkpoint. Pages 7, 10, 23, 44, and 53 would blink multiple times when scrolling. Adobe Digital Edition was used to access and evaluate this text.

14. STEM

STEM: Science, Technology, Engineering, and Math

- Markup**: STEM content is marked up in a manner that is compatible with Windows Narrator
- Notation Markup**: The resource conveys both the notation (presentation) and meaning (semantics) of the STEM content

14. STEM

For BOTH Markup and Notation:

1. Select a STEM content in the text
 2. Use “Windows Narrator” to read the STEM content
 3. Repeat the steps to check for 10 STEM content in each subsection (figures, graphs, tables, and equations)
- Only evaluate 10 each and if there are not 10 then indicate how many were evaluated and the reason
 - Check the entire eBook for STEM content

STEM Figures

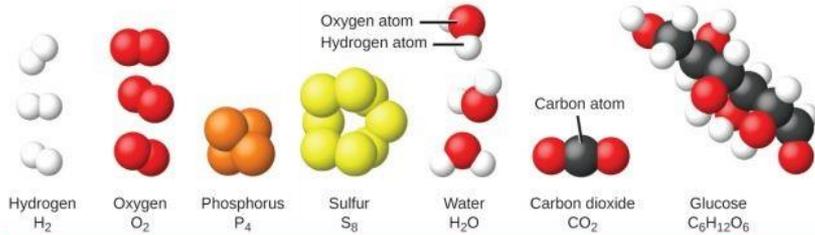


Figure 1.11 The elements hydrogen, oxygen, phosphorus, and sulfur form molecules consisting of two or more atoms of the same element. The compounds water, carbon dioxide, and glucose consist of combinations of atoms of different elements.

Markup

Markup Notation

Enzymes can be regulated in ways that either promote or reduce their activity. There are many different kinds of molecules that inhibit or promote enzyme function, and various mechanisms exist for doing so. In some cases of enzyme inhibition, for example, an inhibitor molecule is similar enough to a substrate that it can bind to the active site and simply block the substrate from binding. When this happens, the enzyme is inhibited through **competitive inhibition**, because an inhibitor molecule competes with the substrate for active site binding (Figure 6.17). On the other hand, in noncompetitive inhibition, an inhibitor molecule binds to the enzyme in a location other than an allosteric site and still manages to block substrate binding to the active site.

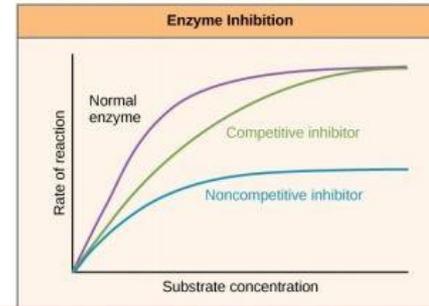
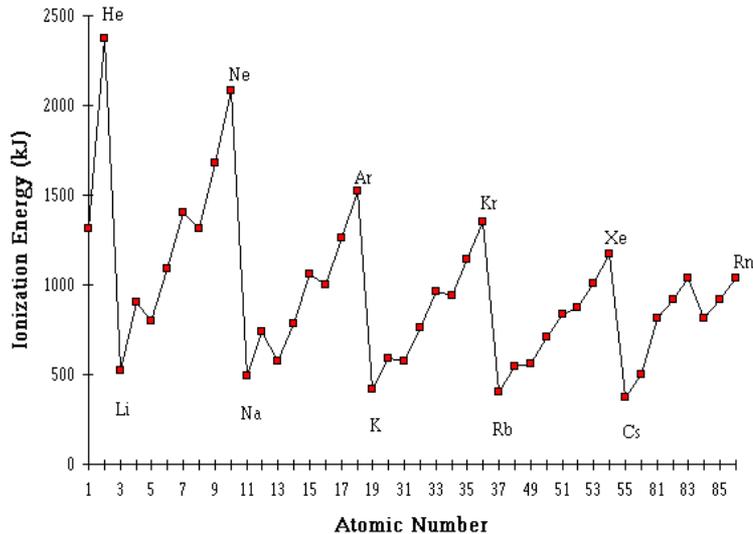


Figure 6.17 Competitive and noncompetitive inhibition affect the rate of reaction differently. Competitive inhibitors affect the initial rate but do not affect the maximal rate, whereas noncompetitive inhibitors affect the maximal rate.

