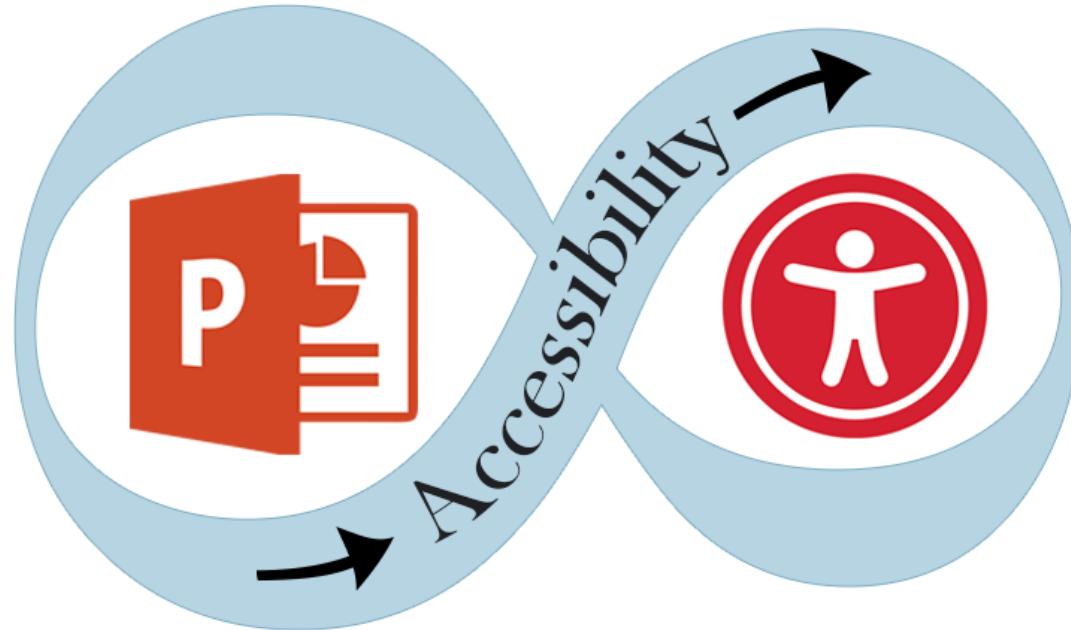


PowerPoint Accessibility



A11y

Mac

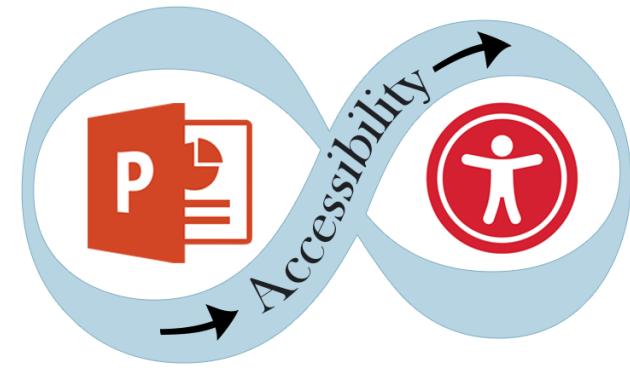


Universal Design Center

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Creating Accessible PowerPoint Topics

- Readability
- Slide Layouts
- Slide Reading Order
- Outline View
- Alternative Text
- Captioning Videos
- Link Text
- Color
- Tables
- Accessibility Tips
- Accessibility Checker
- Converting to PDF



A11y



What are Screen Readers

Screen readers are a form of assistive technology (AT) software that *enables access* to a computer, and all the things a computer does, by attempting to identify and interpret what is being displayed on the computer screen using **text-to-speech**. Screen readers can only access and process **live text** (fully editable or selectable text).

- Provides access to someone who is visually impaired, mobility or has a learning disability to access text on the screen.
- Offers same level of **independence** and privacy as anyone else.



Types of screen readers



Screen reader program for Microsoft Windows that allows blind and visually impaired users to read the screen either with a text-to-speech output or by a refreshable Braille display. [**NVDA screen reader**](#) can be **downloaded free of charge** by anyone.



VoiceOver (Apple)



Android

Provides auditory descriptions of each onscreen element using gestures, a keyboard, or a braille display.

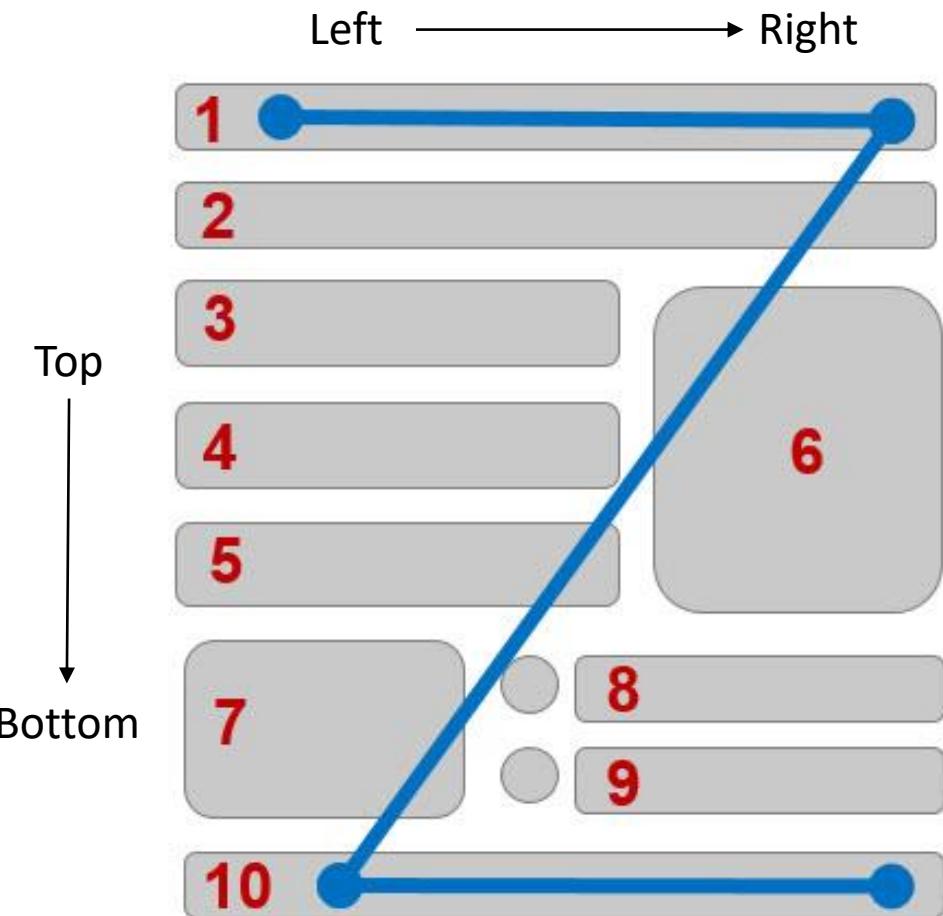
Adds spoken, audible, and vibration feedback to your device.

ZoOmText

Screen magnifier for Microsoft Windows that allows you to see and hear everything on the computer.

How Do Screen Readers Work?

- Screen readers read line-by-line from left-to-right and top-to-bottom.
- Screen readers start at the top of a document or website and read any text including alternative text for images, graphics or charts.
- Screen readers navigate a document or website using the keyboard **without** a mouse. **Tab** key: jump from link to link, **Enter**: select a link, **arrow keys**: navigate a document or website.
- Reading order is important for users with visual challenges. The users can become confused if the document (content, tables, images or charts) is poorly organized or out of order.



Click vs Select

Screen readers and physical or mobility limitation users navigate a document or website using the keyboard **without** a mouse. The word “**Click**” is not inclusive of people who can’t use the mouse. Use the word “**Select**” to write step-by-step instructions.



“Click” or “Click on” Example

- Go to YouTube video player
- Click on Settings gear icon
- Click on Subtitles/CC
- Click on Options to Customize
- Click on Caption Style

• Use “Select” Example (Recommend)

- Go to YouTube video player
- Select Settings gear icon
- Select Subtitles/CC
- Select Options to Customize
- Select Caption Style

Captioning Videos

Per federal and state law, and CSU policy, instructional media (e.g., videos, captured lectures, recorded presentations) must have captions. This includes instructional media used in classrooms, posted on websites or shared in Canvas.

- All students who are enrolled in a course must be able to access the content in the course.
- **Faculty:** Funding is available to help faculty generate captions and transcripts for instructional media. Materials should be submitted **at least six weeks** in advance of their use in instruction.
- **Staff:** For CSUN staff who do not provide classroom material, there is a cost through chargeback. For information on the chargeback, email ncod@csun.edu.

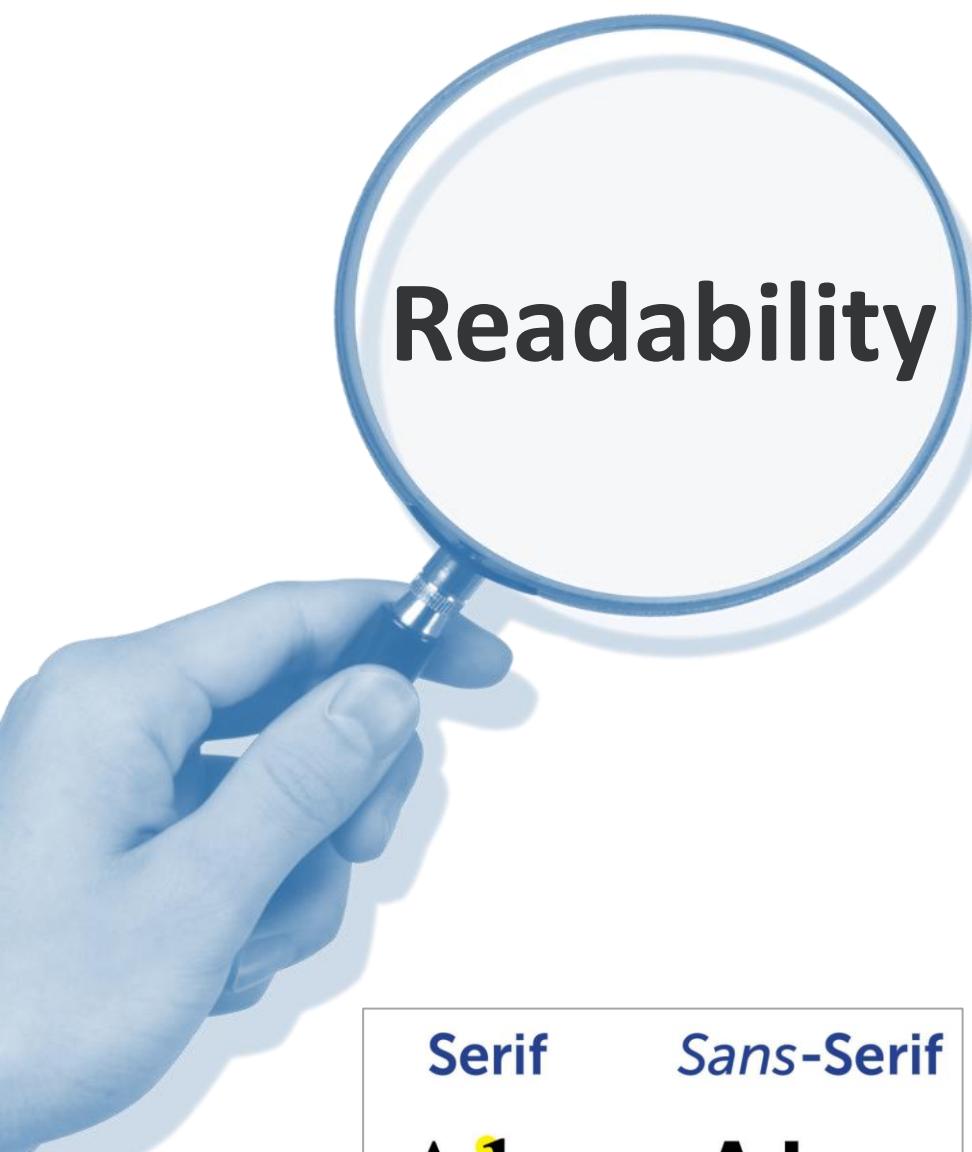


csun.edu/captioning



Universal Design Center

csun.edu/udc



Readability



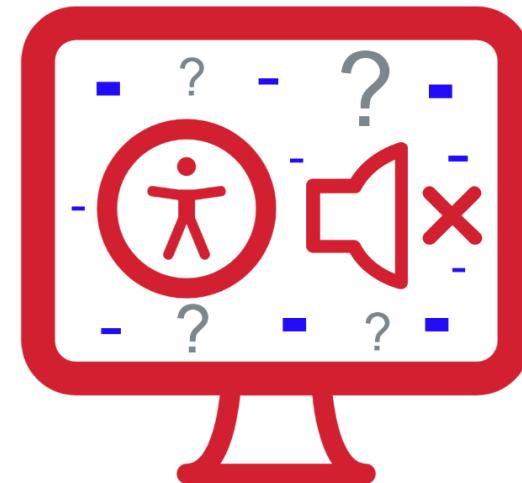
- Slide Titles are meaningful and unique
- Maximum 6 to 8 lines of text per slide
- Minimum font size 24 points or above
- Tables, Charts and Graphs on own slide
- Sans-Serif fonts are more suited to electronic formats (*Arial, Calibri, Verdana or Franklin Gothic Book*)
- Avoid underlining text. Underlining is interpreted by screen readers and people with low vision as linked text.
- Avoid Transitions and Animations
- **Be cautious with all All-caps text:** Using all capitalized text can create accessibility issues, particularly for individuals with dyslexia or visual impairments, as it reduces readability and makes words harder to distinguish by shape. Screen readers may also misinterpret fully capitalized words, reading them letter by letter instead of as whole words. Additionally, all-caps text can slow down reading speed and comprehension for many users, making it less accessible for a broad audience. [Credit to WebAIM February 2025 Newsletter.](#)

Mysterious Dash or Hyphen

Screen readers do not know what the – symbol represents (minus, hyphen, en dash or em dash) so screen readers **will not** read it. *It is always a good practice to spell the word and any abbreviations or make a reference to your abbreviation when used for the first time.*

For examples:

- May 8th, 2022 from 3:30 - 5:00pm. The screen reader reads three, thirty five. Recommend May 8th, 2022 from 3:30 **to** 5:00pm.
- Final exams May 14 - 20, 2022, screen reader reads May 1420, 2022. Recommend May 14 **to** 20, 2022.
- Homework assignment pages 200 – 281 for tonight's reading material. Recommend pages 200 **to** 281.
- The fiscal year 2015-2016. Recommend The fiscal year **from** 2015 **to** 2016.
- Grading scale 95 - 100%, screen reader reads 95100%. Recommend 95 **to** 100%.
 - ❖ A + , screen reader reads A+. Recommend A **plus**.
 - ❖ A – , screen reader reads A. Recommend A **minus**.
 - ❖ Recommend to spell the word plus or minus for consistency purpose.



It's okay to use dash between compound words, i.e., well-known author, well-being, in-service, in-person, runner-up, part-time job, co-author, re-elect, long-term project, state-of-the-art technology, etc.



Accessibility Tips

Slide Layouts

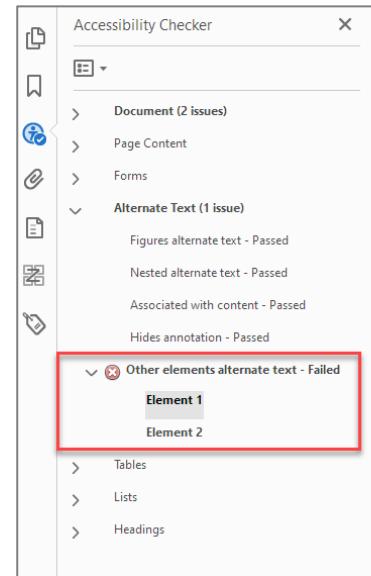
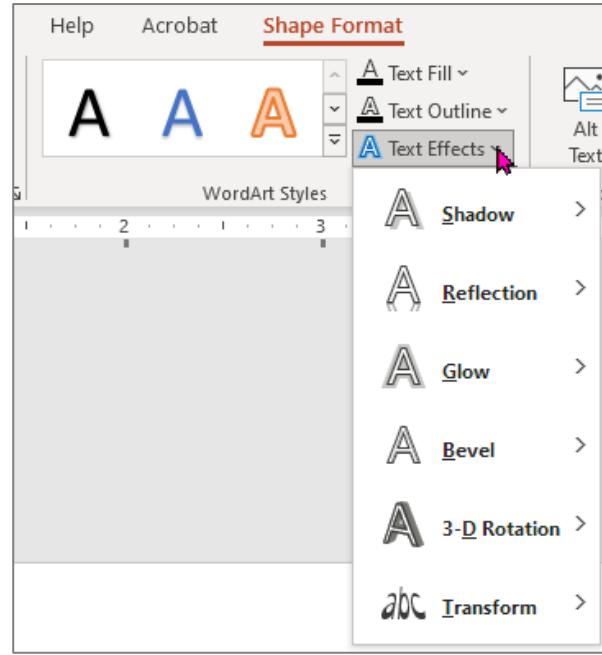
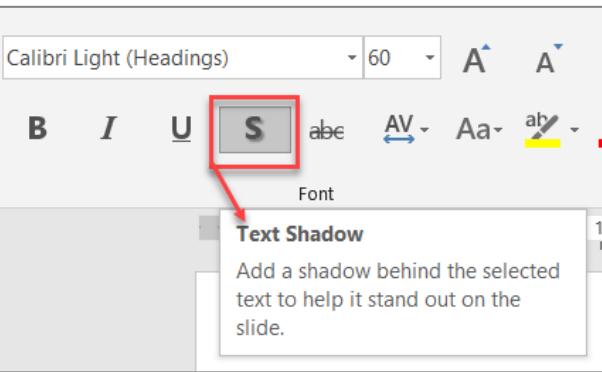
- Simple themes, pre-defined slide layout templates
- Slides with unique titles
- Default bulleted and numbered lists
- Avoid themes with drop shadows on design, colors or text
- Avoid text boxes (inaccessible)



Text Shadow and Text Effects Font Styles

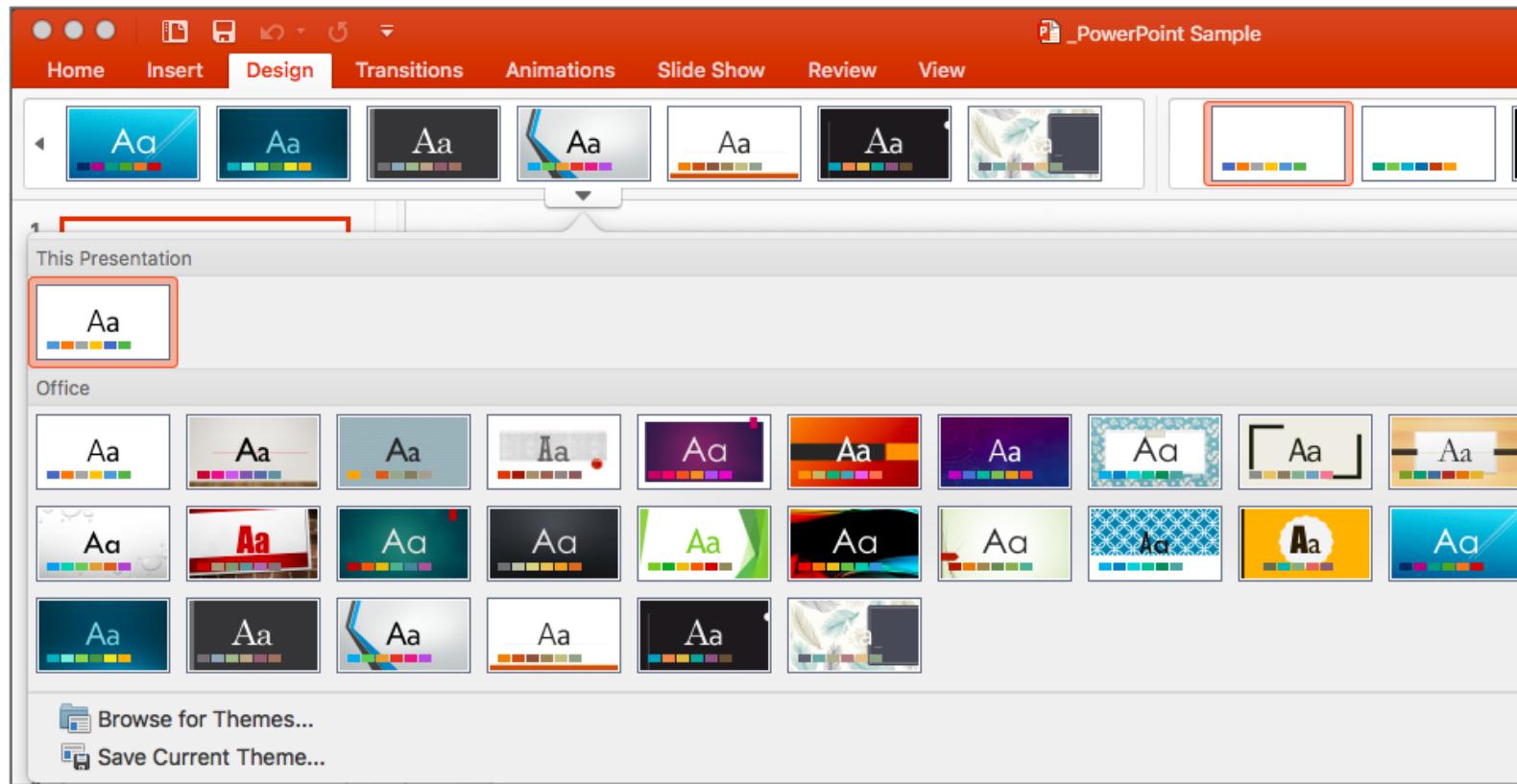
Avoid using Text Shadow and Text Effects font styles because PDF accessibility checker report an error “Other elements alternate text – failed.” due to two layers

- 1) actual text
- 2) image of text shadow



The screenshot shows the Microsoft Word ribbon with the Font tab selected. A red box highlights the 'Text Effects' button on the ribbon. Below the ribbon, a tooltip for the 'Text Shadow' style is displayed, stating: 'Add a shadow behind the selected text to help it stand out on the slide.' To the right, the Word ribbon is shown again with the Shape Format tab selected, and the 'Text Effects' button is also highlighted with a red box. At the bottom right of the slide, there is sample text: 'Text Shadow' in red and 'Text Effects' in black.

Slide Designs – may *not* be accessible

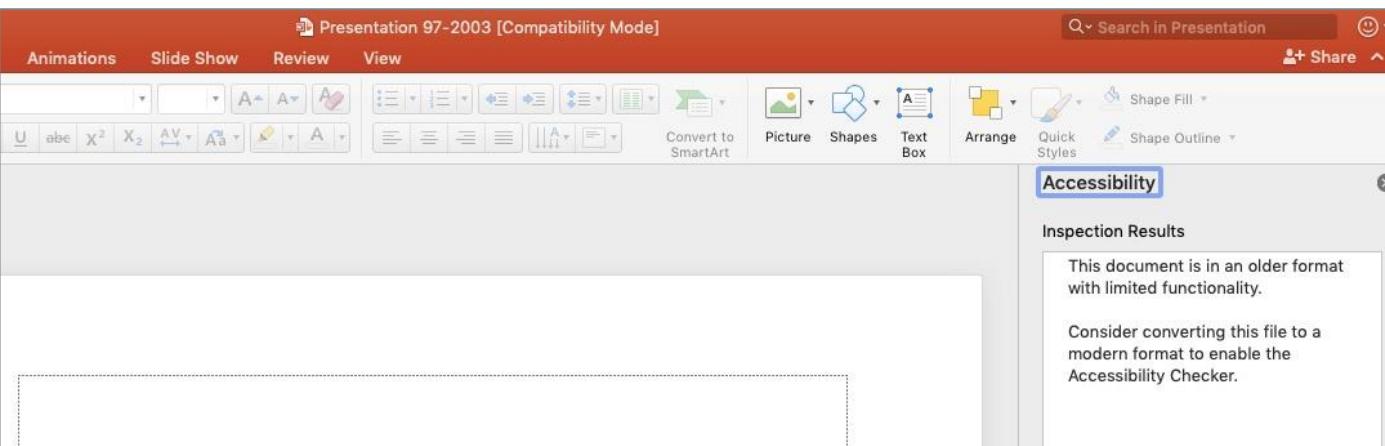


The themes come with default background and foreground colors and fonts may be difficult for some viewers to see it. The Accessibility Checker in PowerPoint does not check for color contrast. **Use simple and light background with dark text or dark background with white text is the best approach.**

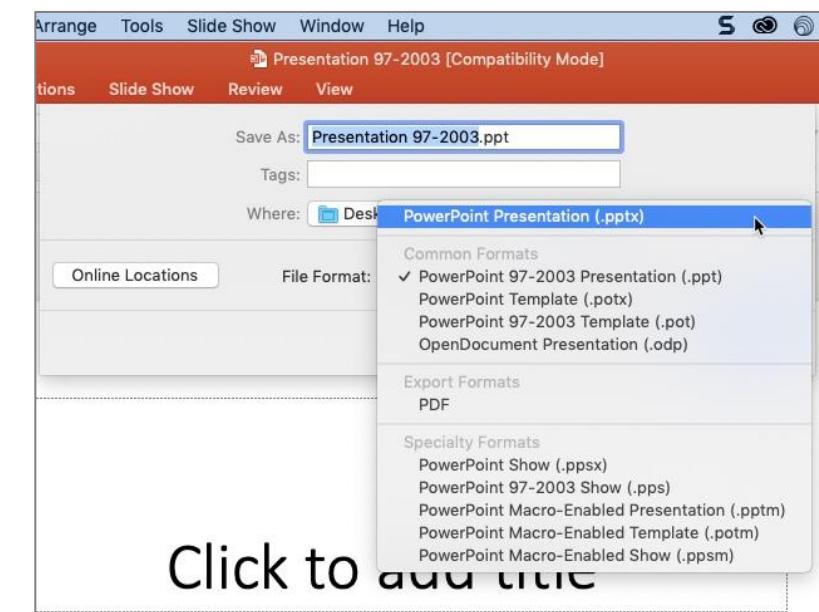
Microsoft Presentation 97 - 2003

If you encounter **[Compatibility Mode]** and unable to use PowerPoint **Accessibility Checker**, that's because older version like Presentation 97-2003 don't have Accessibility Checker features available.

