

Accessible PowerPoints Step-by-Step



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What a PowerPoint is or isn't

PowerPoint presentations are one of the most common ways to share information. But they are also one of the most misused. When considering accessibility we have to be intentional about our decisions and understand how they impact the user experience. The Accessibility for PowerPoint checklist in this handout will give you some great things to think about as you develop your slide decks. Here are the three most common presentation challenges:



Accessible Document Specialist
International Association of Accessibility Professionals



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Cognitive Overload

Are you adding too much stuff? Crowding your slides with lots of text or pictures makes it hard for people to understand the main points when there's too much going on. It's better to keep things simple and clear by using short bullet points or helpful visuals. If you want to create a handout that has supporting info, do it. Just don't cram it all into your live slide deck. Or, consider adding more slides. One of the benefits of digital content is that page count is really less important. How well you deliver your presentation clearly is paramount.

'See and Say' Presentations

This type of presentation is a bit tricky when it comes to accessibility. In fact, we DO want to read what is on the screen. However, that does not mean we just stare at our presentation and read all the text with no other context just because it needs to be accessible. This ties back to Cognitive Overload. Keep your bullets short and support them with spoken words. Another consideration here is people who lip read. Turning toward your slides all the time to read long paragraphs or bullets creates a challenge for people who rely on lip reading for comprehension. It's important for you to balance what you're saying with direct engage with the audience by speaking directly to them.

Interpreting complex information

Some presenters use too many fancy fonts, animations, sounds, or transitions that don't really add to the information. These things can be fun, but if they're used too much, they can be distracting or annoying. Also, relying only on PowerPoint can limit creativity and flexibility in how information is shared. It's good to try different ways like telling stories, doing demonstrations, or getting the audience involved. By using PowerPoint wisely and finding other ways to connect with the audience, presentations can be more interesting and effective. Just remember to include a Sign Language Interpreter, transcript or captions if you are delivering mostly spoken content.

The 10 Accessibility Features of PowerPoint

1. Heading structure is linked to Template Styles (H1 and H2)
2. Reading Order: Set reading order via Selection Pane or Read Order Pane
3. Alternate Descriptions: The ability to describe Image-based content
4. Screen Tips: Descriptive text for Hyperlinks
5. Automatic Subtitles: In English or live translation to other languages (not super accurate)
6. Video Captions: Using STAMP Plugin for PowerPoint
7. Export settings for accessibility tags and reflow
8. Convert speakers notes: The ability to convert speakers notes to comments on export to PDF
9. Export Bookmarks: Creates Bookmarks on export based on Headings
10. Microsoft Accessibility Checker: Checks for a wide variety of accessibility barriers. (This is a start but do not assume passing is the same as an accessible document)

10 Tips for giving an accessible presentation

When we say “accessible presentation” we are really talking about several considerations. They typically benefit people who are deaf, people who are blind, or people who are neurodiverse. Neurodiversity includes Autism, ADHD, Dyslexia, and other sensory processing differences.

Here are 10 tips to help you deliver an accessible presentation:

- 1. Speak Clearly and Slowly:** Enunciate your words clearly and avoid rushing through your presentation. This helps individuals with hearing impairments, non-native English speakers, and those who rely on lip reading.
- 2. Provide captioning:** Include captions or subtitles for all spoken content in your presentation, making it accessible to deaf attendees. Use tools or services that generate accurate captions. Accurate captions are really important for a good user experience.
- 3. When possible, utilize sign language interpretation:** Arrange for a qualified sign language interpreter to be present during your presentation, enabling deaf attendees to understand the spoken content through sign language.
- 4. Use high contrast visuals:** Ensure that your slides and visual materials have a high contrast between text and background, making them easier to read for individuals with visual impairments.
- 5. Provide alt text for images:** Add alternative text (alt text) to describe images used in your presentation. This allows blind attendees to understand the visual content through screen readers.
- 6. Avoid complex visual effects:** Minimize the use of animations, flashy transitions, or rapidly changing visuals, as they can be distracting or confusing for attendees with visual impairments.
- 7. Use accessible templates and features within PowerPoint:** You can easily integrate captions, alt text, and other accessibility elements in PowerPoint.
- 8. Offer handouts or accessible digital materials:** Provide printed handouts or accessible digital copies of your presentation materials in advance, allowing attendees to follow along or review the content after the presentation.
- 9. Speak clearly and use descriptive language:** Enunciate your words clearly, and use descriptive language to explain visuals or key points. This helps individuals who are blind or have hearing impairments to follow your presentation.
- 10. Allow for questions and clarifications:** Encourage attendees to ask questions or seek clarifications throughout your presentation, ensuring that everyone has an opportunity to understand the content fully.