Some inhibitor molecules bind to enzymes in a location where their binding induces a conformational change that reduces the affinity of the enzyme for its substrate. This type of inhibition is called **allosteric inhibition** (Figure 6.18). Most allosterically regulated enzymes are made up of more than one polypeptide, meaning that they have more than one protein subunit. When an allosteric inhibitor binds to an enzyme, all active sites on the protein subunits are changed slightly such that they bind their substrates with less efficiency. There are allosteric activators as well as inhibitors. Allosteric activators bind to locations on an enzyme away from the active site, inducing a conformational change that increases the affinity of the enzyme's active site(s) for its substrate(s).

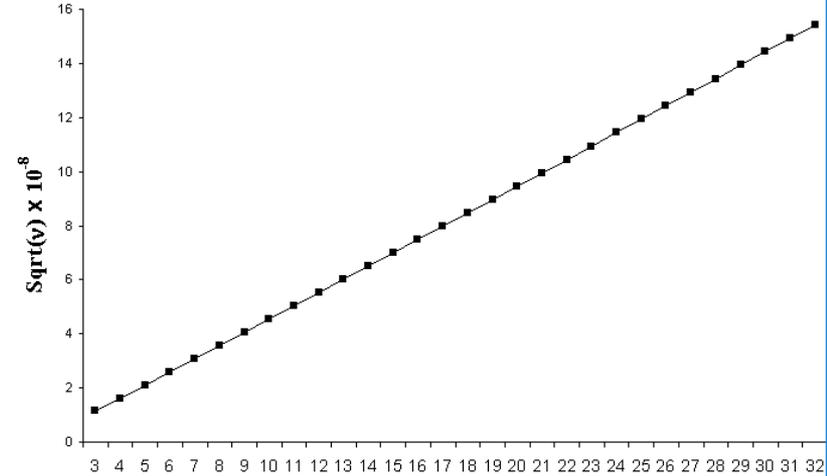
Classifying STEM

Remember, the markup will tell you how to classify content. If it is marked as Figure, it is a Figure.



Atomic Number

Figure 4.3.



Atomic Number

Figure 4.2. X-ray Frequencies Versus Atomic Number

Table 2.1. Mass Relationships for Hydrogen, Nitrogen, Oxygen Compounds

Compound	Total Mass	Mass of Hydrogen	Mass of Nitrogen	Mass of Oxygen	"Expected" Relative Atomic Mass of Hydrogen	"Expected" Relative Atomic Mass of Nitrogen	"Expected" Relative Atomic Mass of Oxygen
Nitric Oxide	15.0 g	-	7.0 g	8.0 g	-	7.0	8.0
Ammonia	8.5 g	1.5 g	7.0 g	-	1.5	7.0	-
Water	9.0 g	1.0 g	-	8.0 g	1.0	-	8.0

14. STEM Markup

Successive Ionization Energies (kJ/mol)

	Na	Mg	Al	Si	P	S	Cl	Ar
IE ₁	496	738	578	787	1012	1000	1251	1520
IE ₂	4562	1451	1817	1577	1903	2251	2297	2665
IE ₃	6912	7733	2745	3231	2912	3361	3822	3931
IE ₄	9543	10540	11575	4356	4956	4564	5158	5770
IE ₅	13353	13630	14830	16091	6273	7013	6542	7238
IE ₆	16610	17995	18376	19784	22233	8495	9458	8781
IE ₇	20114	21703	23293	23783	25397	27106	11020	11995

Table 4.1



Figure 6.2

The STEM content should have a label, description or tag

14. STEM Notation Markup

STEM: Science, Technology, Engineering, and Math

- STEM content is marked up in a manner that is compatible with Narrator

STEPS:

1. Manually check that the following have a label, description or tag that can be accessed by Windows Narrator
 - STEM: Figures, Graphs, Equations, and Tables

14. STEM Mark-up

This equation would fail for markup (none present), but it could pass for notation mark up if it was read correctly using Windows Narrator.

Every chemical reaction involves a change in free energy, called delta G (ΔG). The change in free energy can be calculated for any system that undergoes such a change, such as a chemical reaction. To calculate ΔG , subtract the amount of energy lost to entropy (denoted as ΔS) from the total energy change of the system. This total energy change in the system is called **enthalpy** and is denoted as ΔH . The formula for calculating ΔG is as follows, where the symbol T refers to absolute temperature in Kelvin (degrees Celsius + 273):

$$\Delta G = \Delta H - T\Delta S$$

The standard free energy change of a chemical reaction is expressed as an amount of energy per mole of the reaction product (either in kilojoules or kilocalories, kJ/mol or kcal/mol; 1 kJ = 0.239 kcal) under standard pH, temperature, and pressure conditions. Standard pH, temperature, and pressure conditions are generally calculated at pH 7.0 in biological systems, 25 degrees Celsius, and 100 kilopascals (1 atm pressure), respectively. It is important to note that cellular conditions vary considerably from these standard conditions, and so standard calculated ΔG values for biological reactions will be different inside the cell.