- **For Mac:** Review tab, Check Accessibility



Go to **File Tab**, select **Save As, File Format: Select PowerPoint Presentation (.pptx)** Presentation 2016 or Office 365 has Accessibility Checker features. Run **Accessibility Checker** again.

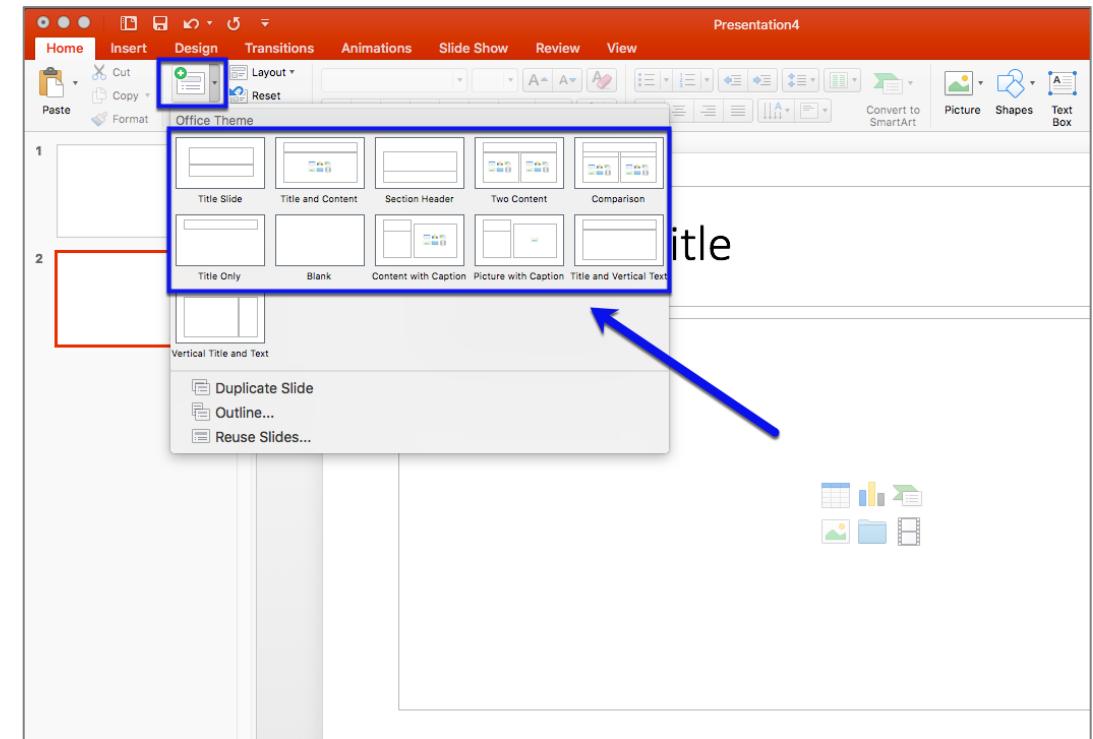


All CSUN faculty, staff, and students can install the Microsoft Office 365 on up to five personal devices for FREE.

- Faculty and staff <https://www.csun.edu/it/download-office>
- Students: <https://www.csun.edu/it/students>

Built-in slide layouts (unique title)

- PowerPoint does not use headings instead using slide title. Every slide should have a unique title. **Assistive technology users such as screen readers navigate by slide title.**
- Using the default slide layouts is the first step making your presentation accessible. **Screen readers may ignore items like text boxes that are added to the pages and will not appear in Outline View. It is important to use default slide layouts.**
 1. Go to “Home” tab
 2. “New Slide”
 3. “Office Theme”



Same Slide Titles

If the same slide title spreads in multiple slides, use this method

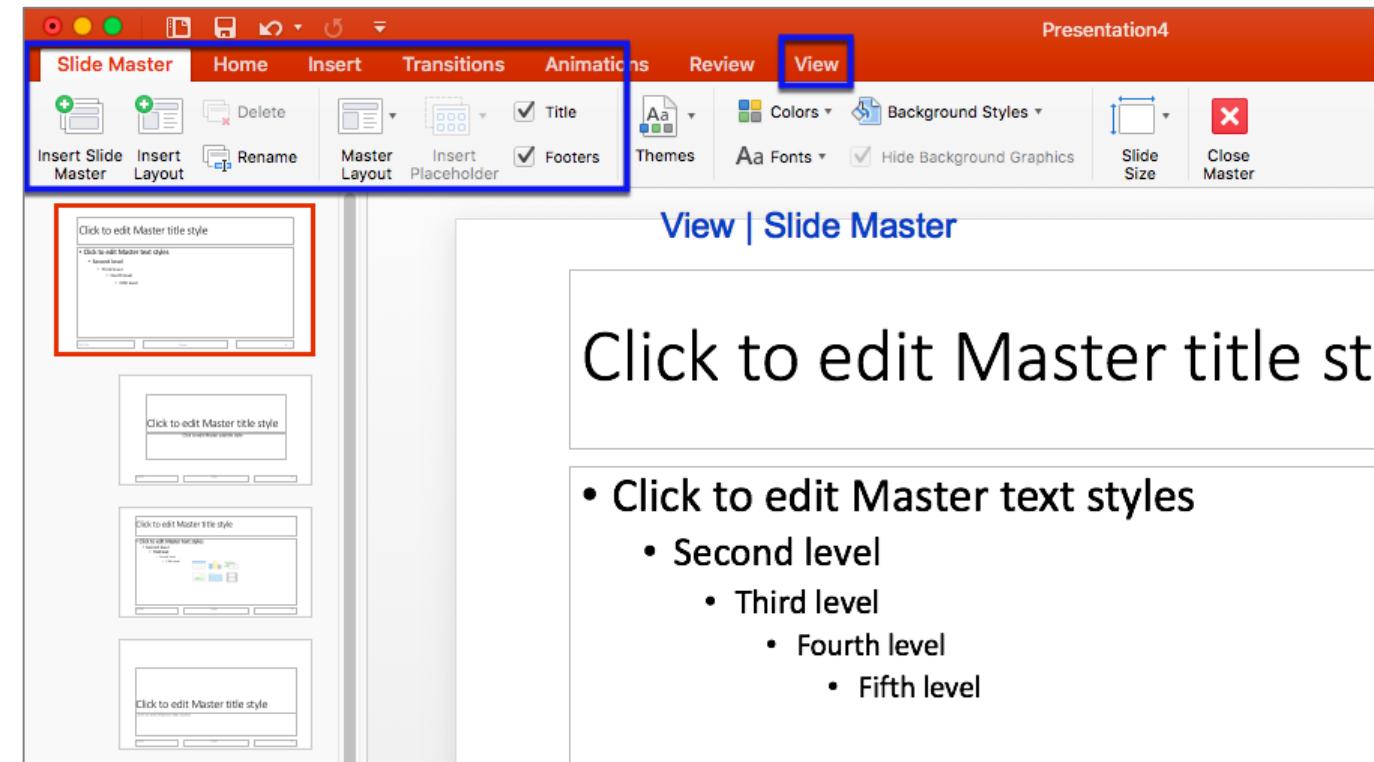
- Title, 1 of 3, Title, 2 of 3, Title, 3 of 3
- Title – Part I, Title – Part II
- Title – 1, Title – 2

Accessibility Checker will indicate “Duplicate Slide Title” and recommend to fix duplicate slide titles. “Every slide should have a unique title so those who cannot view the slide can still easily navigate to information.”



Slide Master Layouts aka Templates

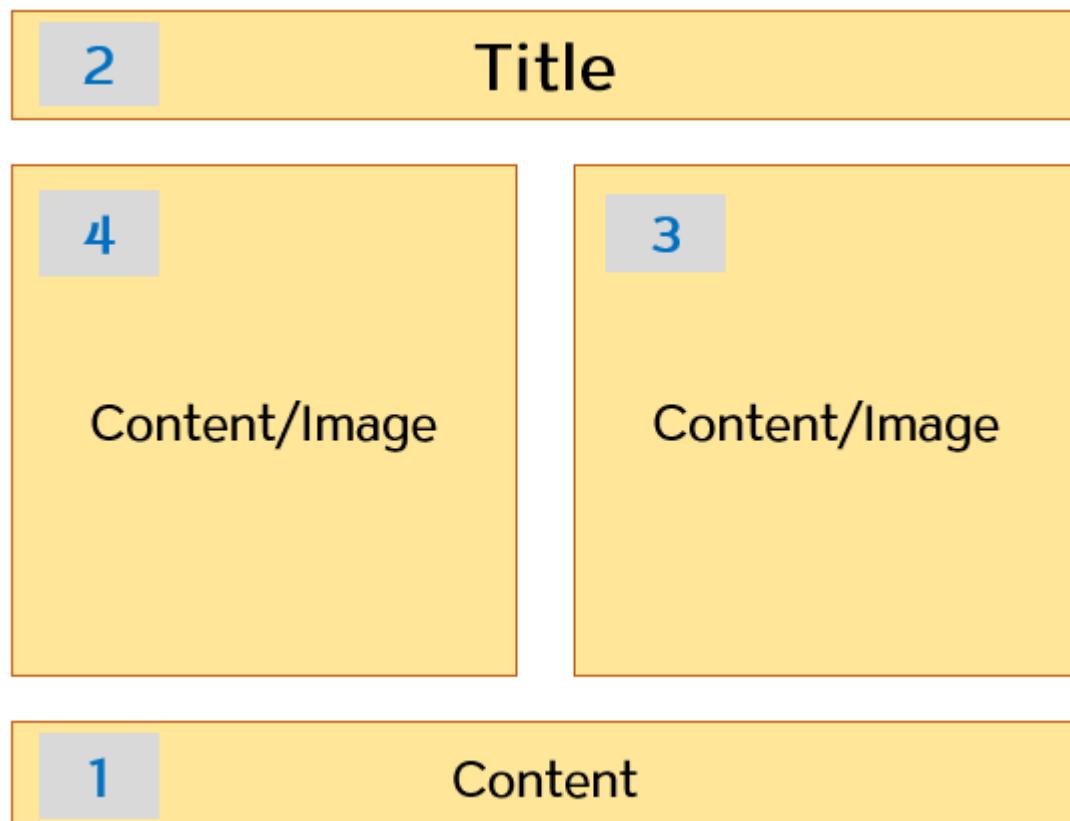
- Master slides control the look of your entire presentation, including colors, fonts, backgrounds, effects, and just about everything else.
- If you need to add another box of text that is not in Slide Layout, use Slide Master to **Insert Placeholder** options.
- You can insert a shape or a logo on a slide master, and it will show up on **all** your slides automatically.
- Add Alt Text to describe an image or logo.
- Verify **Slide Reading Order**.



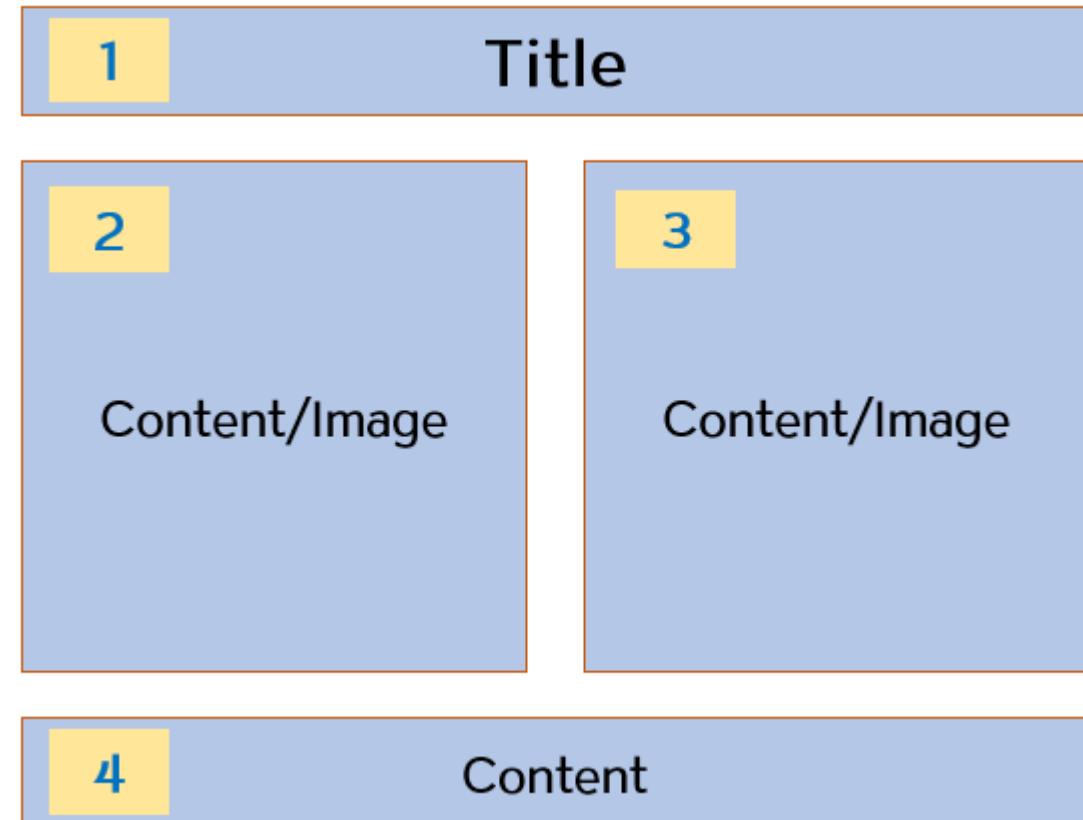
Slide Reading Order, 1 of 2

The order of slides content determines how the content will be presented to screen reader users, and other users of assistive technology. Verify reading order in the [Slide Master layouts](#).

Slide with **Incorrect** Read Order



Slide with **Correct** Read Order



Slide Reading Order, 2 of 2

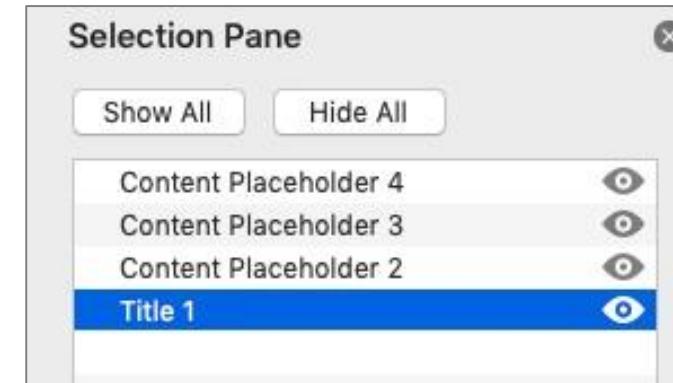
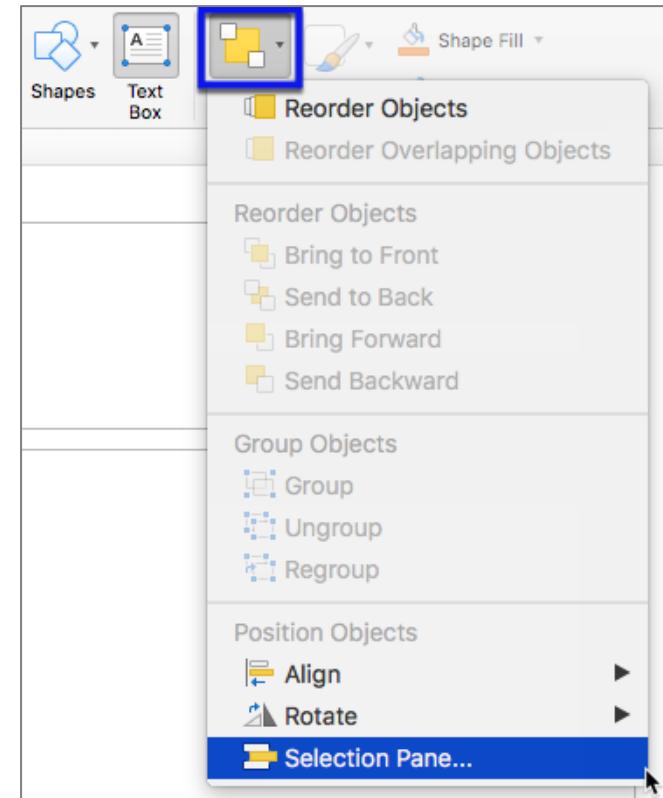
Verify in the **Slide Master layouts**.

To check or fixing reading order of a slide, select *Home > Arrange > Selection Pane*.

Reading order is shown in reverse, **bottom to top**. Click and drag or use the arrow buttons to change reading order.

*When the screen reader reads this slide, it reads the objects in the reverse order listed in the **Selection** pane.*

Important: The **Title** should always be read first as heading title.
Assistive technology users such as screen readers navigate by slide title.



The Reading Order

The PowerPoint reading order reads the objects in the reverse order listed in the **Selection** pane from **bottom to top**.

The screenshot shows the Microsoft Word Selection pane on the right side of the screen. It lists objects from bottom to top: Picture 7, Content Placeholder 4, Picture 6, Content Placeholder 3, Content Placeholder 2, and Title 1. To the left of the Selection pane is a comparison between two slide layouts. The first layout, titled "Slide with Incorrect Read Order", has four items: a title at the top, two content boxes below it, and a footer at the bottom. The second layout, titled "Slide with Correct Read Order", has the same four items but in a different order: a title at the top, a footer at the bottom, and two content boxes below it. Red arrows point from the bottom item in the Selection pane to the bottom item in each slide layout, indicating the reading order.

When exporting to PDF, the tags reading order reads from **top to bottom**. It's **very important** to ensure the slides reading order follow the PowerPoint's reading order in the correct order for the PDF to export correct reading order.

The screenshot shows the Microsoft Word XML Editor on the left, displaying the reading order structure for a slide. The structure is as follows:

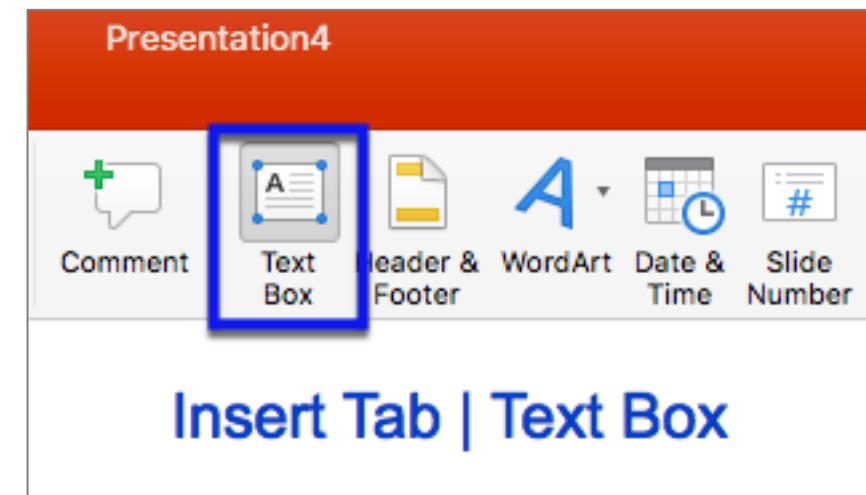
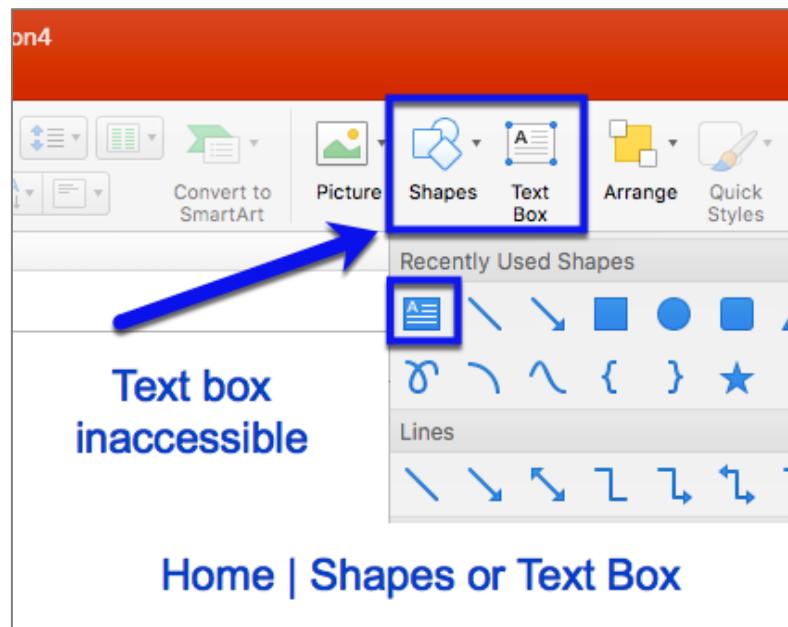
```
> <Figure>
  > <Sect>
    > <Sect>
      > <H2>
        > <Span>
          > <Figure>
            > <Caption>
              > <Text> Slide Reading Order,
            > <Text>
        > <Span>
      > <Sect>
        > <Text>
      > <Sect>
        > <Text>
      > <Figure>
        > <Caption>
        > <Text>
      > <Sect>
        > <Text>
      > <Sect>
        > <Text>
      > <Figure>
        > <Caption>
        > <Text>
      > <Sect>
        > <Text>
      > <Sect>
        > <Text>
      > <Figure>
        > <Caption>
        > <Text>
      > <Sect>
        > <Text>
      > <Sect>
        > <Text>
      > <Figure>
        > <Caption>
        > <Text>
```

To the right of the XML editor is a comparison between two slide layouts. The first layout, titled "Slide with Incorrect Read Order", has four items: a title at the top, two content boxes below it, and a footer at the bottom. The second layout, titled "Slide with Correct Read Order", has the same four items but in a different order: a title at the top, a footer at the bottom, and two content boxes below it. Red arrows point from the top item in the XML structure to the top item in each slide layout, indicating the reading order.