Where you start makes a difference

It is important to incorporate accessibility considerations at the earliest stage possible. The stage at which we consider accessibility directly impacts how long it will take to make the product accessible, what approach we use to do so, and ultimately how usable and informative the content is. If we start late, our goal of a single, equitable, accessible experience for everyone often fails because “there’s not enough time” or “this has already been approved and we can’t change it.”

When teams start designing with accessibility in mind from the beginning, there are more options to present a single, meaningful user experience. Depending on what stage you begin incorporating accessibility, you can increase or limit your ability to employ accessible design by affecting your timeline or your attachment to current designs.

Starting at the Concept Stage

When you want to make an accessible PowerPoint, it’s important to plan ahead and consider how users will interact with it. Start by asking yourself a crucial question:

“What do I want the user experience to be?”

This question affects everything from your PowerPoint template to the slides and overall design. If you don’t think about this early you might end up with accessibility problems that you didn’t realize were there. Also, keep in mind that listening to descriptions of images is an interactive experience. What we say about an image and how we say it adds to the overall presentation. By thinking about the user experience in advance, you can figure out how to present the information and give users ways to interact with it while understanding what’s important.

Other considerations should include the following:

1. Am I vocally or digitally providing text alternatives for images and infographics?
2. Do my theme colors meet minimum contrast requirements?
3. For digital delivery of an actual PPT file, am I providing keyboard-based information the user can access that offers important information and context?
4. Am I using color alone as a way to understand content or interactions? (Item in Red are behind schedule.)

Considering accessibility in the concept stage of creating a PowerPoint allows for the most freedom to change and has the least impact on schedule and development.

Starting at the Draft Stage

If someone has already started designing your PowerPoint template or presentation all is not lost. You still have time to make accessible design and content choices. Color palettes can be reviewed. Text alternatives and presentation methods for things like tables and complex infographics can be evaluated for barriers and meaningful information.

However, changes may be harder to implement at this stage. Those who approve the content may have already formed attachments to the draft colors and methods. The best way to shift sentiment at this stage is to provide solutions when encountering barriers. If the table is not accessible, create one and present the solution when discussing the challenge.

In my career, I have experienced overwhelmingly negative pushback when my evaluations only surfaced accessibility failures without also providing solutions.

Starting at the Final Stage

Even if you are starting at the end, there is still hope for creating an accessible presentation. With many visualizations, you can slightly darken colors to meet contrast thresholds and adjust alternate descriptions to be more meaningful. For a PDF delivery of your presentation you can modify accessibility tags to present a better user experience for those using assistive technology. Taking these steps is not always easy. Starting accessible modifications after the project is fully developed can be like baking an apple spice cake for someone who doesn't like apples and asking, "can't you just take them out?"



All About Animations

Accessible Presentations Avoid Animations

Animations in PowerPoint presentations can present significant accessibility challenges for people using assistive technology. One key challenge is bridging the gap between the animation and the context of what is happening on screen. Animations that convey more than “appear” and “disappear” actions can make it difficult for screen reader users to understand what is happening on screen. This is because screen readers are software programs that read out the content on a screen, allowing visually impaired individuals to access digital content. When animations are used excessively or in a way that doesn’t follow accessibility guidelines, screen readers may struggle to interpret and describe the content accurately. For example, if text or important elements are hidden behind animated objects or appear only briefly, it can be nearly impossible for someone relying on a screen reader to understand the full context and meaning of the presentation.