STEM: Checkpoint 14 A, Markup

If STEM is present:

Pass =

10/10 STEM figures/graphs/equations/tables pass for markup. The STEM figures were found on pages 23(4), 44(2), and 43(4). All figures included a markup that was able to be read using Windows Narrator. Adobe Digital Edition and the Windows Narrator were used to access and evaluate this text.

Fail =

0/10 STEM figures/graphs/equations/tables pass for markup. The STEM figures were found on pages 23(4), 44(2), and 43(4). All figures failed to provide a markup that was able to be read using Windows Narrator. Adobe Digital Edition and the Windows Narrator were used to access and evaluate this text.

If STEM is not present:

N/A =

There were no STEM Figures/*Tables/Graphs/Equations* found within this text. Adobe Digital Edition and the Windows Narrator were used to access and evaluate this text.

14. STEM Notation Markup

- The resource conveys both the notation (presentation) and meaning (semantics) of the STEM content

STEPS:

1. Manually check that the following have a description that conveys notation and meaning
 - Figures
 - Graphs
 - Tables
 - Equations

STEM

Manually check that all figures, graphs, and tables have a description that conveys notation and meaning



Figure 1.15 Biologists may choose to study *Escherichia coli* (*E. coli*), a bacterium that is a normal resident of our digestive tracts but which is also sometimes responsible for disease outbreaks. In this micrograph, the bacterium is visualized using a scanning electron microscope and digital colorization. (credit: Eric Erbe; digital colorization by Christopher Pooley, USDA-ARS)

STEM: Checkpoint 14 B, Markup Notation

If STEM is present:

Pass =

10/10 STEM figures/graphs/equations/tables pass for markup notation. The STEM figures were found on pages 23(4), 44(2), and 43(4). All figures included text descriptions that were able to be read using Windows Narrator. Adobe Digital Edition and the Windows Narrator were used to access and evaluate this text.

Fail =

0/10 STEM figures/graphs/equations/tables pass for markup notation. The STEM figures were found on pages 23(4), 44(2), and 43(4). All figures failed to provide text descriptions that were able to be read using Windows Narrator. Adobe Digital Edition and the Windows Narrator were used to access and evaluate this text.

If STEM is not present:

N/A =

There were no STEM Figures/*Tables/Graphs/Equations* found within this text. Adobe Digital Edition and the Windows Narrator were used to access and evaluate this text.

15. Interactive Elements

Keyboard

Interactive elements allow for keyboard-only operation
WITH and WITHOUT assistive tech

Interactive elements allow for keyboard-only operation

The interactive element can be navigated and accessed
using the tab and enter key

15. Interactive Elements

- Without assistive technology, use the TAB key to navigate the menu
- Items that are selected will have a box around the link
- Use the ENTER key to select a link or other item

Interactive Element Example

The CSULB Campus Map

Campus structures can be navigated through using the “Tab” key and selected using the “Enter” key



Interactive Elements: Checkpoint 15 A, Keyboard

If interactive elements are present:

Pass =

1/1 interactive elements pass for keyboard operation. There was only one interactive element found within this text and it was found on page 45. The interactive element allowed for keyboard only operation using the “Tab” and “Enter” keys to navigate and select components. Adobe Digital Edition was used to access and evaluate this text.

Fail =

0/1 interactive elements pass for keyboard operation. There was only one interactive element found within this text and it was found on page 45. The interactive element did not allow for keyboard only operation using the “Tab” and “Enter” keys to navigate and select components. The user was required to use a mouse to interact with the element. Adobe Digital Edition was used to access and evaluate this text.

If interactive elements are not present:

N/A =

There were no interactive elements found within this text. Adobe Digital Edition was used to access and evaluate this text.

15. Interactive Elements

Markup

Each interactive element conveys information to assistive technology regarding the element's

name

type

Status

****Mark N/A: Requires Assistive Technologies****

Interactive Elements: Checkpoint 15 B, Markup

N/A =

We are not using assistive technology for this evaluation. Adobe Digital Edition was used to access and evaluate this text.

15. Interactive Elements

Text prompts

The following are conveyed with assistive technology:

Instructions

Prompts

Error messages

****Mark N/A: Requires Assistive Technologies****

Interactive Elements: Checkpoint 15 C, Text Prompts

N/A =

We are not using assistive technology for this evaluation. Adobe Digital Edition was used to access and evaluate this text.