Text boxes inaccessible

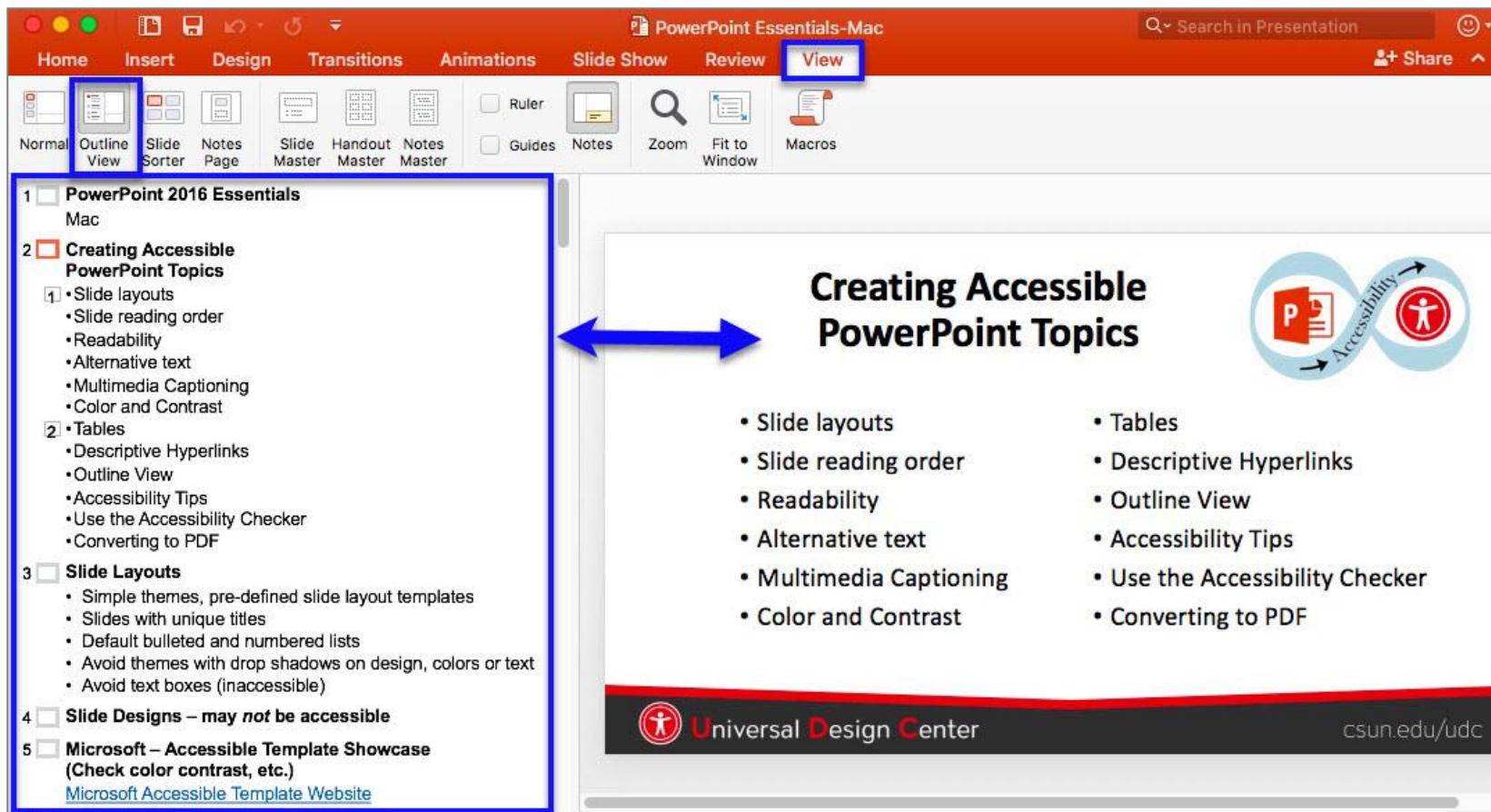
- Screen readers **may ignore** items like text in text boxes that are added to the slides.
- Text in text boxes **do not** show up in **Outline View**.
- Best approach is to use built-in slide layouts.



Outline View, 1 of 2

Use Outline View for a quick check of text accessibility and the read order in an entire slideshow.

View tab > Outline View



The screenshot shows the Microsoft PowerPoint ribbon with the "View" tab selected. The "Outline View" icon in the "Normal" view group is highlighted with a blue box. The "Outline View" pane is expanded, displaying a hierarchical outline of the presentation slides. A large blue double-headed arrow points from the left side of the slide content area to the right side, where the slide content is shown.

Creating Accessible PowerPoint Topics

- Slide layouts
- Slide reading order
- Readability
- Alternative text
- Multimedia Captioning
- Color and Contrast

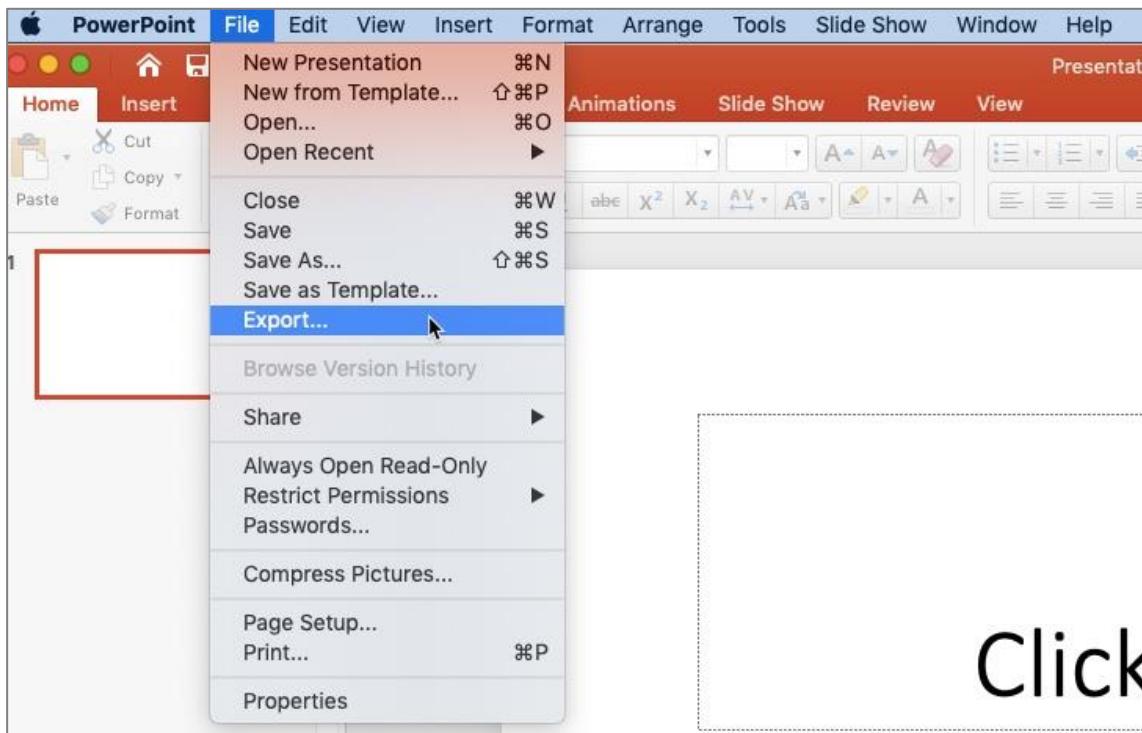
- Tables
- Descriptive Hyperlinks
- Outline View
- Accessibility Tips
- Use the Accessibility Checker
- Converting to PDF

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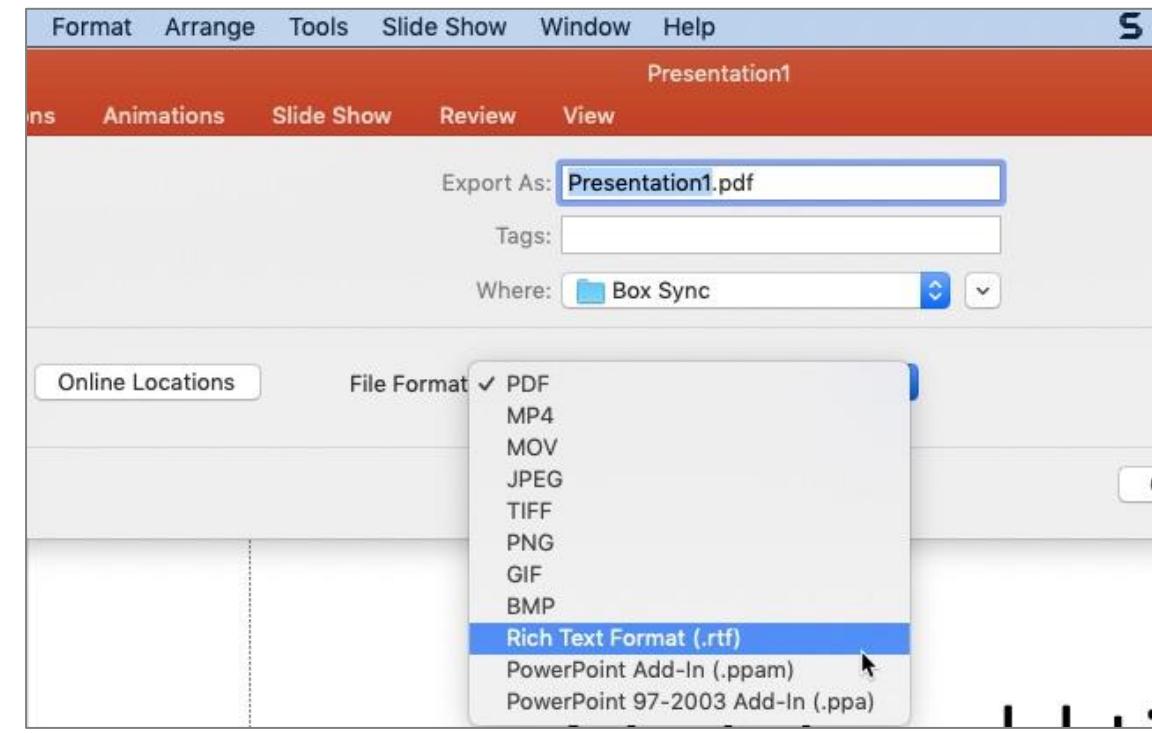
Microsoft Accessible Template Website

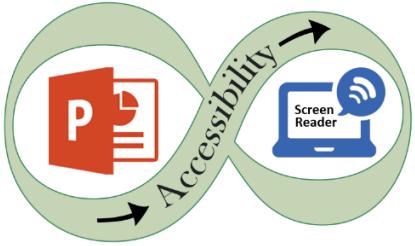
Outline View, 2 of 2

Outline provides text accessibility when someone needs an alternate format such as **braille or large print** of the presentation. When save the presentation as an Outline/Rich Text Format (RTF), the outline content will export to Word Document with accessible text structure. Using the built-in slide layouts will **save you time**.

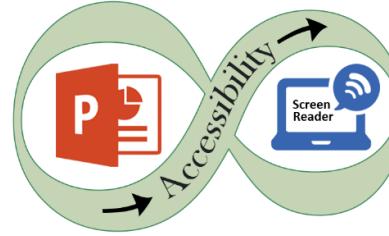


Click





Outline View tips

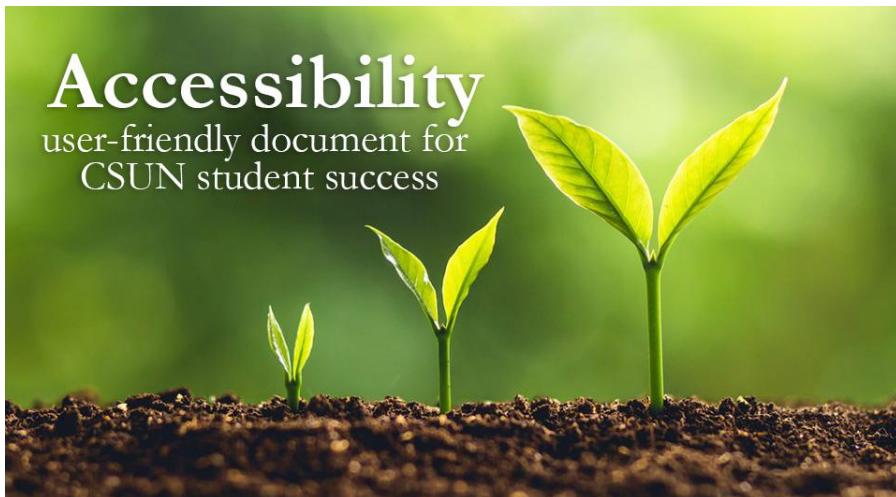


- Use Outline View for a quick check of text accessibility and the read order.
- To ensure that the Title and body text are identified correctly in each slide, choose the Outline view. In this Outline View the text and the order in which it will be read by a screen reader can be seen.
- Text can also be changed directly in the Outline view. Notice that tables, graphics and pictures **will not** show in Outline view.

- Any text not in pre-existing **Slide Layouts** (text placed in text boxes that are manually added to the slide) or in the ‘notes’ section **will not** appear in the Outline view.
- Screen readers **may ignore** items like text in text boxes that are added to the pages.



Image Alternative or Alt Text



Screen readers and other AT announce that it's an "image" or "graphic", then read the alt text: "Three plants going through transformation with text quote Accessibility user-friendly document for CSUN student success."

- The purpose of **Alt Text** is to allow low vision or blind users who use text-to-speech assistive technologies (AT), such as screen readers, to understand the purpose of graphic images. Sighted users usually don't see alt text unless they use AT.
- Screen readers and other AT **can't** convert images into texts. So, when writing alt text, consider the following for images:
 - Describe the content and the purpose of the image clearly and concisely, in a phrase or a sentence or two. Keep alt text short 200 characters or less.
 - Image with text (for example, the CSUN wordmark) should include the words on the image.
 - "Image of...", "Photo of..." is not needed because screen readers and other AT announce that it's an "image" or "graphic".
 - When completing the alt text, use proper punctuation such as periods to indicate the end of the alt text. Without proper punctuation, some screen readers will run the alt text into the body text that follows and cause confusion to the user.
 - Don't insert hyperlinks in alt text because they are not clickable and can't create descriptive link text.

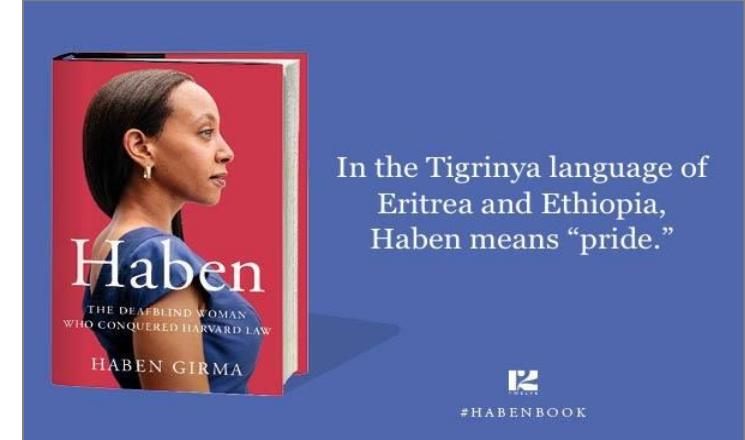
How to Describe Images?



A stair chase leading up to an entryway is painted yellow with bold black text that reads museums are now.



A hand reaches out of a computer screen giving the hand gesture for stop. The screen reads 'access denied!'



On the left is the book cover for Haben The Deafblind Woman Who Conquered Harvard Law, and on the right is the quote: "In the Tigrinya language of Eritrea and Ethiopia, Haben means 'pride.'"



Michelle Obama claps and Barack waves.



Student holds a diploma hardcover up in the air during CSUN commencement. Caption text "and together, as Matadors, we will move mountains."

More examples of How to Describe Images

- [Document Learning Tools: Describing images](#)
- [How to Describe Images](#) (Art, Chemistry, Diagrams, Flow Charts, Formatting & Layout, Graphs, Maps, Mathematics, Page Layout, Tables, Text-only images)
- [Periodic Table of the Elements](#)
- [UDC Best Practices for Describing Images](#)

What are Decorative Images?

- Conveys no information; does not provide meaningful information.
- Purely for visual effect.
- The horizontal line that divided the two sections.
- Line border image used as part of page design.
- Decorative images do not require a text alternative.
- **Decorative images, lines, borders, or shapes ignore by assistive technologies, such as screen readers.**

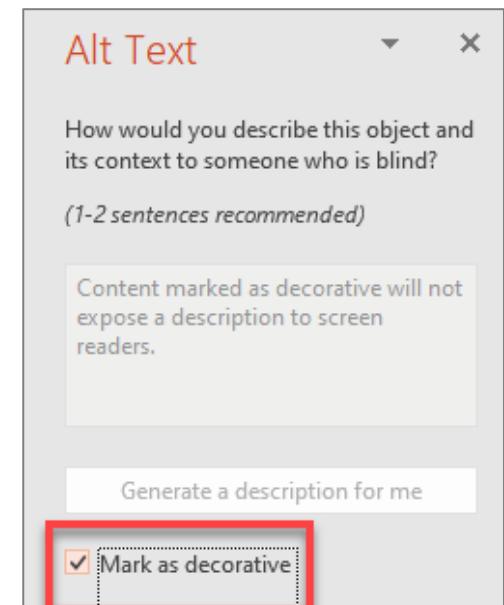
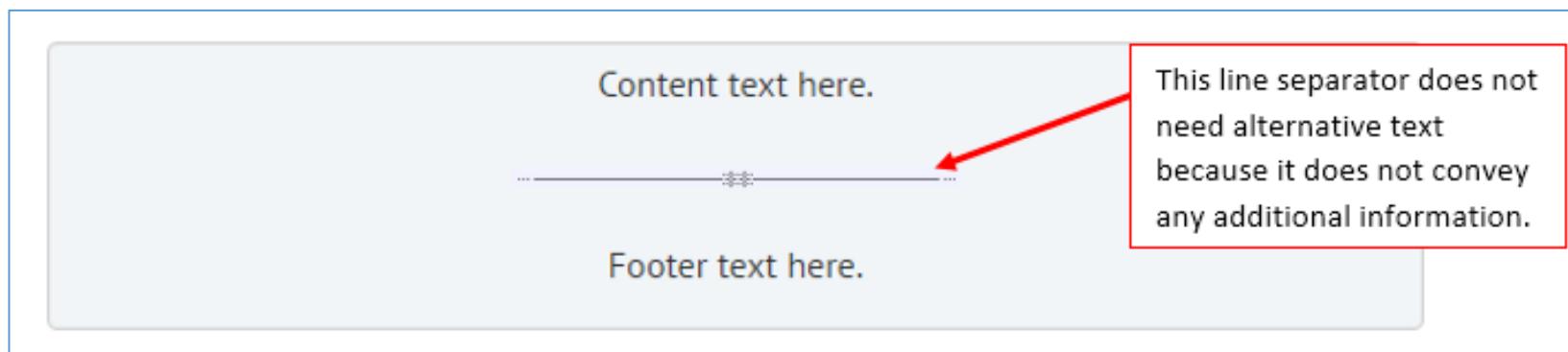
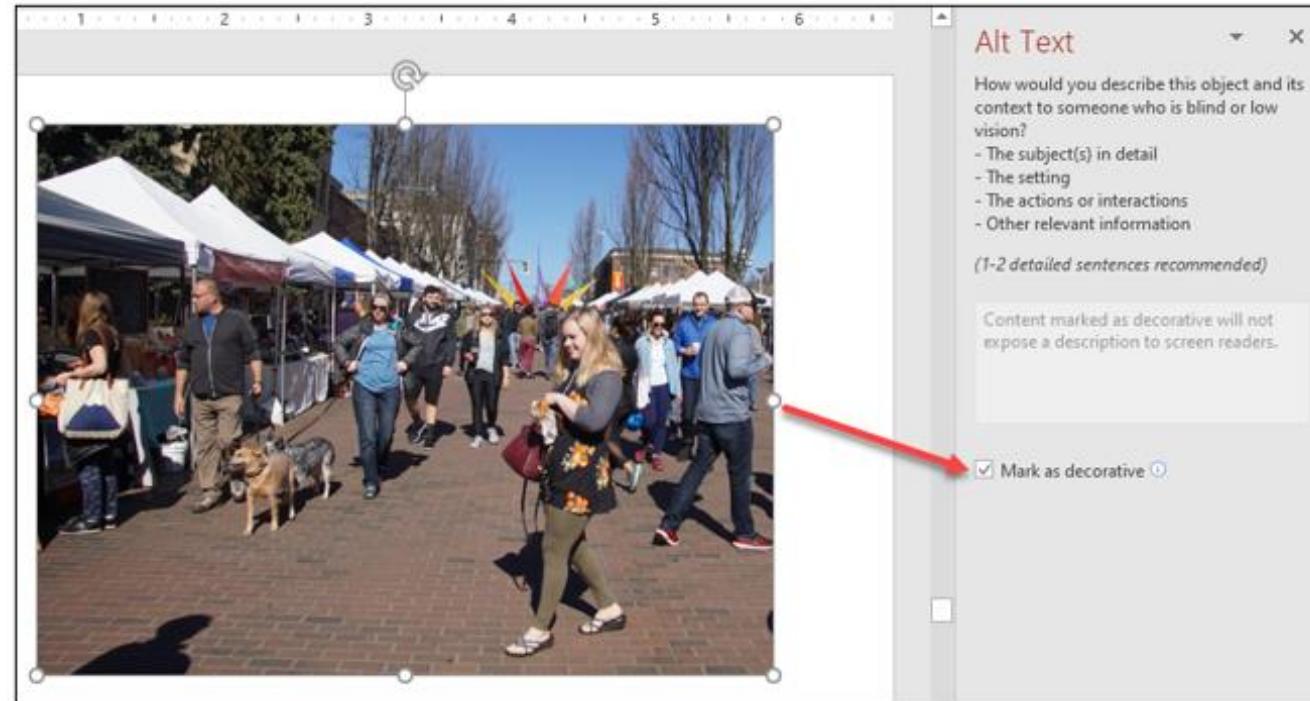


Image Captions

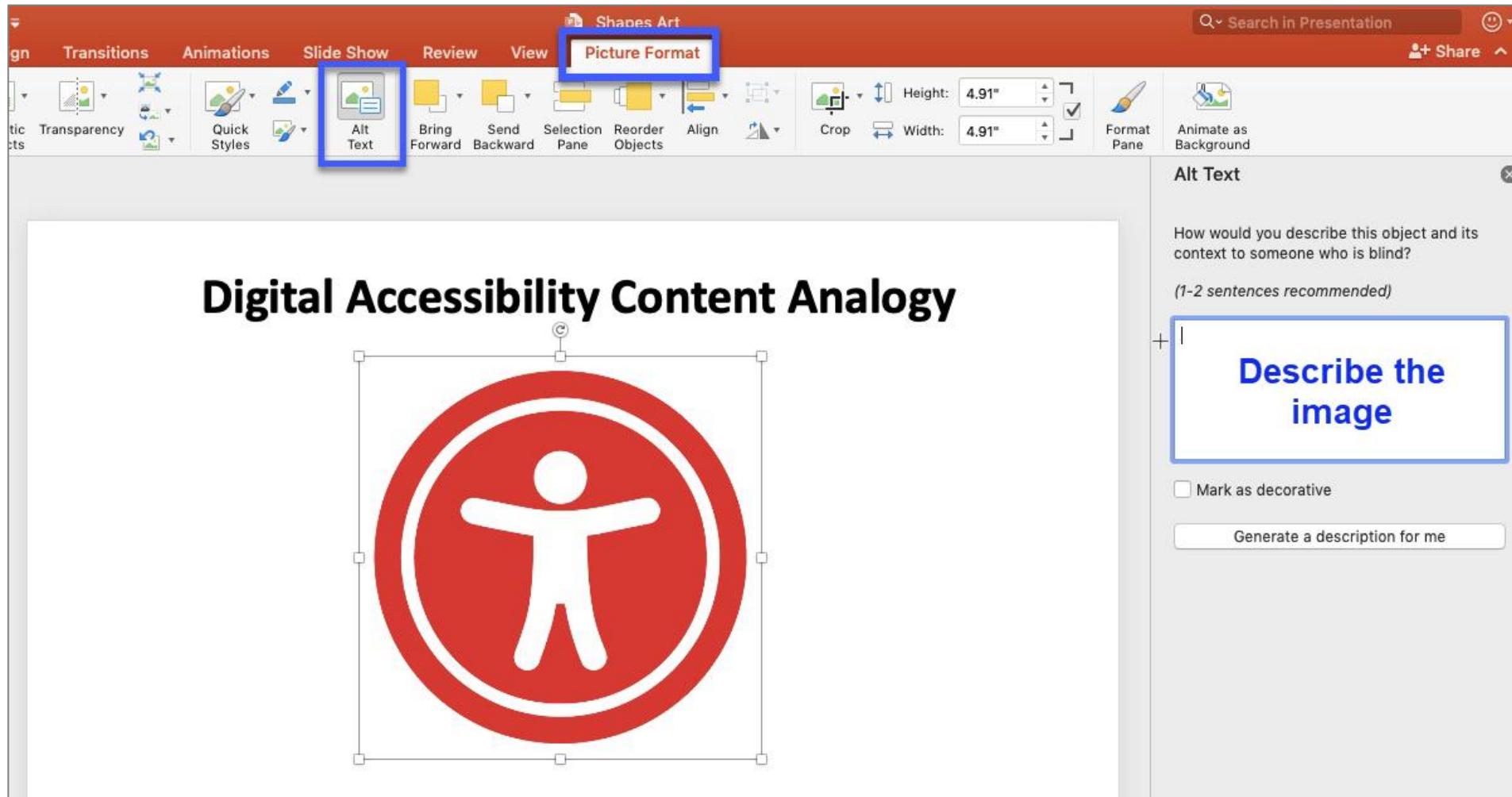
- Captions are universal and accessible for everyone.
- Captions are read and visible to all users whether they use assistive technologies (AT) or not.
- Captions and alt text have different purposes.
 - **Captions** convey what's visible in the image.
 - **Alt text** describes the visual aspect of the image and should be brief.
- If captions and alt text are similar in their descriptions, alt text can be “**Mark as decorative**” to be ignored by the screen readers.
- **Don't repeat** the image's caption as the alt text. People don't need to hear the same information twice.