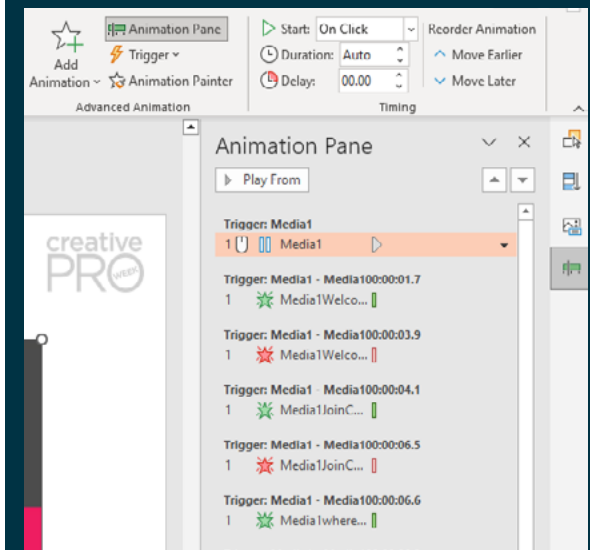
Avoid auto-play or animations with sound effects

Another challenge with animations in PowerPoint is the potential for sensory overload. Some animations, such as rapid transitions, flashing or sound effects with complex motion paths, can be visually distracting and overwhelming for individuals with cognitive or sensory disabilities. These animations may cause difficulties in maintaining focus, understanding the sequence of information, or even triggering physical discomfort for people with conditions like epilepsy. Sound effects can also mask the screen reader voice making it difficult to hear instruction from their accessibility tool. Animations can significantly impede the ability of individuals using assistive technology to comprehend and engage with the content of a PowerPoint presentation, ultimately excluding them from fully participating in the information-sharing process. To ensure inclusivity, it is essential to use animations sparingly and provide alternative ways to convey the same information in a more accessible manner.

Two Options when you must have animations

If your presentation must have animations consider creating a separate accessible presentation that uses sequential slides rather than animated objects.

Or consider a static slide with text on the slide that explained the meaningful context of the animation to the reader. Avoid putting this description in the speakers notes area as this area is hard for some AT users to access.



Step 1: Document Information

When you fill out the file information like the title, author, description, and keywords, it not only helps with search engine optimization (SEO), but it also makes your PowerPoint more organized, searchable, and accessible. These properties give important details about the file without needing to open it. The title gives a quick summary of what the file is about, and the author shows who made it. However, if you're posting the PowerPoint online, it's a good idea to use your company name as the author, so people can search for it easily. A well-written description adds more information and helps users know if the file is relevant to them. Keywords are like special words that make it easier for people to find your file. By taking the time to fill out these file properties, you make it simpler for others to find and understand your PowerPoint, which helps with finding information quickly and keeping your files organized.

The screenshot shows the 'Info' pane in Microsoft PowerPoint. The title bar indicates the file is 'CPW_PowerPoint for Accessibility.pptx - Saved to this PC'. The main title is 'PowerPoint for Accessibility'. The left sidebar contains navigation options: Home, New, Open, Info (selected), Save, Save As, Save as Adobe PDF, Print, Share, Export, Close, Account, Feedback, and Options. The main area displays several sections:

- Media Size and Performance:** Save disk space and improve playback performance by compressing your media files. Compression might affect media quality. Embedded subtitles and alternate audio tracks will be removed. Media files in this presentation are 58 MB. [More ways to improve media performance](#)
- Protect Presentation:** Control what types of changes people can make to this presentation.
- Inspect Presentation:** Before publishing this file, be aware that it contains:
 - Document properties, document server properties, content type information, author's name and cropped out image data
 - Presentation notes
 - Custom XML data
 - Embedded documents
 - Content that people with disabilities are unable to read
- Version History:** View and restore previous versions.
- Manage Presentation:**

On the right, the 'Properties' section is highlighted with a pink box. It shows:

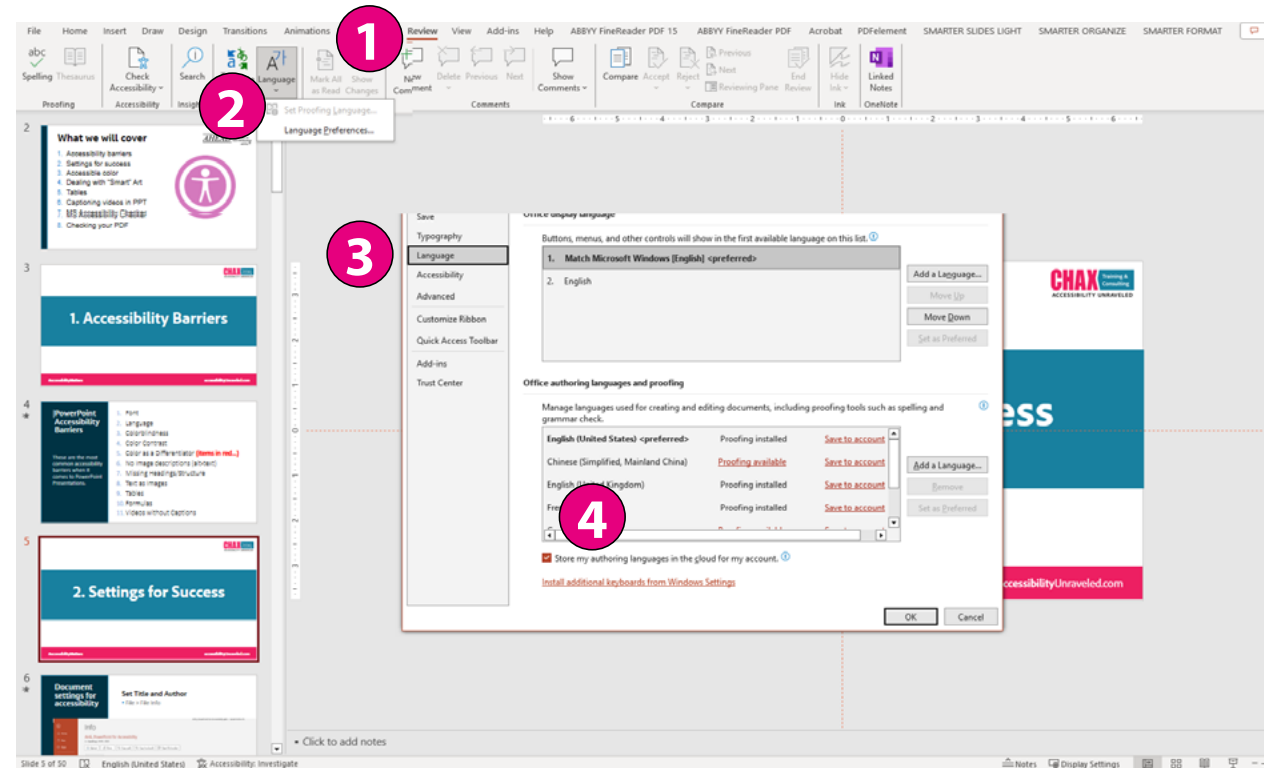
- Size: 64,6MB
- Slides: 50
- Hidden slides: 0
- Title: Accessibility for PowerPoint
- Tags: Accessibility, PowerPoint, PPT, Presentati...
- Categories: Accessibility

Below the properties, there are sections for 'Related Dates' (Last Modified: Today, 9:12 PM), 'Related People' (Author: Dax Castro, Chax Training and Consulting), and 'Related Documents' (Open File Location). A context menu is open over the author information, showing options like 'Copy', 'Remove Person', 'Edit Property', 'Add to Favorites', 'Edit Contact', and 'Open Contact Card'.

Document Language

Powerpoint uses the default language of your install for new templates. However, if you are creating PowerPoints in other languages remember that you should set the language to the main natural language of the document. Screen reader users who have French language packs installed will be able to hear it in that language. However this does not enable all users to listen in French. So if you are testing your document and wonder why it sounds like “FrEnglish” it is likely that your computer is not setup to vocalize French. When making a PDF of a PowerPoint remember that there are special operations you will need to take to assign language to specific parts of your document if it contains French and English or a combination of languages.