A crowd of people are walking and shopping at an outdoor market.

Alt text: Mark as decorative

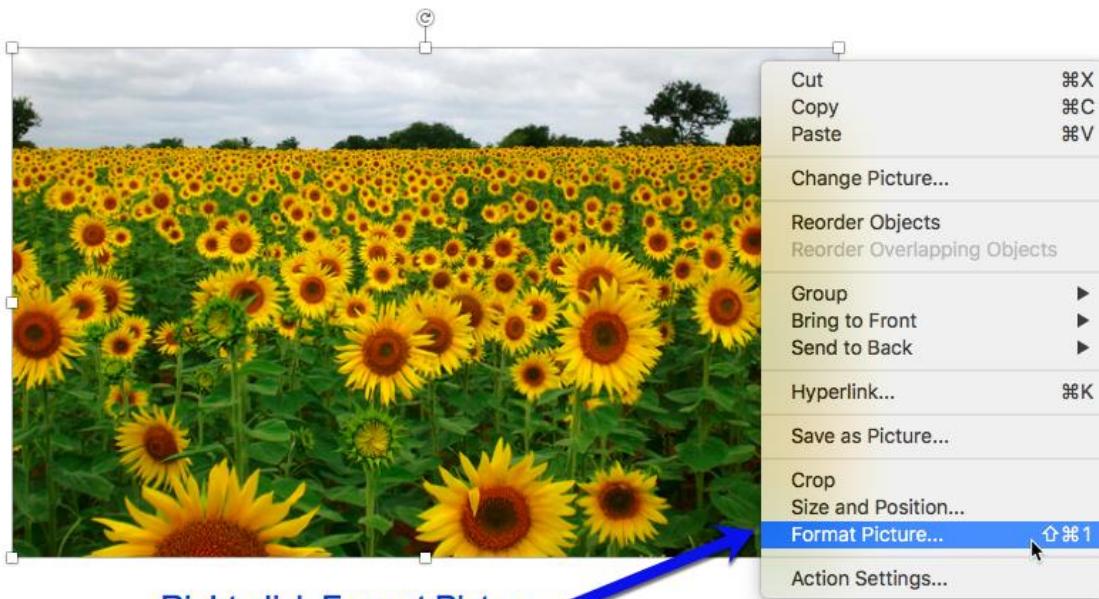
Adding Alt Text for Office 365



Select the image, Picture Format tab, select “Alt Text”

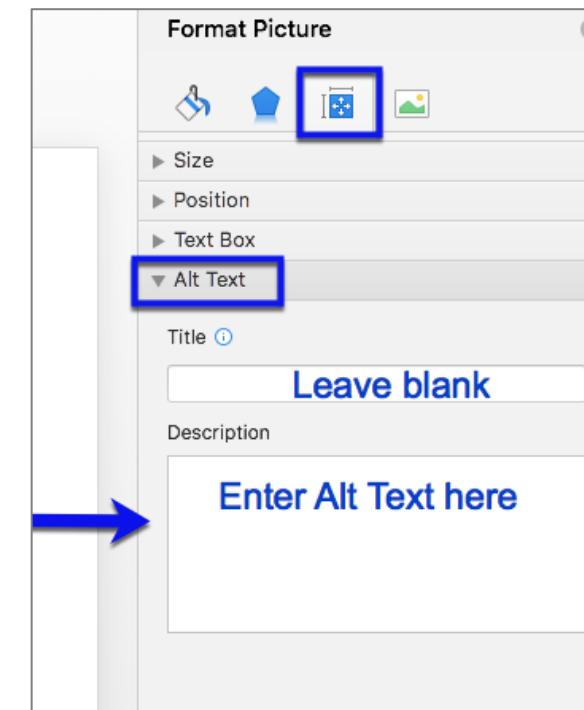
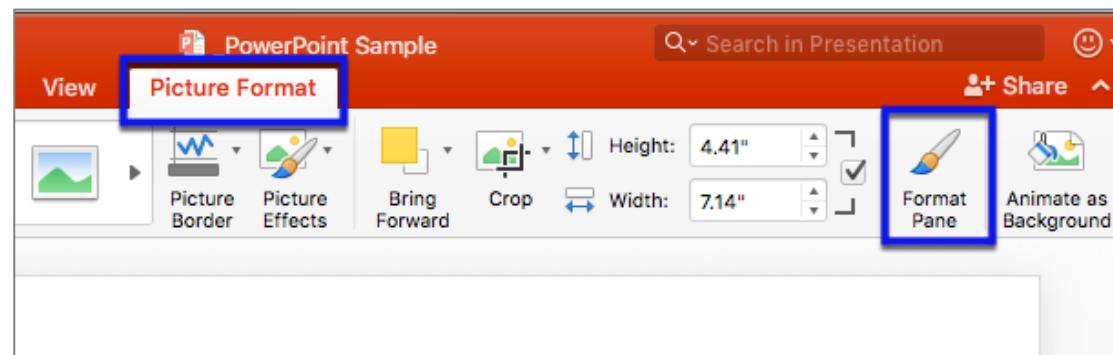
Alt Text for Office 2016

About Sunflowers



Option 1: Mouse right-click Format Picture

Option 2: Select a picture, Picture Format tab, Format Pane, Alt Text



Alt Text for Complex Images using Artificial Intelligence (AI)

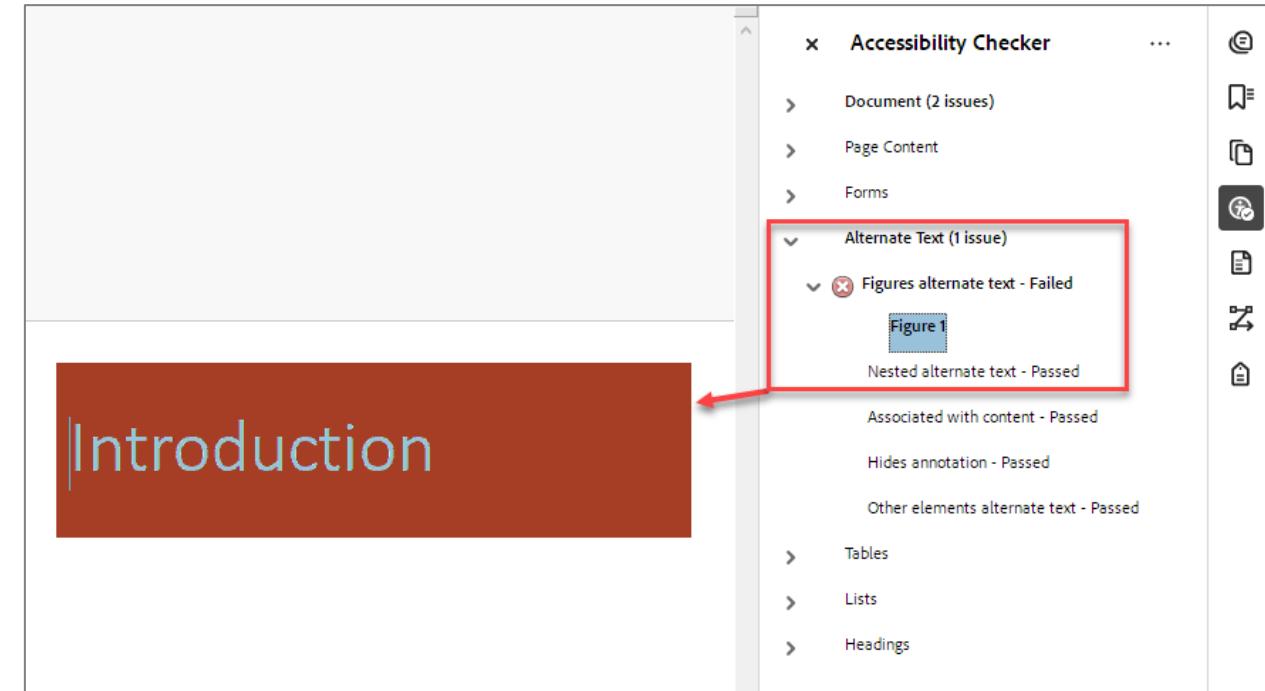
Some images are easy to describe but many are not. For charts, graphs, infographics, artwork, and other complex images, artificial intelligence (AI) will generate the first draft of the alt text, making it easier and faster for you to create the final image description.

- [Image Accessibility Creator](#)
- [ChatGPT Alt-Text Generator Assistant](#)



Slide title with background color – PDF failed

Slide title with background



PDF Accessibility Checker reports “Figures alternate text – failed”

Acrobat explanation:

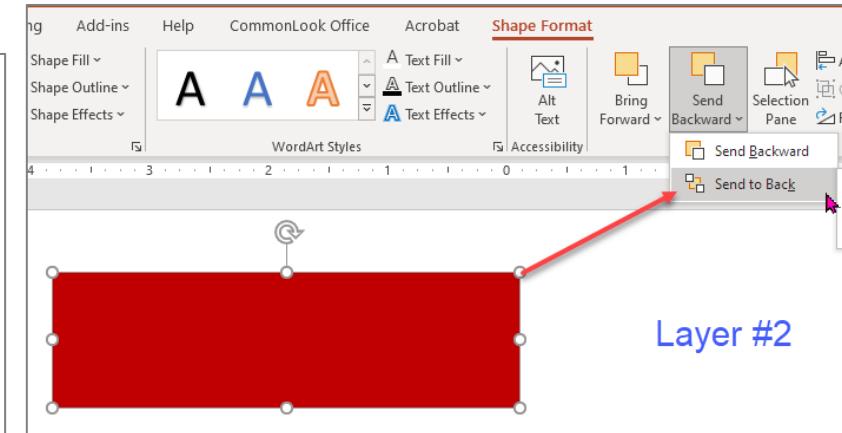
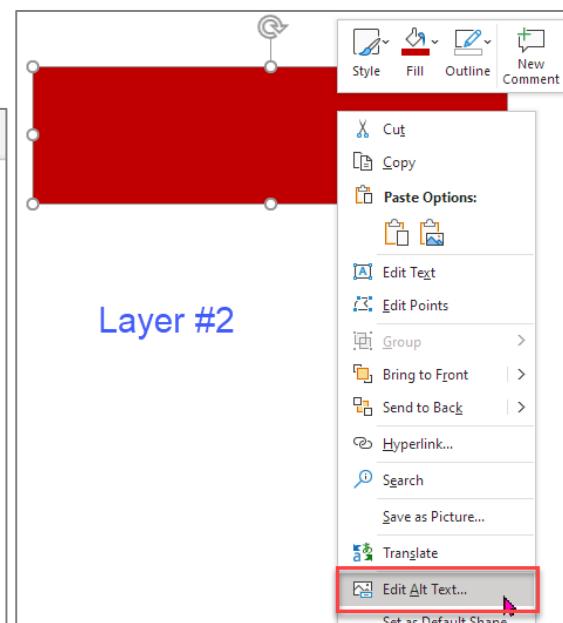
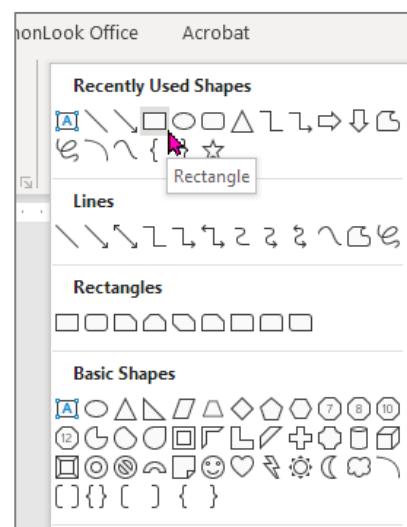
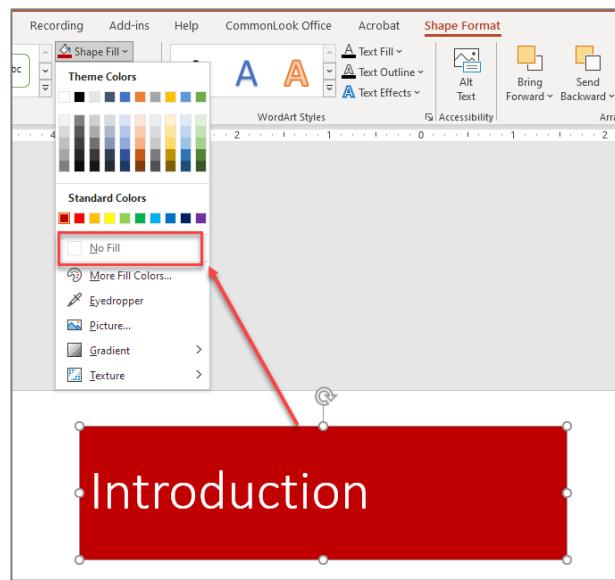
- Make sure that images in the document either have alternate text or are marked as artifacts.
- If we choose **Fix** from the **Options** menu, mark as decorative, screen readers will ignore the text “Introduction.” Follow next slide how to avoid using Edit Text tool.

Create two separate layers: Title and Shape

Create two separate layers:

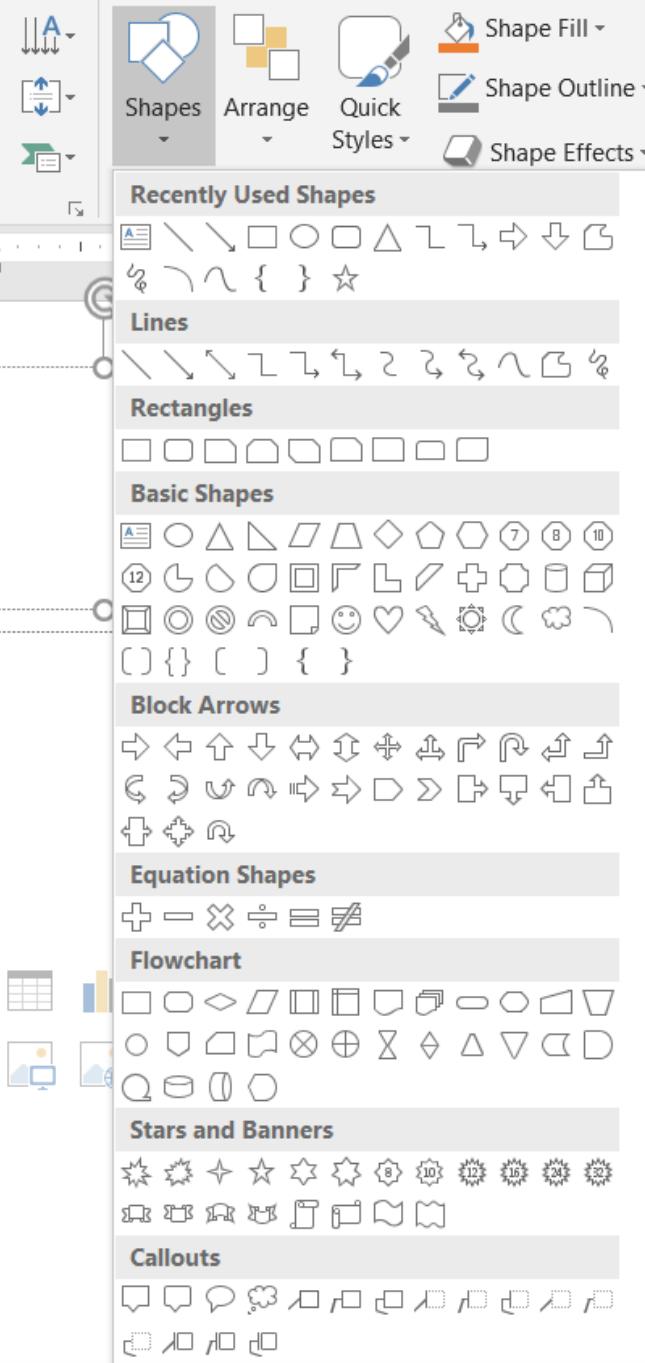
- Layer #1: Keep slide title box without background color.
- Layer #2: In Drawing group, select rectangle shape, then right-click to select **Edit Alt Text** to mark as decorative for screen reader to ignore the shape.
- Select the rectangle shape to **Send to Back** so the text will be up front layer. Ensure slide title and background have color contrast. Use simple and light background with dark text or dark background with white text is the best approach.
- Keep the shape and text as two separate layers; do not group them together.

Don't fill the background color with text. Select title box, select Shape Fill, No Fill to clear the background color.



Format

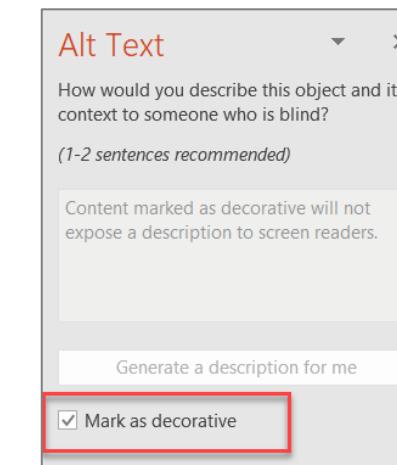
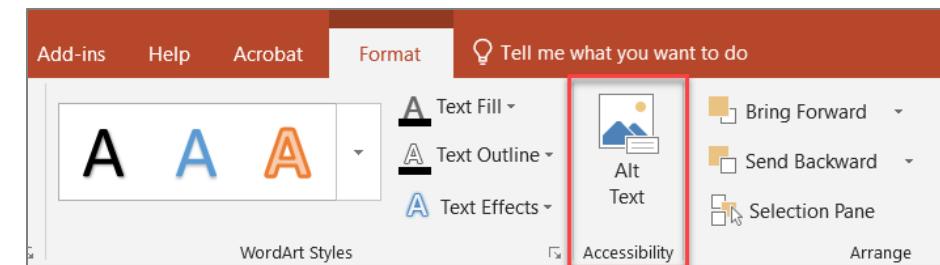
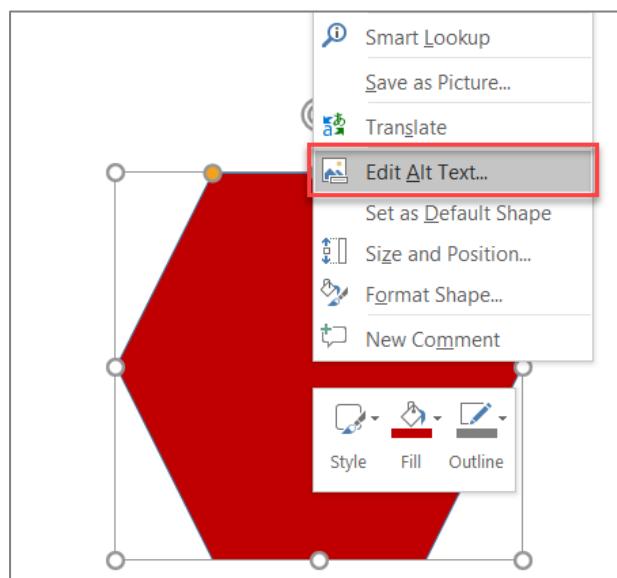
Tell me what you want to do



Shapes

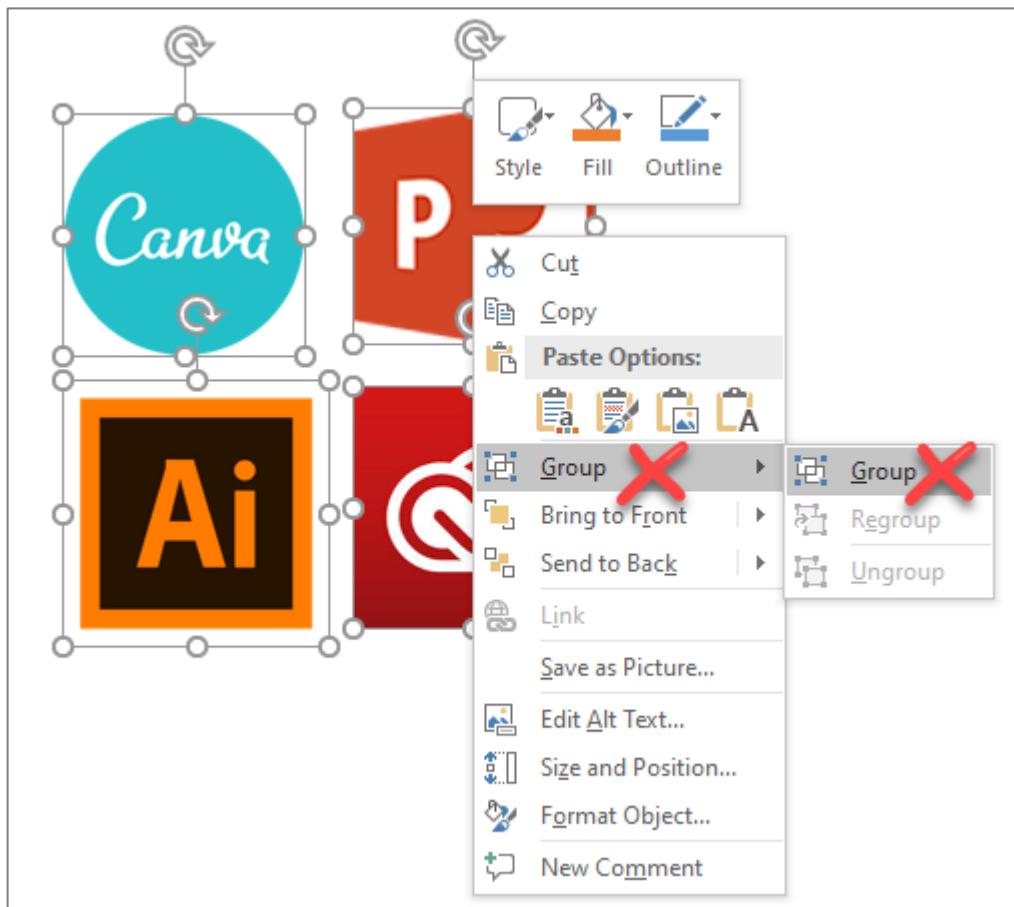
All SHAPES mark as decorative to ignore by the screen readers.

- Draw the shape under Drawing group
- Select the shape, right-click to select Edit Alt Text or Format tab
- Select the checkbox “Mark as decorative”



Group images or objects

DO NOT group images or objects together then adding alternative text (alt text) at once. PDF accessibility checker reports “Figures alternative text – Failed.”
Alt text or mark as decorative image/object individually.



A screenshot of the Microsoft Word ribbon interface showing the "Alternate Text" dialog. The "Figures alternate text - Failed" section is expanded, listing four figures (Figure 1, Figure 2, Figure 3, Figure 4) with failed status. Below this, other items are listed as passed: Nested alternate text - Passed, Associated with content - Passed, Hides annotation - Passed, and Other elements alternate text - Passed. At the bottom, there are sections for Tables and Lists.

Alternate Text (1 issue)	
Figures alternate text - Failed	
Figure 1	
Figure 2	
Figure 3	
Figure 4	
Nested alternate text - Passed	
Associated with content - Passed	
Hides annotation - Passed	
Other elements alternate text - Passed	
> Tables	
> Lists	

Descriptive Link Text, 1 of 2

Not Accessible – vague and redundant

CSUN News

CSUN Honors Four Exceptional Graduate Students for Thesis and Project Work

CSUN's Division of Academic Affairs has selected four exceptional CSUN graduate students as the winners of the 2020 Distinguished Thesis/Graduate Project Competition, with each receiving a \$1,000 award and recognition from the university. [Read more.](#)

CSUN Team to Tap into Power of Inouye Telescope to Study Sun's Atmosphere

With the aid of a telescope in Hawaii, a team of professors at California State University, Northridge hope to solve some of the mysteries found in the sun's atmosphere, information that could help us better understand the impact of solar flares, as well as what is happening with other stars in our solar system.

[Read more.](#)

Minimizing the COVID Slide During the Summer

In response to the COVID-19 pandemic, schools across the nation transitioned to meeting online. Given the abruptness of the transition and lack of preparation parents had in becoming in-home teachers' aides, many parents and educators are worried about a "COVID slide" or "COVID slowdown," where students fail to retain any new information learned before and during the pandemic — as well as over the summer, when students are not in school.