Review > Language > Language Preferences > Set Proofing Language



Step 2: Choosing or Creating a Template

Unique Slide Titles

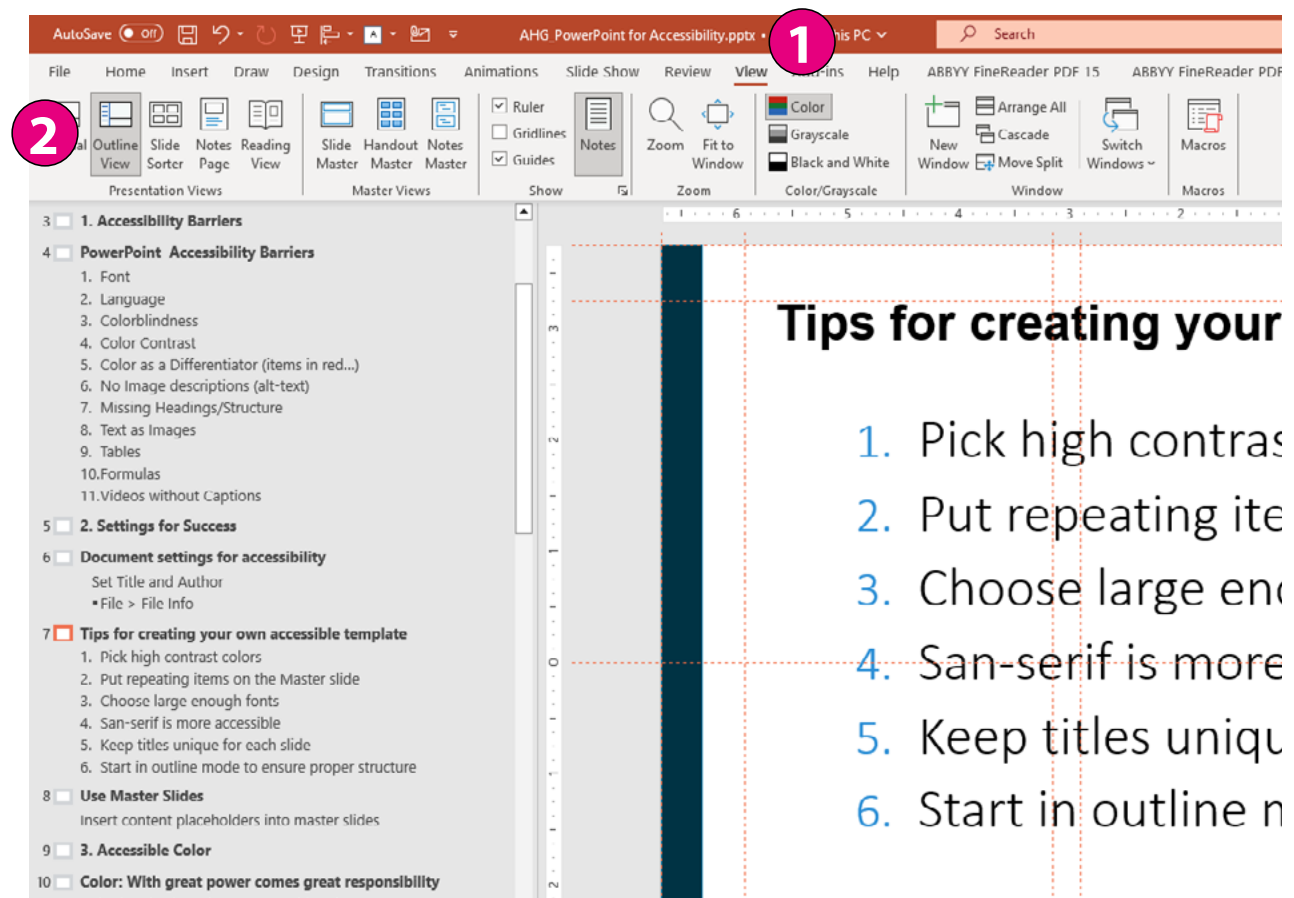
Having unique slide titles in your accessible PowerPoint is important for a few reasons. First and foremost, unique slide titles enhance the overall organization and structure of your presentation. Each slide title acts as a roadmap, providing a concise preview of the content on that particular slide. This enables individuals who are using screen readers or assistive technology to navigate through the slides more efficiently. With unique titles, users can quickly identify and jump to specific slides of interest, saving time and enhancing their understanding of the presentation's flow. When you have more than one "Continued..." slides it can be helpful to label them 1 of 3 to give additional information to the screen reader user.