[Click here](#)

Screen readers read: "Read more, link" "Read more, link" "Click here, link"

Accessible – descriptive and unique

CSUN News

CSUN Honors Four Exceptional Graduate Students for Thesis and Project Work

CSUN's Division of Academic Affairs has selected four exceptional CSUN graduate students as the winners of the 2020 Distinguished Thesis/Graduate Project Competition, with each receiving a \$1,000 award and recognition from the university. [Learn more about CSUN's Four Exceptional Graduate Students.](#)

CSUN Team to Tap into Power of Inouye Telescope to Study Sun's Atmosphere

With the aid of a telescope in Hawaii, a team of professors at California State University, Northridge hope to solve some of the mysteries found in the sun's atmosphere, information that could help us better understand the impact of solar flares, as well as what is happening with other stars in our solar system.

[Continue reading about CSUN's Astronomy Team.](#)

Minimizing the COVID Slide During the Summer

In response to the COVID-19 pandemic, schools across the nation transitioned to meeting online. Given the abruptness of the transition and lack of preparation parents had in becoming in-home teachers' aides, many parents and educators are worried about a "COVID slide" or "COVID slowdown," where students fail to retain any new information learned before and during the pandemic — as well as over the summer, when students are not in school.

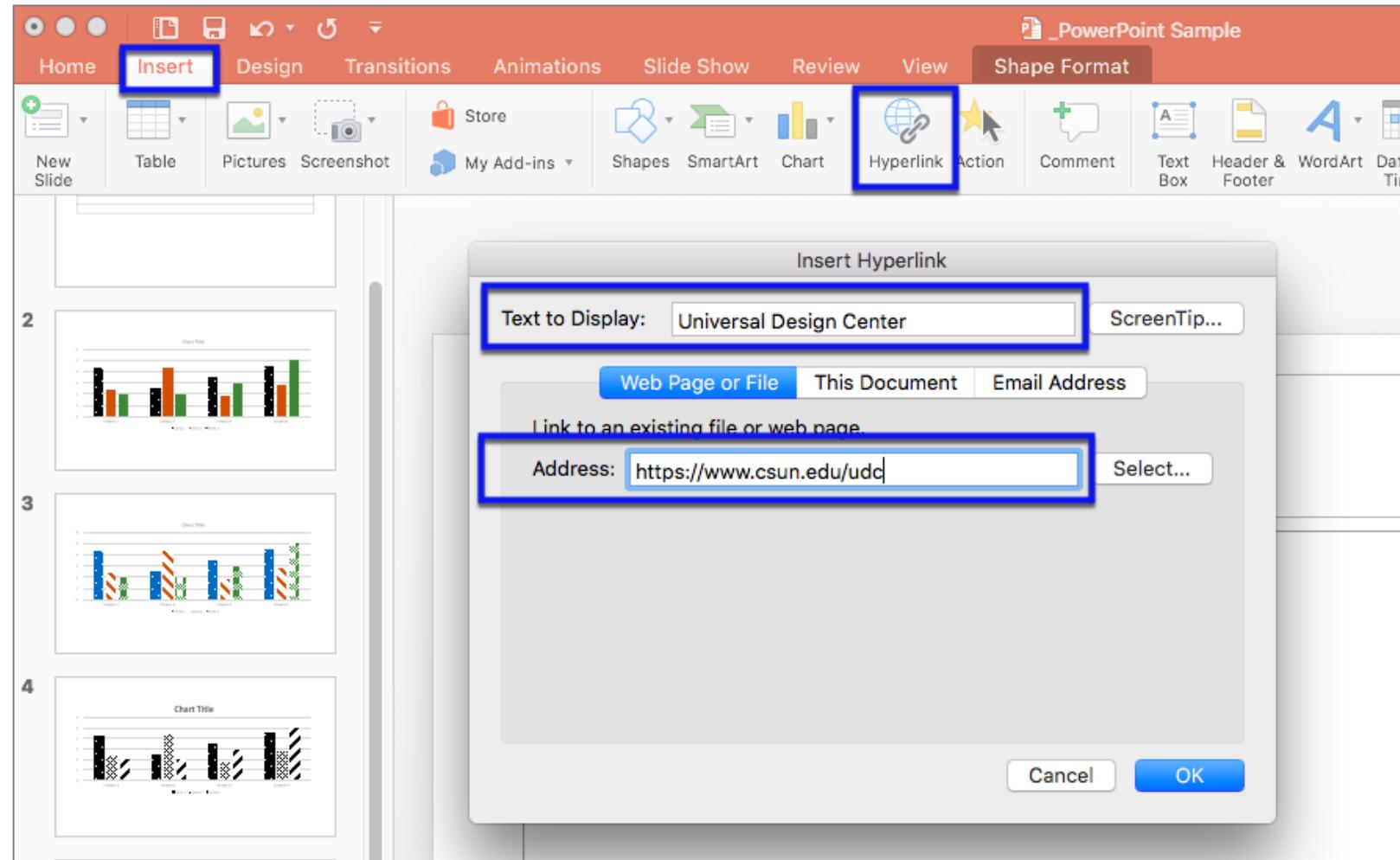
[Learn more about the "COVID Slide".](#)

Screen readers read: The content and link text then announce the word "link"

Full URL text <https://www.csun.edu/universal-design-center>

(raw URL may not make sense to screen reader users or others, so make the link text descriptive i.e. [Universal Design Center](#))

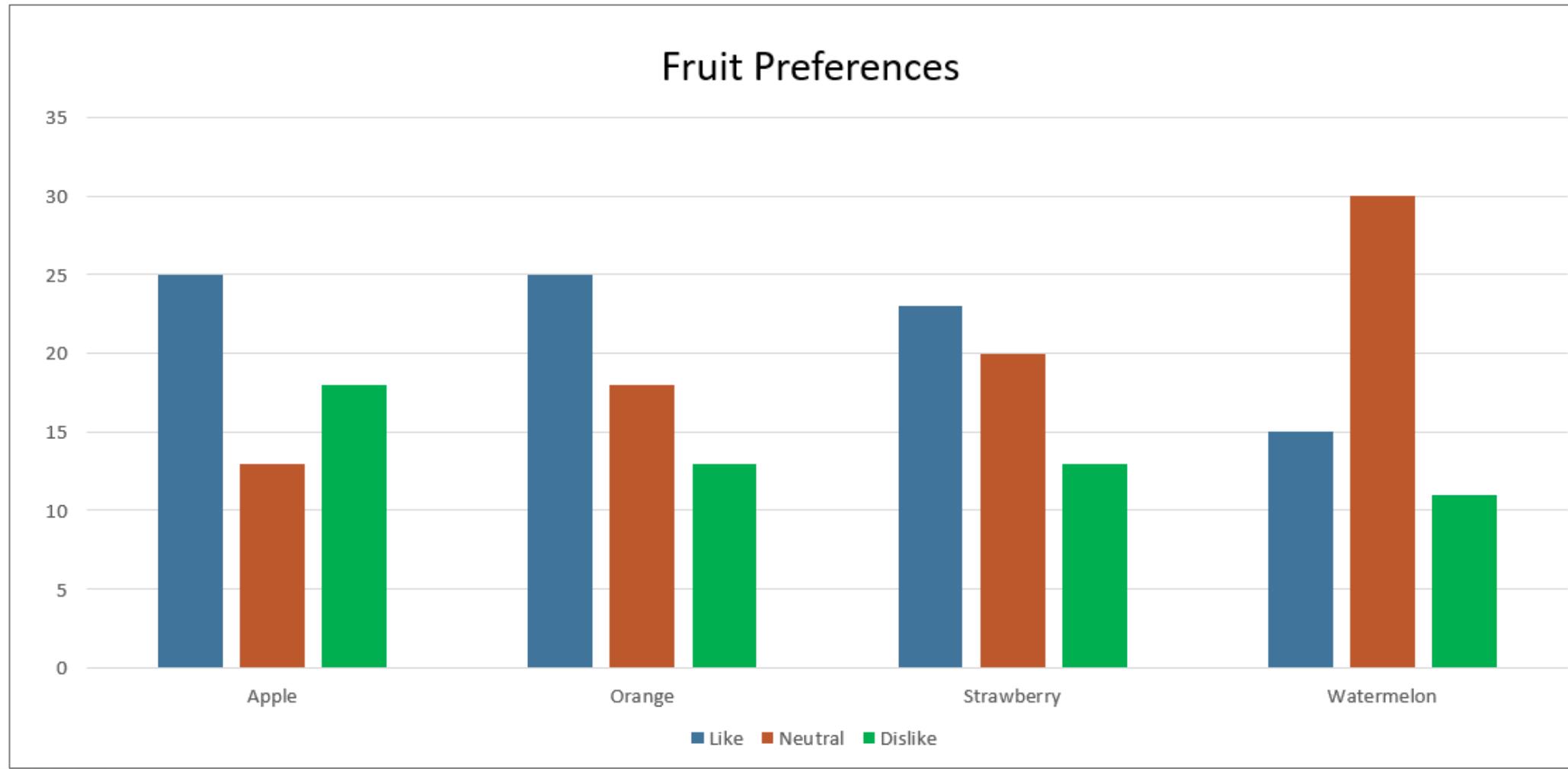
Descriptive Link Text, 2 of 2



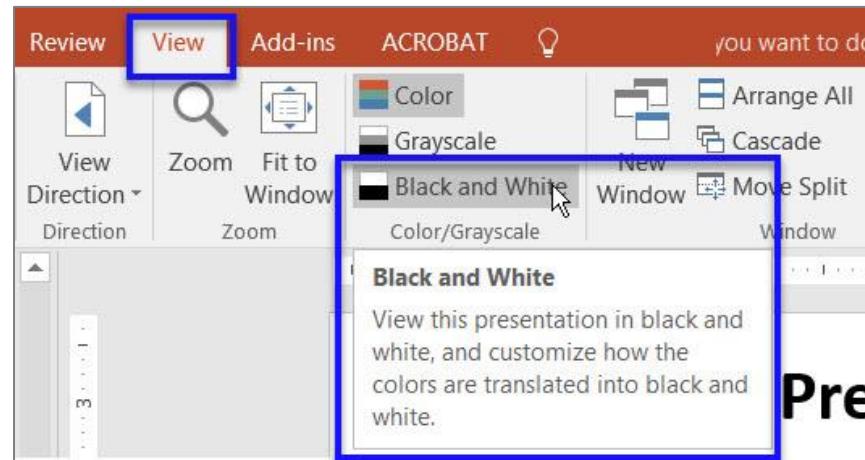
The screenshot shows a Microsoft PowerPoint interface. The ribbon at the top has the 'Insert' tab selected. In the center, a 'Hyperlink' icon is highlighted. A callout bubble points to the 'Text to Display' field in the 'Insert Hyperlink' dialog box, which contains the text 'Universal Design Center'. Another callout bubble points to the 'Address' field, which contains the URL 'https://www.csun.edu/udc'. The background shows three slides with charts.



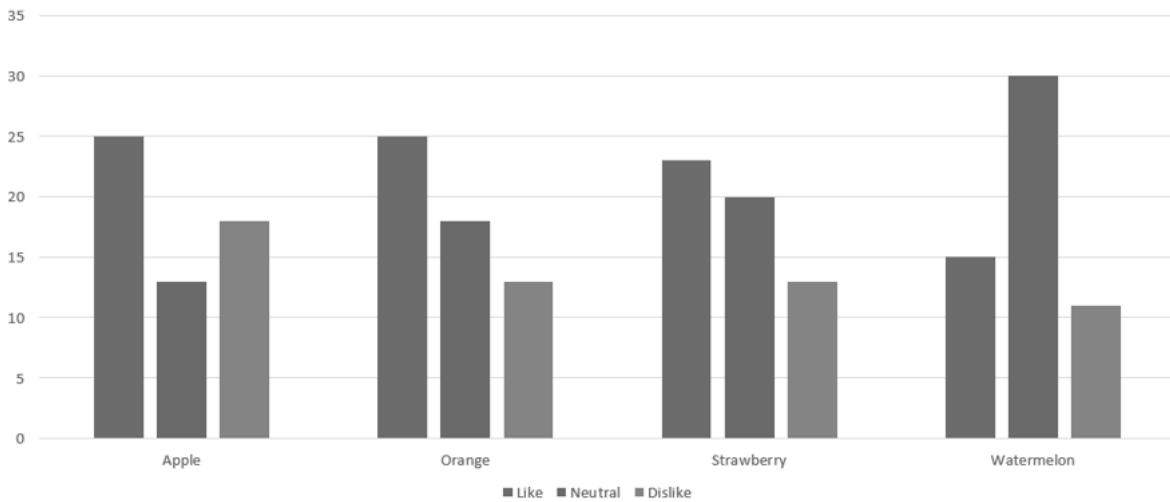
Why Color Coding is Not Accessible?



View Presentation in Black & White

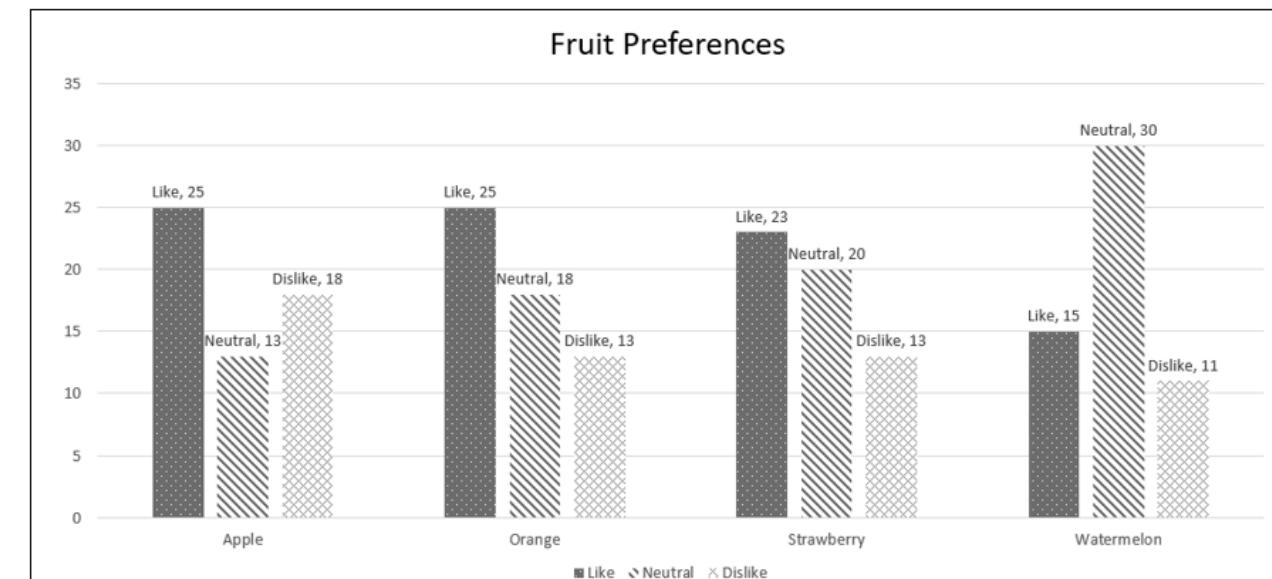


Fruit Preferences



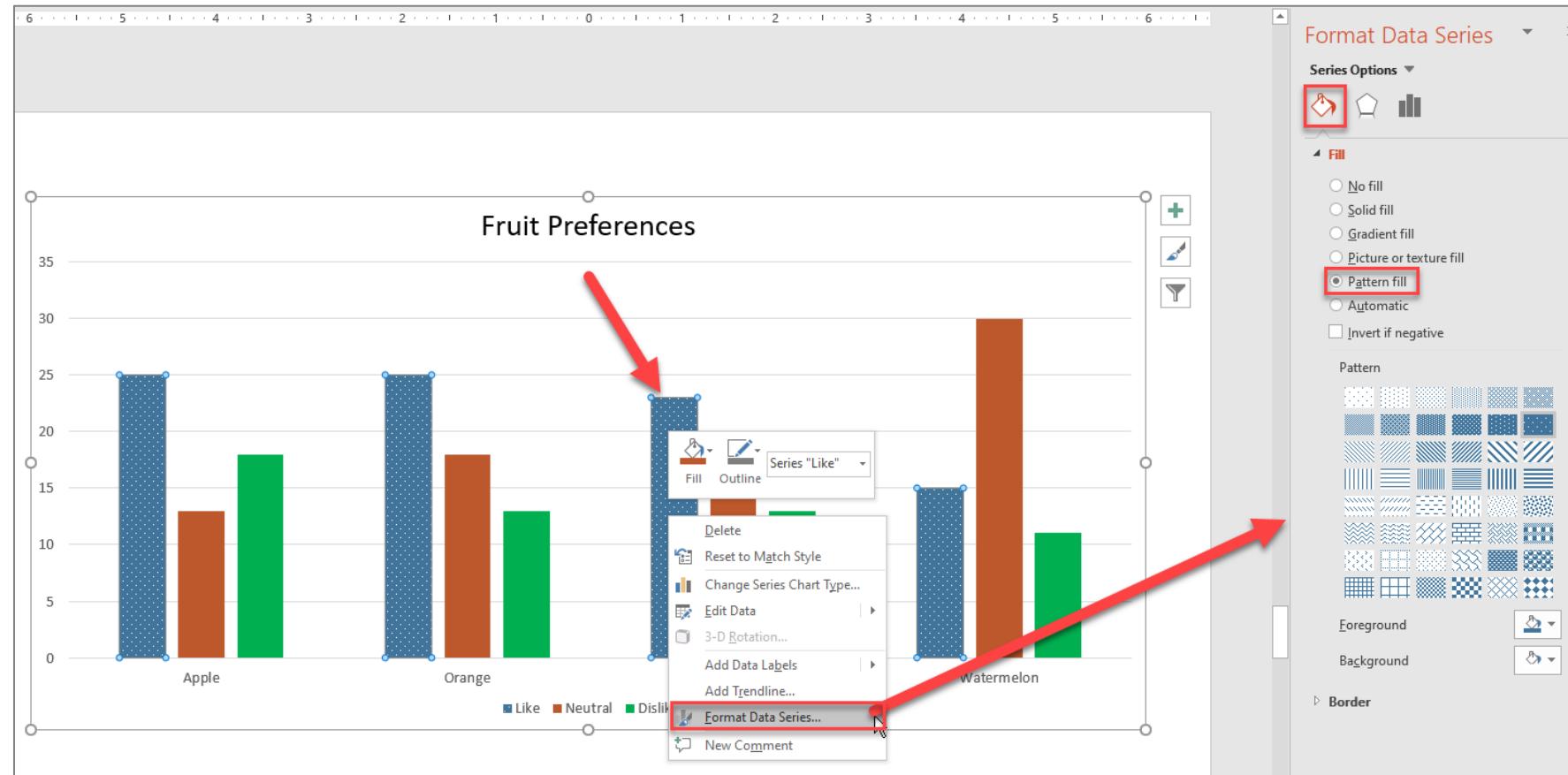
Pre

Fruit Preferences

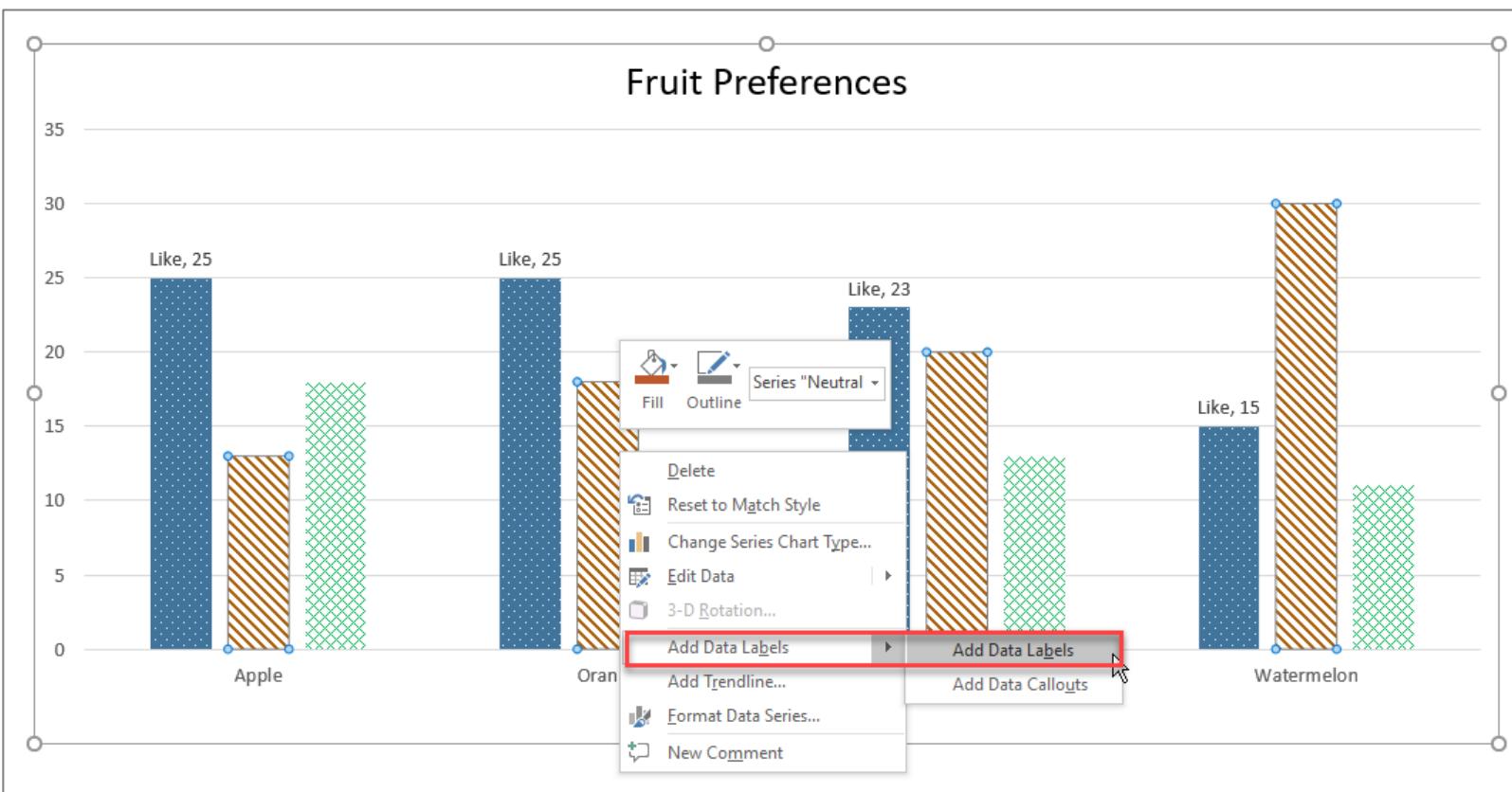


Pattern Fill – Format Data Series, Fill & Line

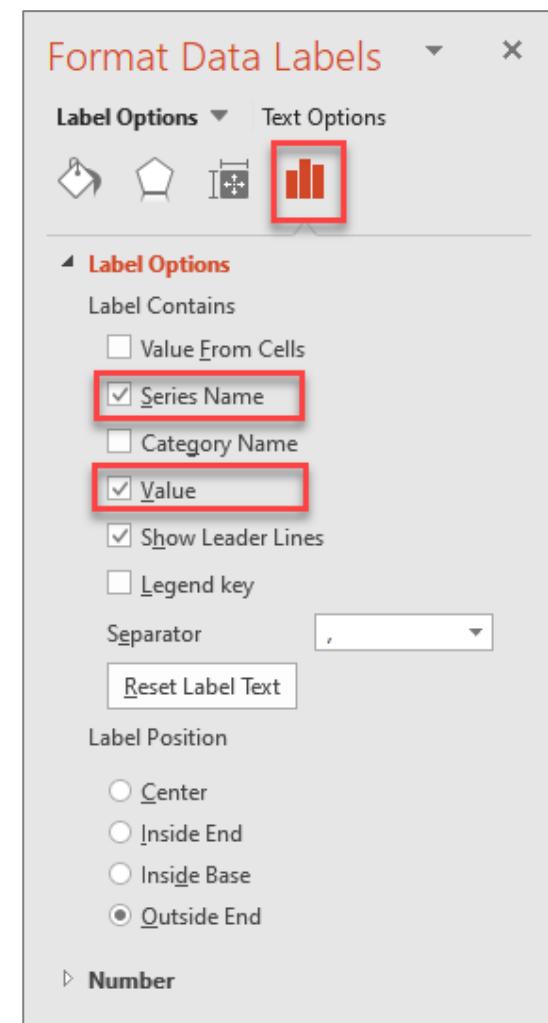
- Select 1 of 3 bars
- Option 1: Mouse right-click to select **Format Data Series**
- Option 2: **Format** tab, select **Format Selection**
- **Fill & Line** icon
- **Pattern Fill & Select Pattern type**
- Repeat for each bar with a different pattern type