Unique slide titles also contribute to the accessibility and comprehension of your PowerPoint for a broader audience.

For individuals with visual impairments, screen readers rely on slide titles to provide context and convey the main points or topics covered on each slide. By using descriptive and distinct titles, you help ensure that the content of your slides is accurately conveyed, allowing all attendees, including those with disabilities, to follow along and grasp the key messages being presented.

The best way to check for unique titles is by using the Outline Mode.

View > Outline View



Tips for creating your

1. Pick high contrast colors
2. Put repeating items on the Master slide
3. Choose large enough fonts
4. San-serif is more accessible
5. Keep titles unique for each slide
6. Start in outline mode to ensure proper structure

Title Slide holds your H1

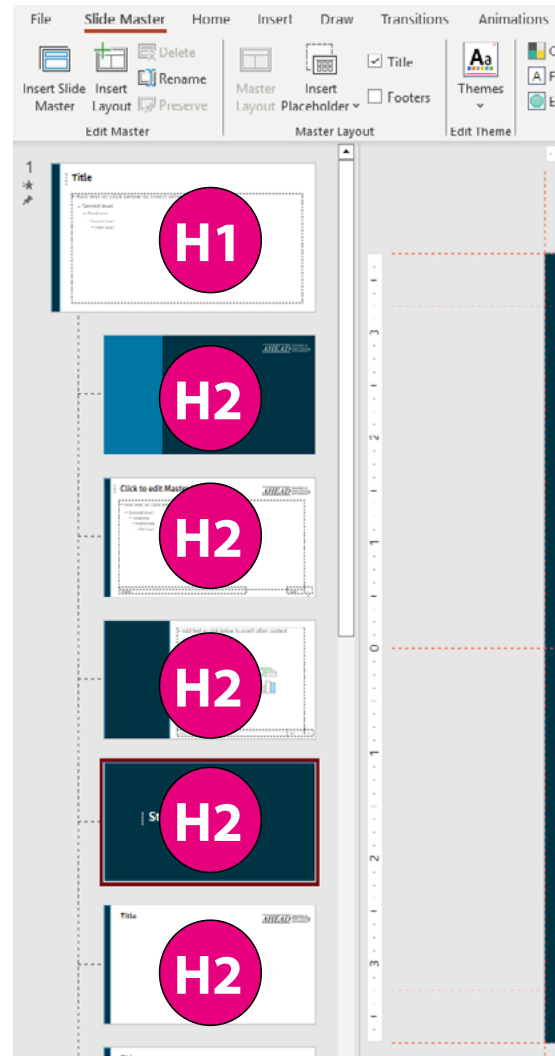
While we cannot directly control heading levels in our PowerPoints at a textbox level, the Title template slide is the only slide with a built in Heading Level 1 (H1). As I already noted, your heading structure is the roadmap of your document. All documents should start with an Heading Level 1.