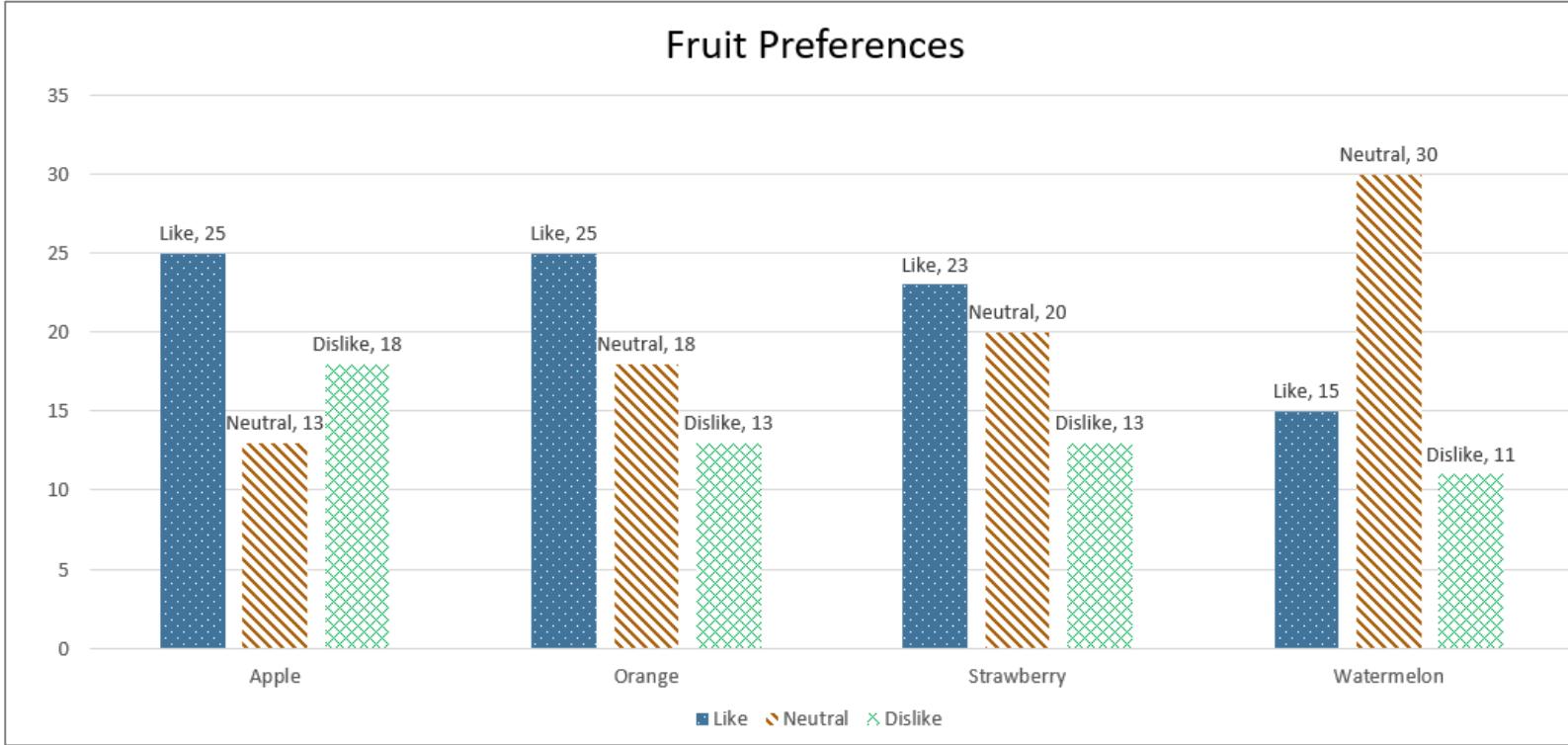
Add Data Labels



- Select 1 of 3 bars
- Option 1: Mouse right-click to select **Add Data Labels**, **Add Data Labels**
 - Right-click again to select **Format Data Labels**
 - On right pane, select **Series Name**
- Option 2: **Design** tab, select **Add Chart Element**, **Data Labels**
 - Under **Data Labels**, select **More Data Label Options**
 - On right pane, select **Series Name**
- Repeat for each bar



Pattern Fill, Data Labels, Tabular Info

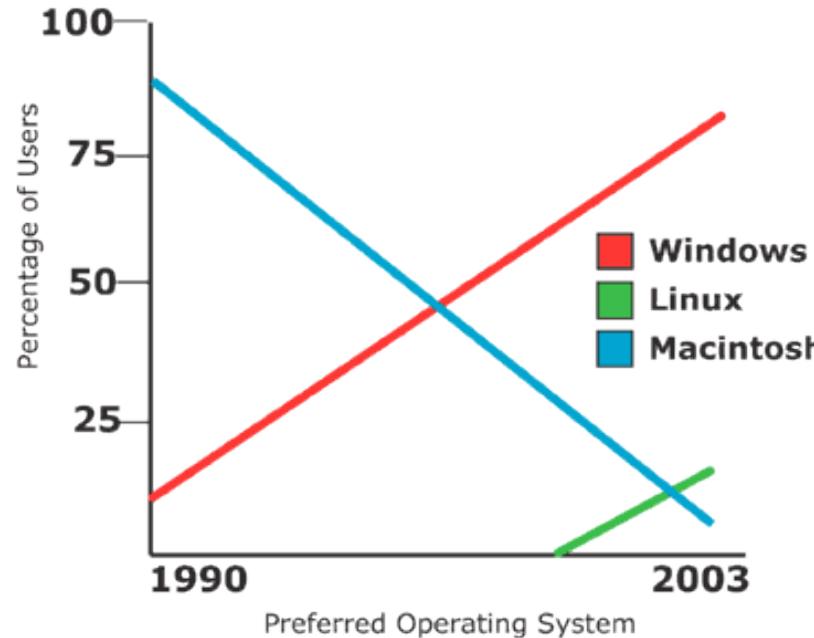


-	Like	Neutral	Dislike
Apple	25	13	18
Orange	25	18	13
Strawberry	23	20	13
Watermelon	15	30	11

Text descriptions for charts in tabular format

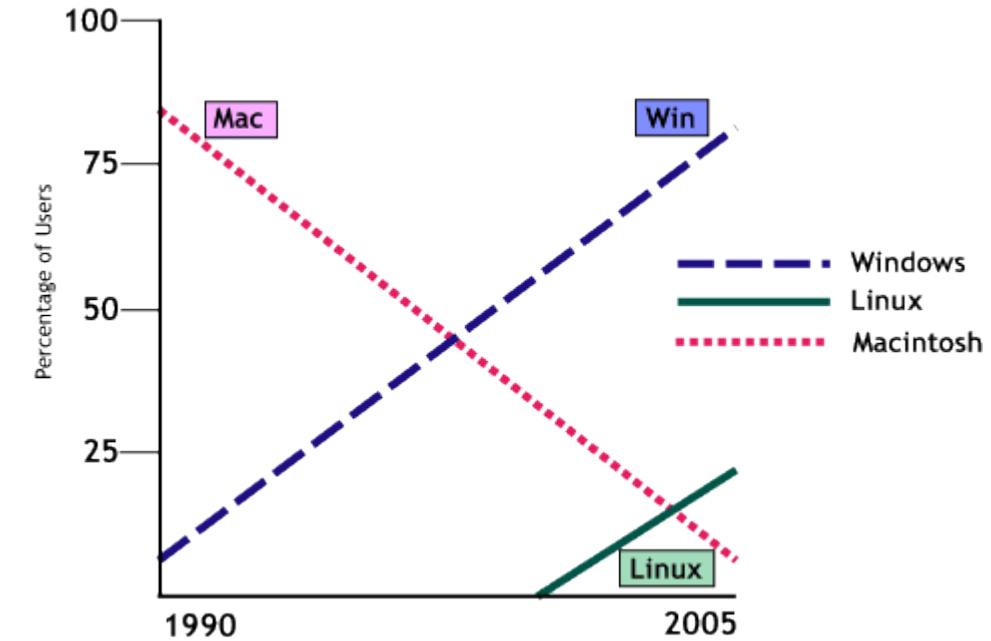
Charts, graphs and maps use visuals to convey complex images to users. But since they are images, these media provide serious accessibility issues to colorblind users and users of screen readers. See the examples on this page for details on how to make charts more accessible. Visit [Charts & Accessibility by Penn State](#)

Line Charts



Inaccessible Line Chart

This is an inaccessible line chart based on the data in the table comparing percentage of Mac and Windows users in 1990 and 2003. In grayscale, these colors are virtually identical may not be recognized by colorblind users.



Accessible Line Chart

This chart replaces three solid lines with one solid line and two dotted lines, with labels for each. For line charts, changing the style of the graph lines and adding labels increases usability. [Charts & Accessibility by Penn State](#).



Provide descriptions if using color to convey meaning

Example 1: Inaccessible color highlights in red

May 11 to 17, 2019

Example 1: Accessible with a description

May 11 to 17, 2019* (final exams)

Example 2: Inaccessible table

	Assignments (overdue in red)
	Introduction
	Chapter 1

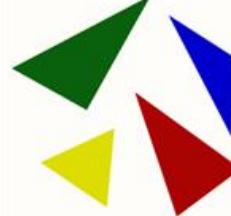
Example 2: Accessible table

Assignments	Overdue
Introduction	Yes
Chapter 1	No

Example 3: Inaccessible color shape

Example: Refer to something using color alone

✗ Color only



Which is the right-angled triangle?

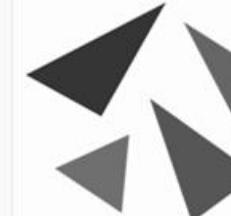
- Green
- Blue
- Red
- Yellow
- Don't know

Color identical may not be recognized by colorblind users

Example 3: Accessible color and number

Example: Refer to something using color alone

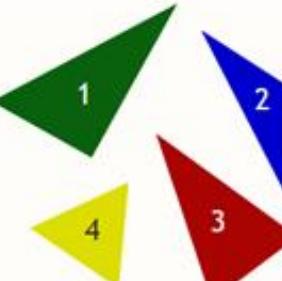
✗ Color only



Which is the right-angled triangle?

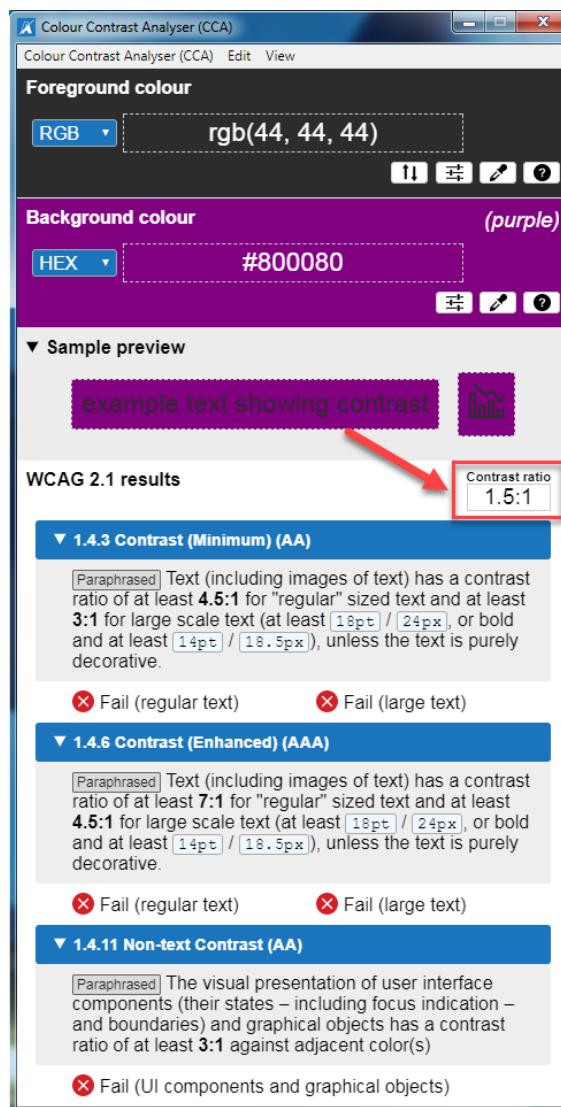
- Green
- Blue
- Red
- Yellow
- Don't know

✓ Color and number

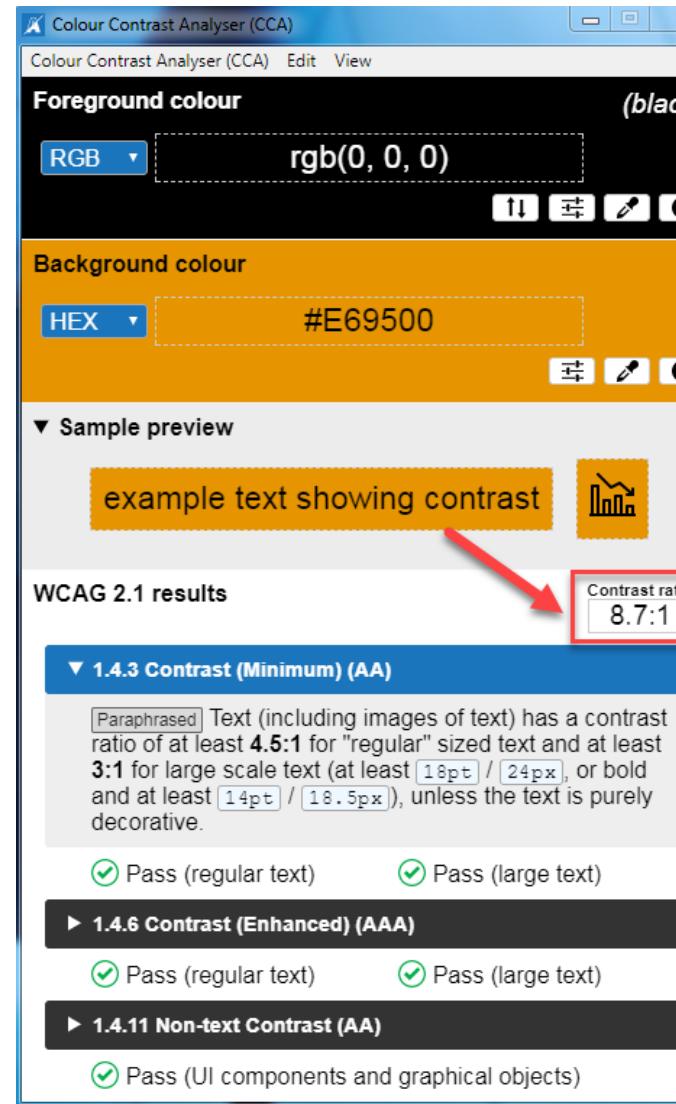


Which is the right-angled triangle?

- Green (1)
- Blue (2)
- Red (3)
- Yellow (4)
- Don't know



People who have low vision or colorblind could encounter some difficulty distinguishing text color from a background color if the contrast is insufficient contrast ratio 1.5:1.



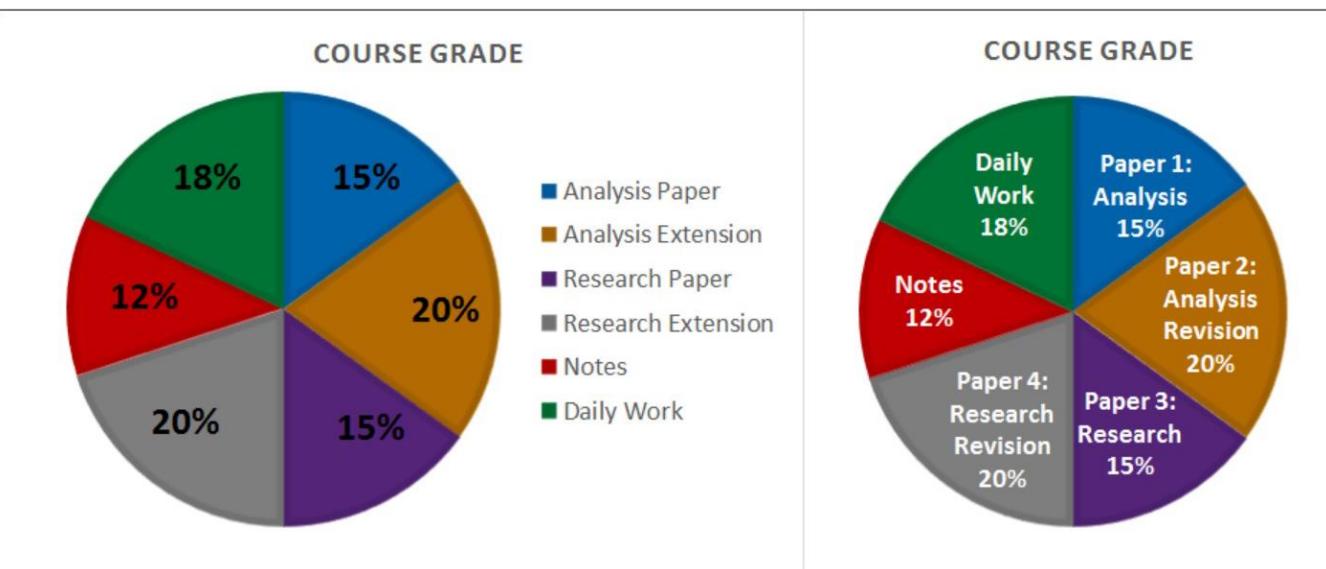
This example has a great color contrast ratio of 8.7:1. The contrast is sufficient for those who have color deficiencies.

Check Color Contrast

Bad Examples	Good Examples
Red on black is bad	Yellow on black is good
Blue on orange is bad	Black on orange is ok
Red on green is bad	White on green is good
Grey on purple is bad	Aqua on purple is ok

- Download [Colour Contrast Analyser](#) onto your computer (PC/Mac) to ensure accessible contrast or use an online contrast checker from [WebAIM](#).
- WCAG Level AA requires a contrast ratio of at least **4.5:1** for regular sized text (12 or 14 pt. font) and **3:1** for large text (18 pt. font).
- [Coblis Color Blindness Simulator](#)

How to View Grayscale Document?

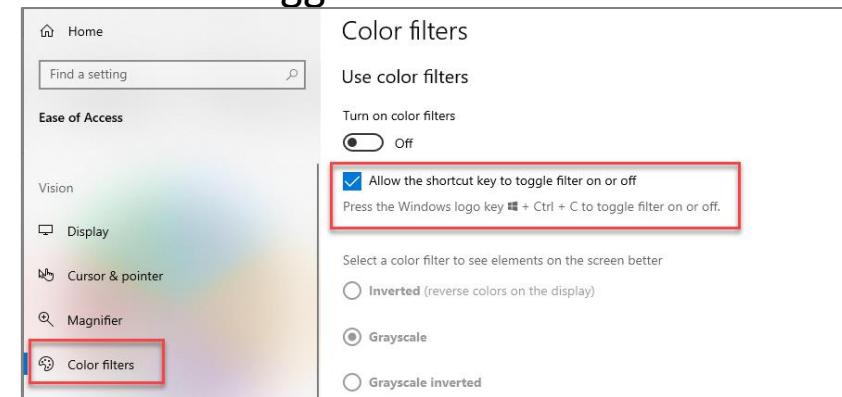


[Image courtesy of Accessible Syllabus](#)

- Information and charts should never be conveyed through color alone.
- Color may not be recognized by colorblind users.
- Provide text descriptions for charts and graphics.
- [Charts & Accessibility by Penn State](#)

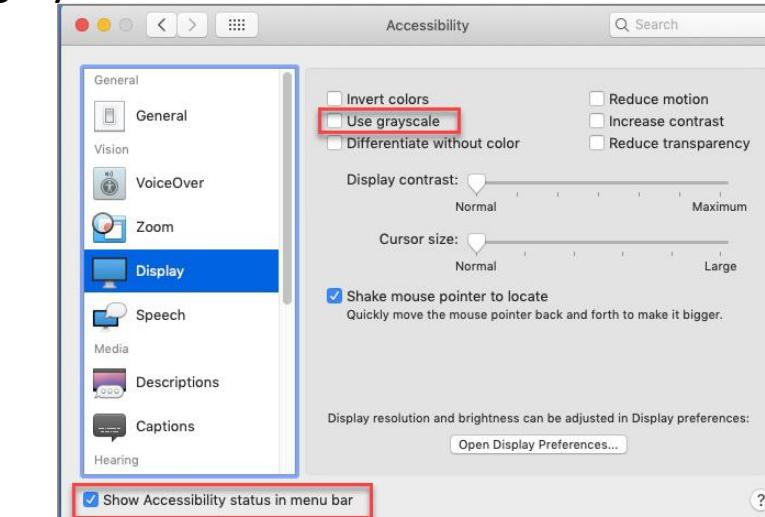
To use color filters on Windows:

- Select Start > Settings > Ease of Access > Color filters.
- Switch on the toggle under Turn on color filters.



To use color filters on Mac:

- On your Mac, choose Apple menu > System Preferences, select Accessibility, select Display, select “Use grayscale”

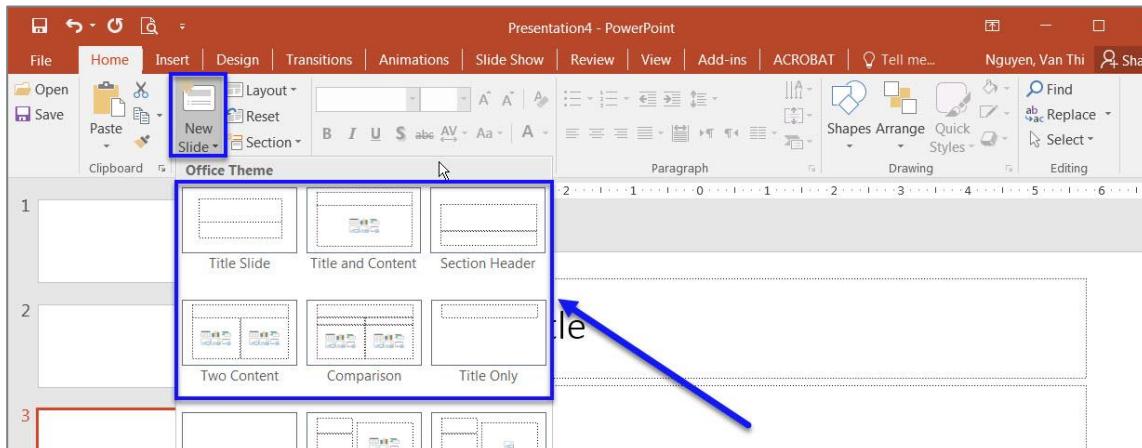


Complex Images/Graphics/Charts

PowerPoint does not have **Insert Caption** feature like in MS Word, use one of built-in slide layouts to provide a longer description.

Some images, such as graphs, charts or informative illustrations require fairly lengthy explanations to make them accessible.

Provide a brief alt text description of the image and a longer description within the slide. This may be helpful for others as well since some people have difficulty understanding charts and graphs. *Credit to [Explore Access](#)*



Example of Option 1

Chart 1. Website Accessibility Assessment of All Organizational Charts. Findings from the assessment indicate the following: 5% of organizational websites had fewer than 2 errors on the home page; 20% had 3 to 5 errors; 45% had 6 to 10 errors; and 30% had more than 10 errors on the home page.

Tables

Use PowerPoint's built-in functionality to create Tables

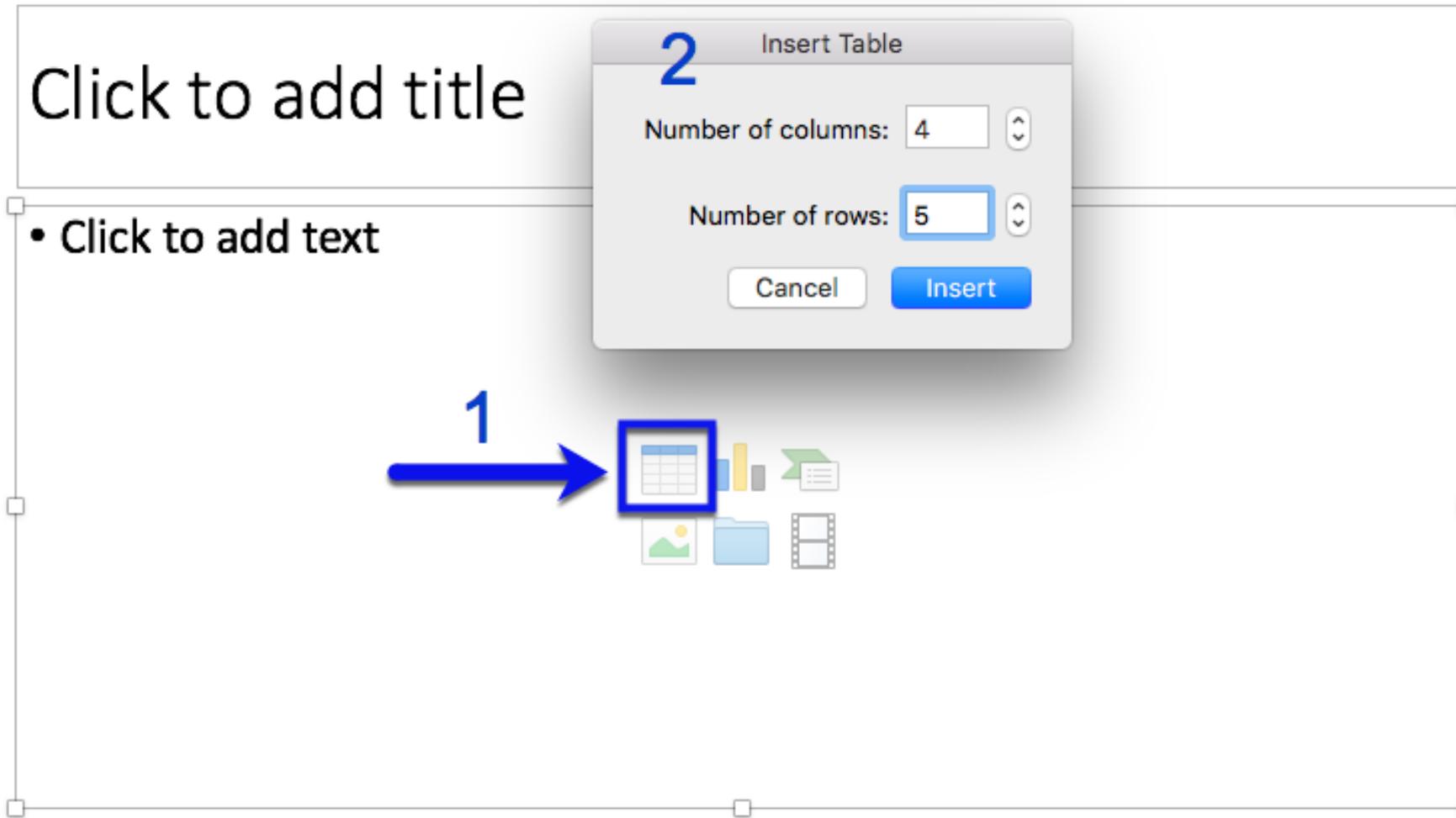
- Tables are read from left to right, top to bottom.
- Simple Data Tables only.
- Provide Title (i.e. Caption) and Summary before the Table.
- Specify Header Row

Not Accessible

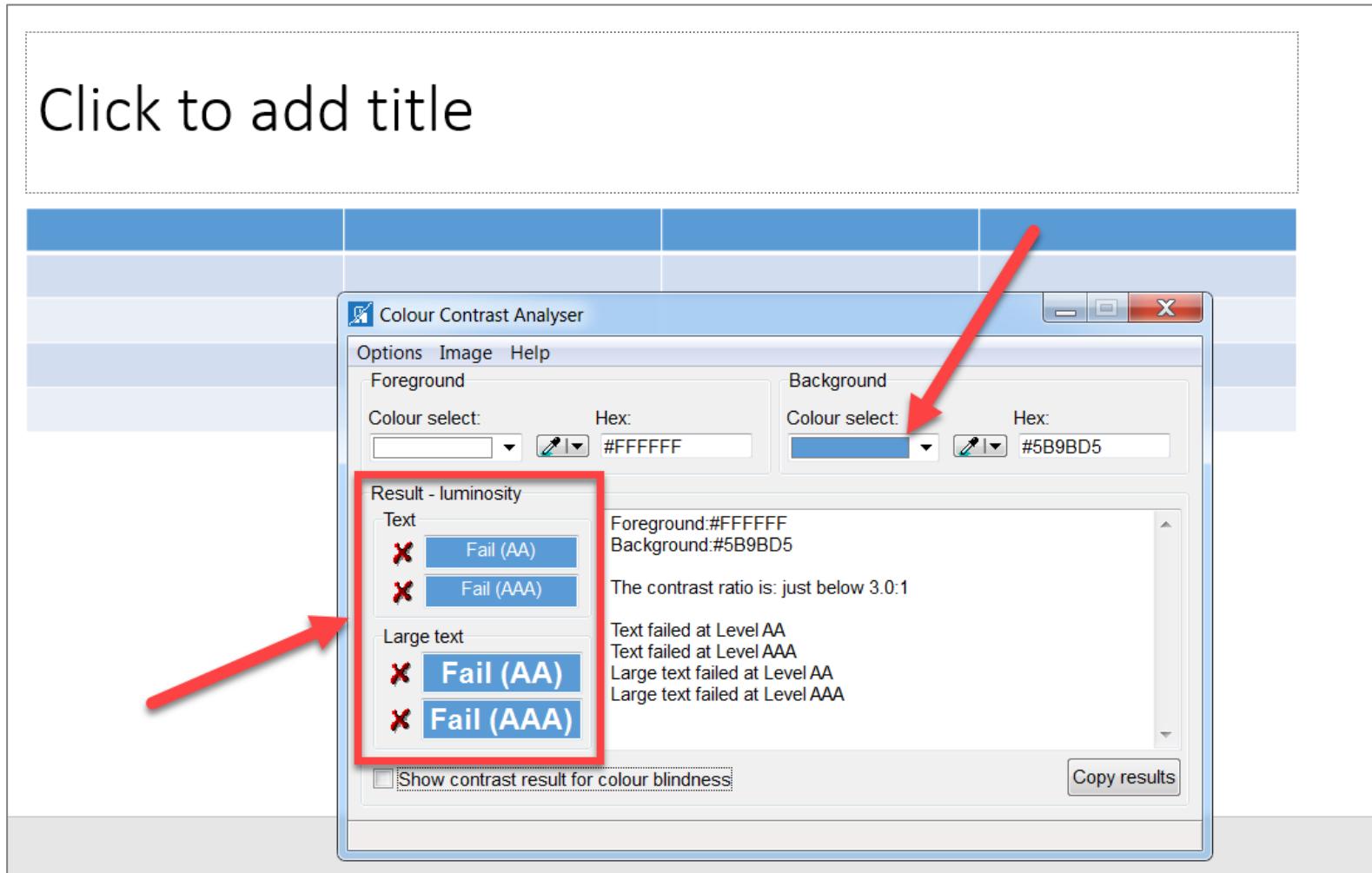
- Do not create table using the Draw Table Tool.
- Never use for layout.
- Avoid merged, split, or blank cells.
- The more complex a table (merging cells, nesting multiple headings under one, adding blank lines, etc.) the worse it will be for accessibility.
- Sample of [Simple Tables vs. Complex Tables](#) by Penn State.



Table – Insert Table

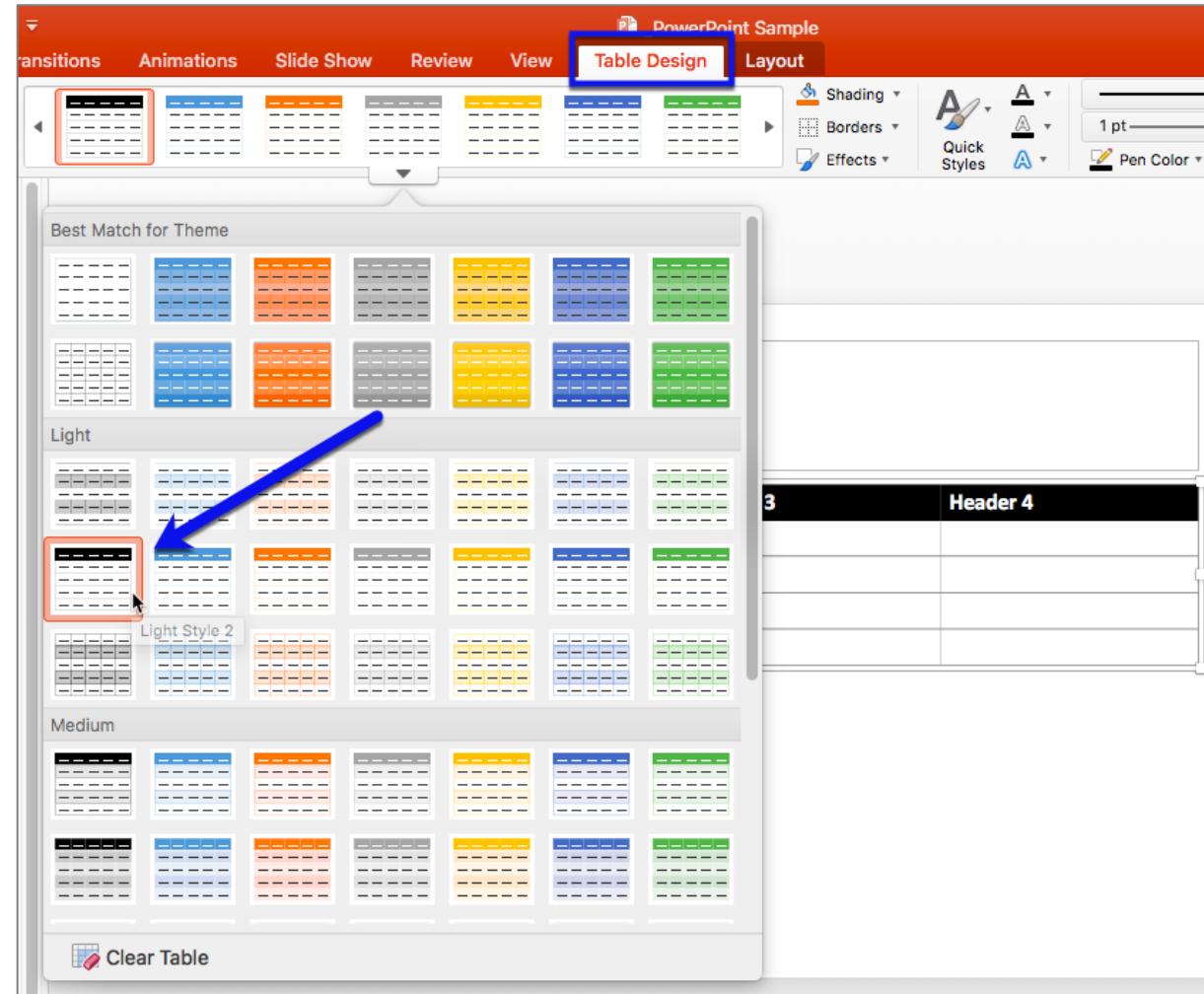


Default Color Scheme ***NOT*** Accessible

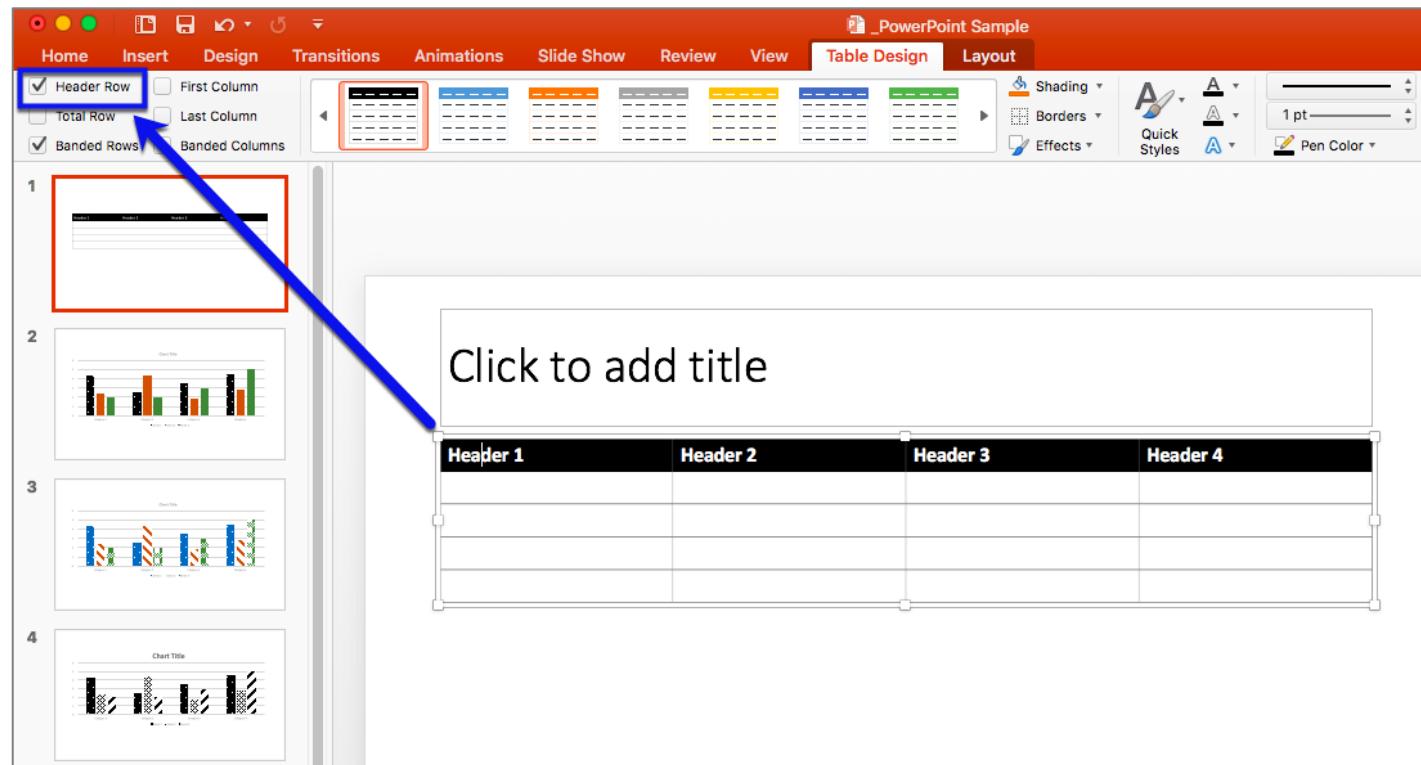


Select Table, Design to Expand Table Styles

Select Accessible Color Scheme



Select Table – Design, Header Row



The screenshot shows the Microsoft PowerPoint ribbon with the 'Table Design' tab selected. In the 'Table Tools' ribbon, the 'Table Design' tab is highlighted in orange. On the far left of the ribbon, there are several checkboxes: 'Header Row' (which is checked and highlighted with a blue box), 'Total Row', 'Last Column', and 'Banded Rows'. Below the ribbon, there is a 4x4 table. The first row of the table is highlighted with a red border. A blue arrow points from the 'Header Row' checkbox in the ribbon to the first row of the table.

- Header Row means column headers
- First Column means row headers

Header Row (Column Headers)

Fruit	2018	2017	2016
Orange	\$1,900	\$2,400	\$1,500
Strawberry	\$800	\$600	\$1,000
Avocado	\$2,000	\$1,500	\$3,000

Header Row and First Column

Fruit	2018	2017	2016
Orange	\$1,900	\$2,400	\$1,500
Strawberry	\$800	\$600	\$1,000
Avocado	\$2,000	\$1,500	\$3,000

Table Color

Avoid using color as the only means to convey information. For example, in the table below, the complete and incomplete items may appear the same to someone who is color blind:

Project	Due Date	Completed
Project 1	March 15, 2020	X
Project 2	April 15, 2020	X
Project 3	May 15, 2020	X

A better option would be to provide another way of conveying information not just color alone:

Project	Due Date	Completed
Project 1	March 15, 2020	N or No
Project 2	April 15, 2020	Y or Yes
Project 3	May 15, 2020	Y or Yes



Videos embedded in PowerPoint are currently inaccessible; consider adding a link to the video on YouTube™/Vimeo



[Apple – Accessibility - Sady](#)



Universal Design Center

csun.edu/udc

Animations and Transitions

Avoid animation and automatic slide transitions:

- Can be distracting
- Can cause screen readers to re-read slides
- Can read parts of the slide out of order, and/or
- May not give users enough time to read the slide content

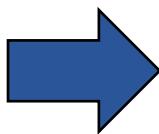
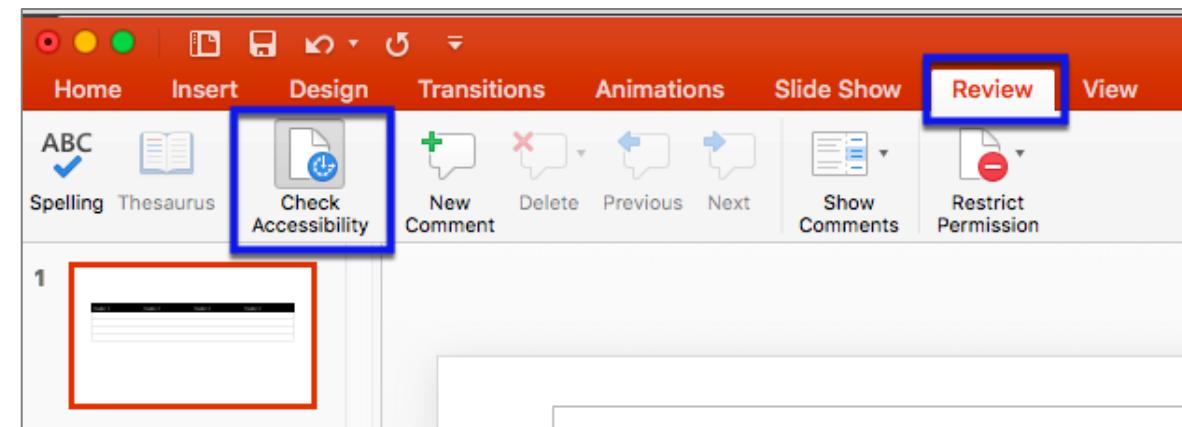


distraction
distraction
distraction
distraction
distraction

It's recommended that any transitions you add to your slides are done using the "on click" option, versus timing the animations and transitions. This allows the user/viewer to control the speed at which they view the content and progress through the slides.



PowerPoint Accessibility Checker



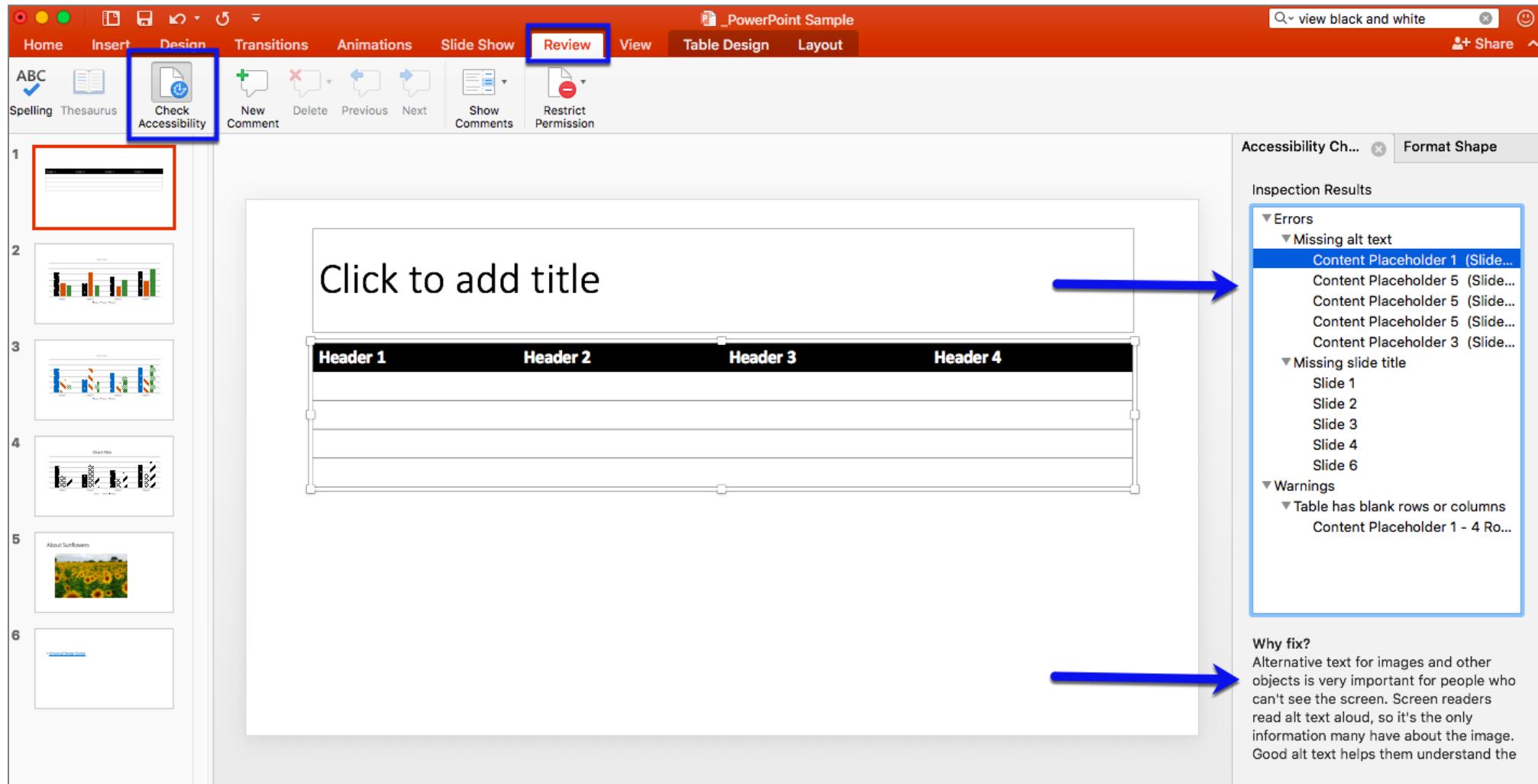
The accessibility checker will identify certain accessibility issues:

- Duplicate slide titles
- Headings that are not in logical order
- Images with no alt text
- Tables have the header box checked
- Tables that have merged cells or with empty cells



Check for Issues, Check Accessibility

Always use PowerPoint's built-in Accessibility Checker
Repair Errors, Warnings and Tips



Accessibility Tips



- Use simple language.
- Ensure font size sufficient.
- Provide sufficient contrast between the text and the background.
- Do not use color as the only way to convey meaning or communicating information.
- Avoid automatic slide transitions
- Use simple slide transitions when possible.

- Do not put accessibility information like alternative text in the **Notes** Pane.
- Ensure video files have captions and audio descriptions.
- Ensure audio files have transcripts.
- Player controls for videos embedded in PowerPoint are currently inaccessible; consider adding a link to the video on YouTube™/Vimeo.

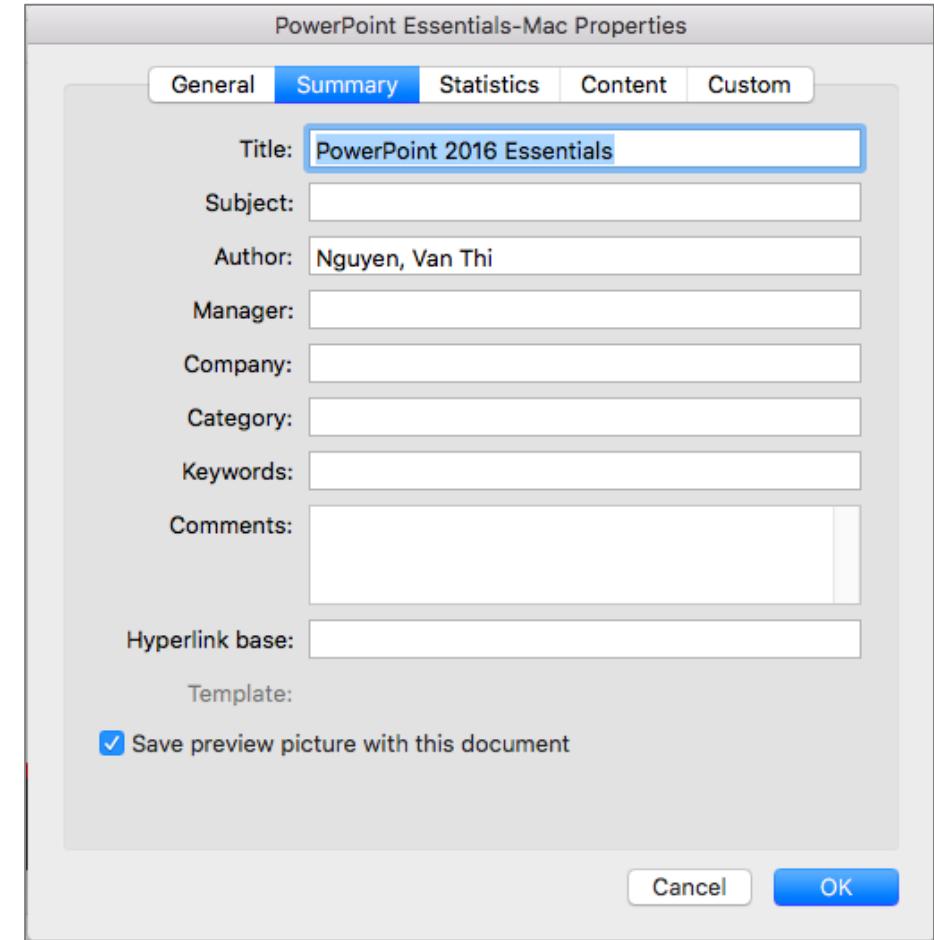
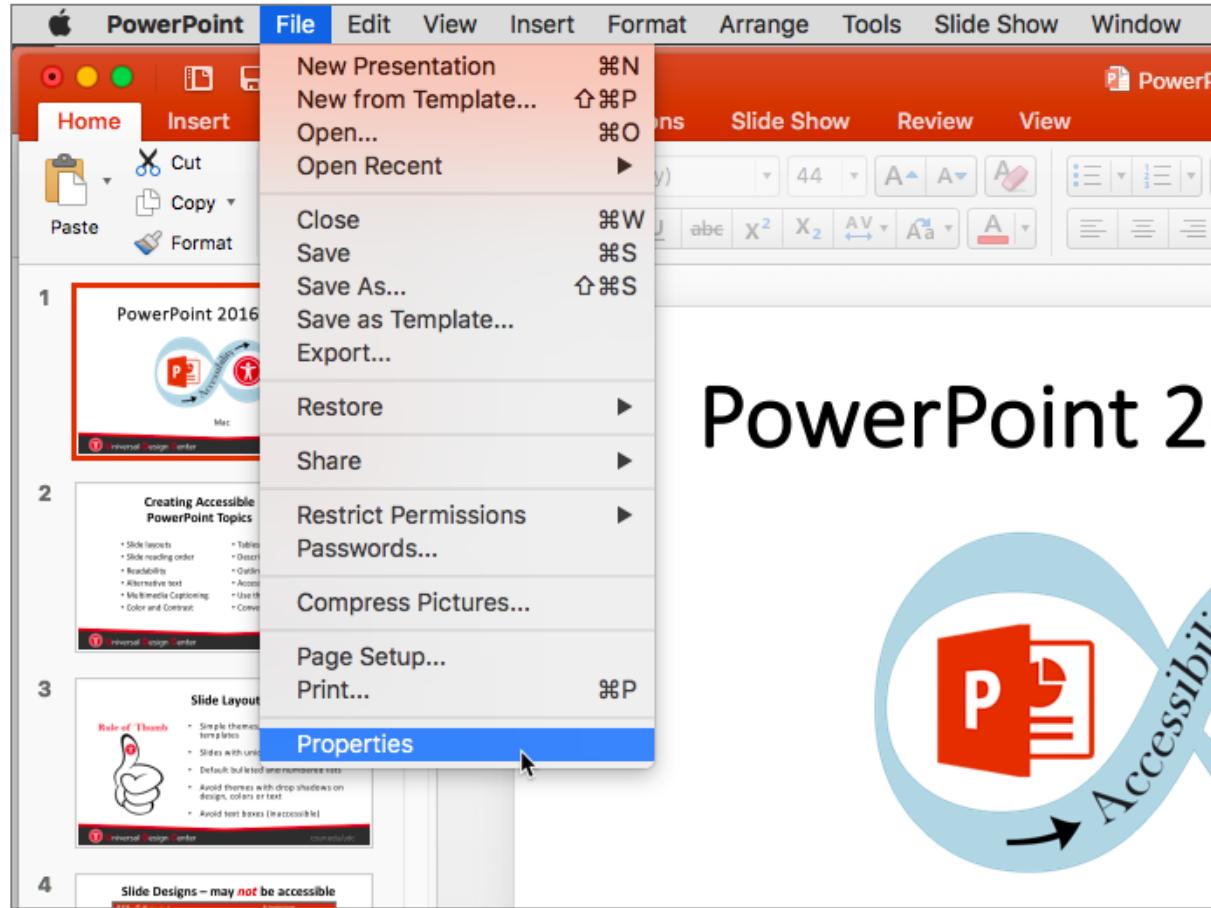


What is a Document Title?

- A document title is a descriptive and meaningful version of the file name. When converting to PDF, titles are often visible in the PDF window or tab.
- When multiple PDFs are open, well defined PDF titles allow for easier distinction between them. This distinction is particularly useful when relying on screen readers.
- The best way to add a PDF title is to edit an original document such as Microsoft Office file. See next slide how to add a Title in the PowerPoint.

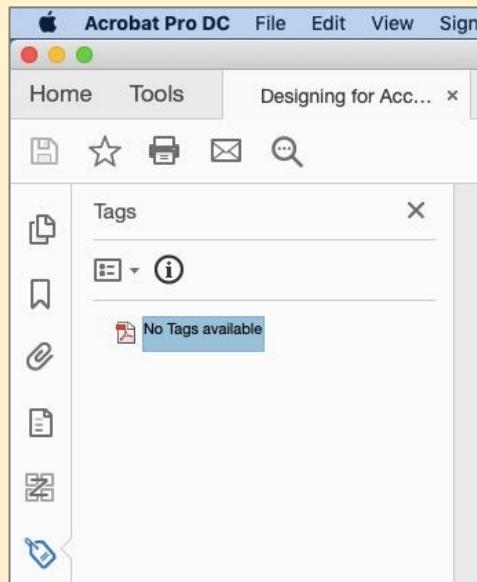


File, Properties, Title



Mac: Converting to PDF

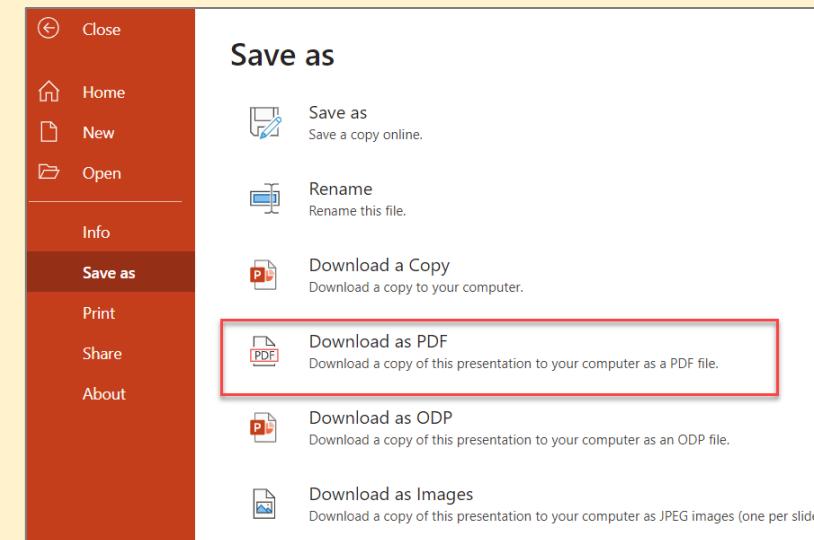
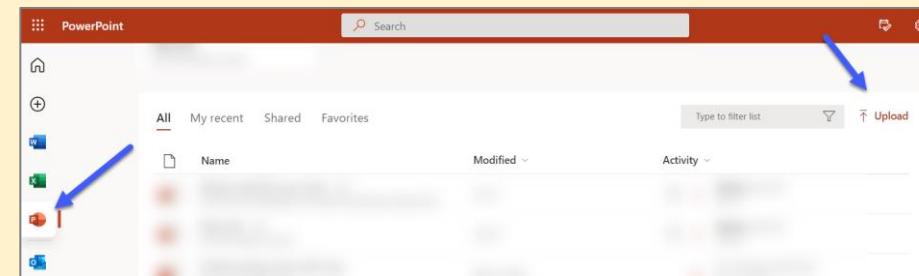
Unfortunately, Mac PowerPoint Desktop Software Save as PDF doesn't import PDF tags structure "No Tags available".



The alternative way to export PDFs with tags is by logging into Microsoft Office 365 online.

1. Go to [MyCSUN Portal](#)
2. Select Microsoft Office 365
3. Select PowerPoint tab on left side
4. Upload your PowerPoint file
5. Select **File** menu
6. **Save as, Download as PDF** button
7. Download button (save on your desktop)
8. Open the PDF file from Adobe Acrobat Pro
9. Run Accessibility Check

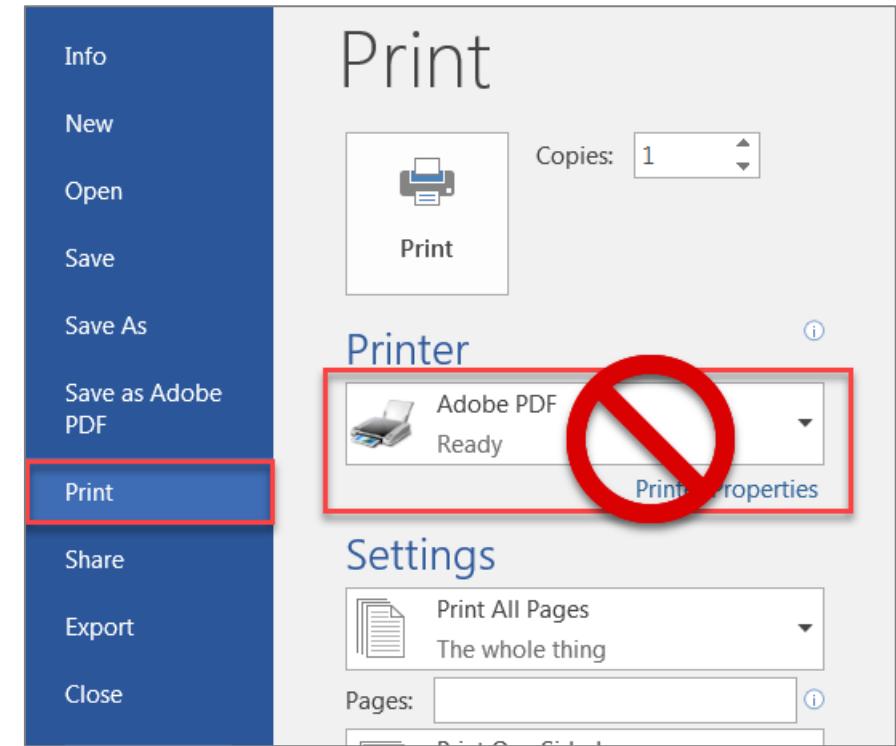
Learn more about [PDF Accessibility](#)



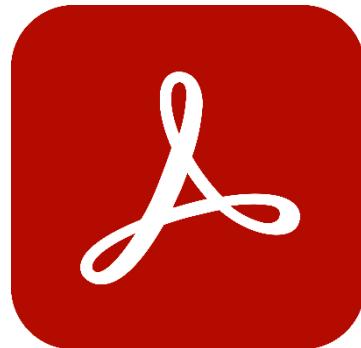
Never Choose Print to PDF Option

Never choose a "Print" to PDF option in Office, or in any other program. A screen reader user may still be able to access the text of a PDF created in this way, but heading structure, alternative text, a logical reading order, and any other tag structure will be **lost**.

Use either **Save As** or **Export** to PDF.



Adobe Creative Cloud for Faculty & Staff



Adobe Acrobat

- Adobe Creative Cloud software is now available for use (at no additional charge) on all faculty and staff university-owned computers, labs and classroom devices, and for all students.
- Please note that this deployment of Adobe software is not available for use on personally-owned faculty and staff devices at this time.
- Learn more about [Adobe Creative Cloud for Faculty & Staff](#)
- *Adobe Reader is for viewing, printing, signing, sharing, and annotating PDFs. Adobe Reader doesn't have Accessibility checking tool.*



Newer Adobe Acrobat 2024

- Prepare for accessibility tool on the left panel
- Accessibility tags on the right panel

The screenshot shows the Adobe Acrobat 2024 application window. The top menu bar includes 'Menu', 'Home', a star icon for 'Creating an Accessible P...', a plus sign for 'Create', and standard window controls. The toolbar below the menu has buttons for 'All tools', 'Edit', 'Convert', and 'E-Sign'. A search bar and a 'Share' button are on the far right.

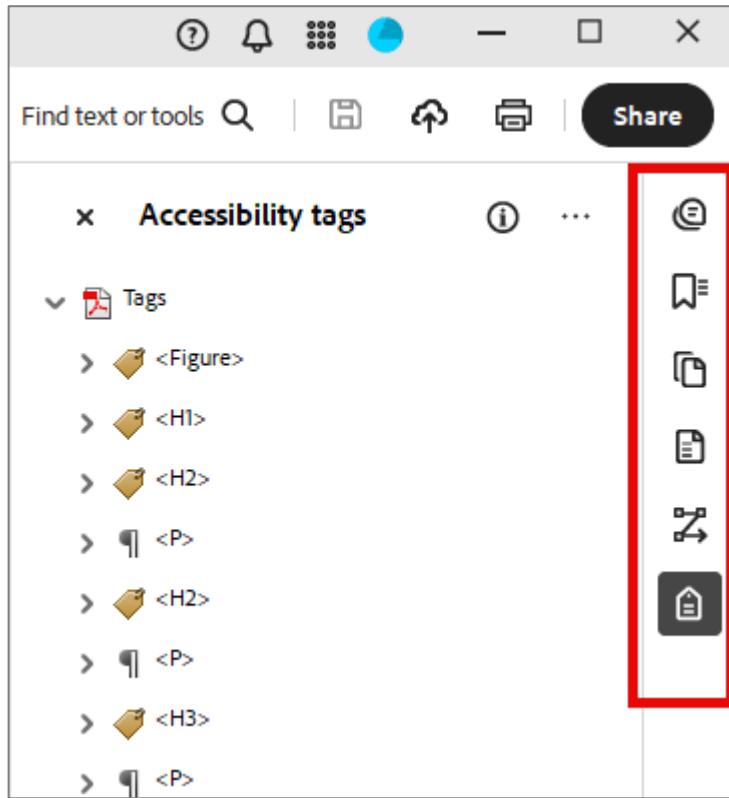
The left panel, titled 'All tools', lists various features: 'Prepare for accessibility' (highlighted with a red box), 'Create a PDF', 'Combine files', 'Edit a PDF', 'Request e-signatures', 'Fill & Sign', 'Export a PDF', 'Organize pages', 'Send for comments', 'Add comments', 'Scan & OCR', and 'Protect a PDF'. A 'View more' link is at the bottom.

The main workspace displays a document titled 'Creating an Accessible PDF (H1)'. The document contains sections like 'Overview (H2)', 'Headings (H2)', 'Subheading 1 (H3)', 'Subheading 2 (H4)', 'Accessibility Statement Column (H2)', and 'Images (H2)'. The CSUN Universal Design Center logo is visible.

The right panel, titled 'Accessibility tags', shows a hierarchical tree under the 'Tags' section. It lists various HTML tags: <Figure>, <H1>, <H2>, <P>, <H2>, <P>, <H3>, <P>, <H2>, <P>, <H4>, <P>, <H2>, <P>, <H2>, <P>, <H2>, <P>, <H2>, <P>, <Figure>, <Figure>, and <P>.

Acrobat Accessibility Tools

These are the primary tools needed to create an accessible PDF:



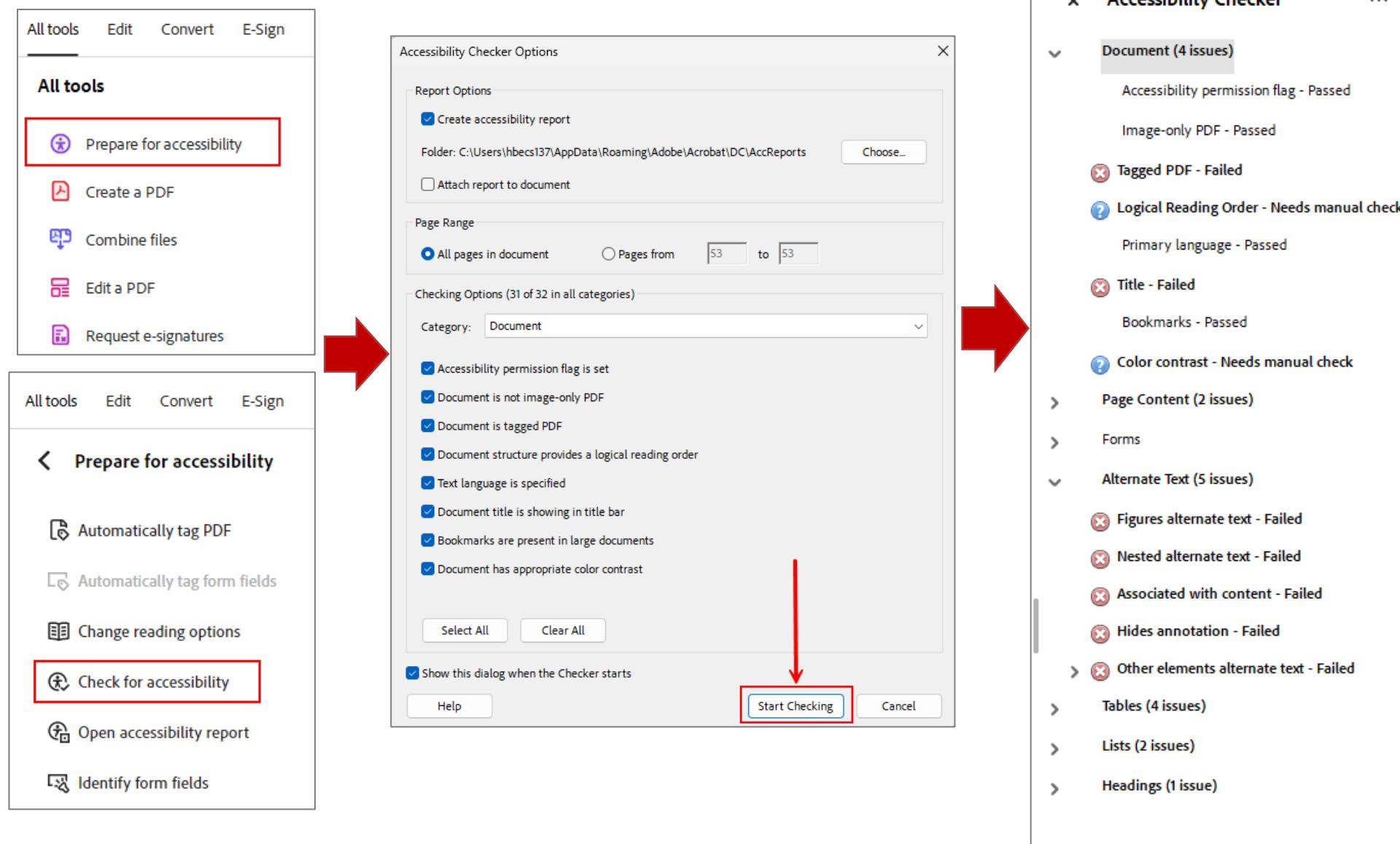
On the right side pane, these icons are set by default:

- Accessibility tags
- Z-Order
- Content



Check for Accessibility

First run the **Check for Accessibility** at the beginning and at the end of the documents.



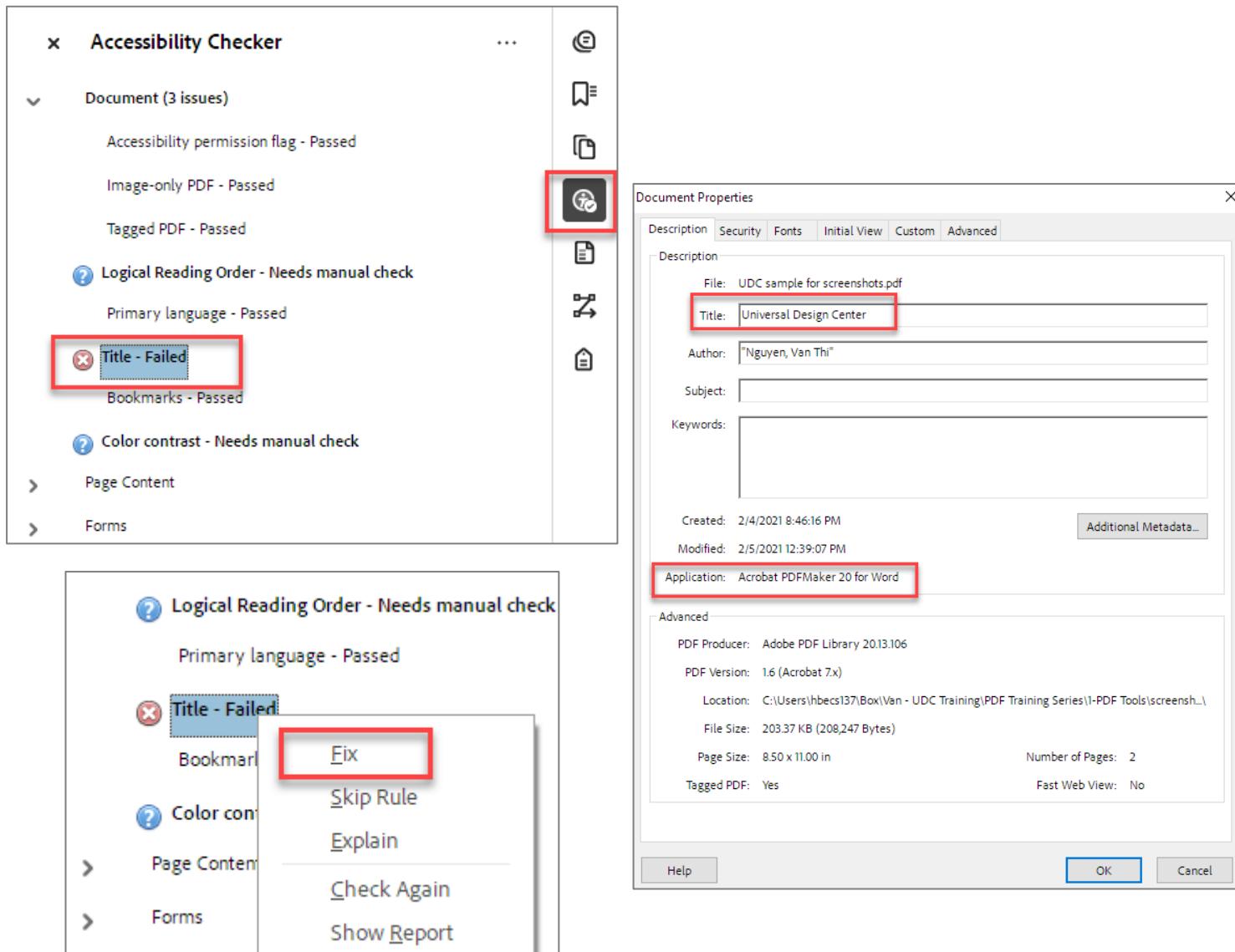
- Accessibility checker results in bold text have one or more issues/failed that need to fix.
- If you have a failure, you can right-click on any item in the report and select “Explain” that will link to Adobe webpage to explain the problem.
- If the results not in bold text, that section has passed.

Common Issues – Title shown as a failure

Acrobat did not recognize the Title from Word Document, simply right-click Title item and select “Fix”.

The document description gives the document a proper title and language to be recognized by assistive technology.

- **Select File menu > Properties**
- **Description tab**, enter **Title** box is document title or main content heading/title (deselect **Leave As Is**, if necessary).
- **Application** box showing the source document created from Word to PDF.



Bookmarks - Failed

If you have more than 9 slides, bookmarks are required. Here is how to fix it. Select H1 or H1 and H2 as structure bookmarks.

The screenshot shows four windows illustrating the process of fixing failed bookmarks:

- Accessibility Checker:** Shows "Document (3 issues)" with "Bookmarks - Failed" highlighted by a red box.
- Accessibility Checker Context Menu:** A context menu is open over the "Bookmarks - Failed" item, with "Fix" selected (also highlighted by a red box).
- Structure Elements Dialog:** Shows the "Structure" pane with "Figure", "H1", "H2", "L", "LBody", "LI", "Link", and "P" listed. "H1" and "H2" are selected and highlighted with a blue background.
- Bookmarks Ribbon:** Shows the "Structure Bookmarks" section under the "Bookmarks" tab, listing various accessibility topics.



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