All other slides are H2

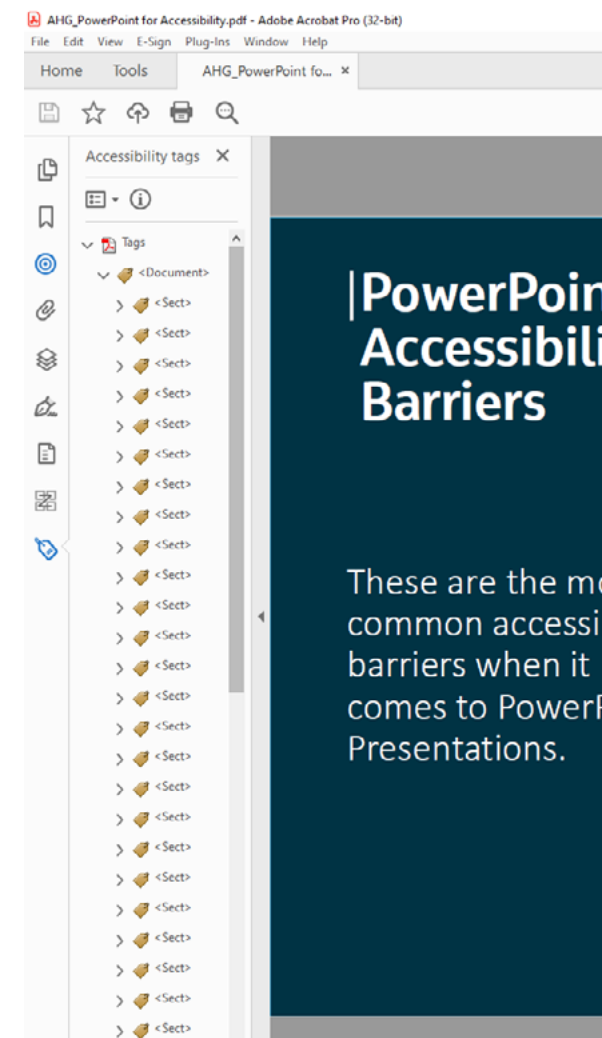
If the Title slide is our H1 (Heading Level 1), our secondary slides are all Heading Level 2s. You cannot set beyond H2 in a PowerPoint currently. Indented Lists are not considered heading levels. Again, setting up and using a template maximizes accessibility of our presentation.

Every slide is a Sect/Story

If you have ever opened the accessibility tags in a PowerPoint you may have noticed all the <Sect> tags. These tags are the default for each slide. They are not read by assistive technology but can be helpful to keep your content organized in the tags tree. Some people prefer to remove them all with third-party tools like axesPDF or CommonLook but it is completely up to you.



Slide template dictates heading levels



Each Slide becomes a <Sect> in the PDF

Consistent placement

Anticipation and the Cognitive Barrier

Using a consistent layout for elements in your PowerPoint presentation can greatly reduce cognitive barriers and readability. When elements such as headings, text, and images are consistently placed on slides, it creates a sense of familiarity and predictability for the audience. Familiar placement allows the audience to focus more on the content itself rather than figuring out where to look for information. For example, by placing headings consistently at the top or on the left side of the slide, readers can anticipate where to find important information related to that heading. This helps in quickly scanning the slide and understanding the organization of the content, which improves comprehension and overall cognitive processing.

When fonts, font sizes, and colors are used consistently throughout the slides, it enhances visual harmony and reduces visual distractions. Additionally, maintaining consistent alignment, spacing, and positioning of elements like text and images creates a more visually

pleasing and accessible presentation. By avoiding sudden changes in formatting or layout, you create a smoother reading experience for the audience, allowing them to focus on the message rather than being overwhelmed by inconsistent visual elements. It is all subliminal, but haven't you ever left a presentation that you just found easy to understand but weren't sure why? Often this is because the visual processing load was low and allowed you to be immersed in the content.

(1) Title, (2) Content, (3) Image all have consistent placement and formatting

The screenshot displays a grid of PowerPoint slides illustrating consistent placement and formatting. Red circles with numbers 1, 2, and 3 highlight specific elements on slides 40, 41, and 42 respectively. Slide 40 shows a title, a list of questions, and a photo. Slide 41 shows a title, a list of best practices, and a diagram. Slide 42 shows a title, a list of steps, and a chart. Slide 43 shows a title, a list of points, and a screenshot of the Selection Pane. Slide 44 features a large 'Pro Tip Alert!' text. Slide 45 shows a title, a list of benefits, and a screenshot of the Read Order pane. Slide 46 shows a title and a screenshot of the Microsoft Accessibility Checker. Slide 47 shows a title, a list of points, and a screenshot of the checker results. Slide 48 shows a title, a list of steps, and a screenshot of the save options.

Leverage Slide Templates

Now that you know why you should use Slide templates. Lets talk about what you put on them. Remember that you are striving for a consistent location and style of your initial content.

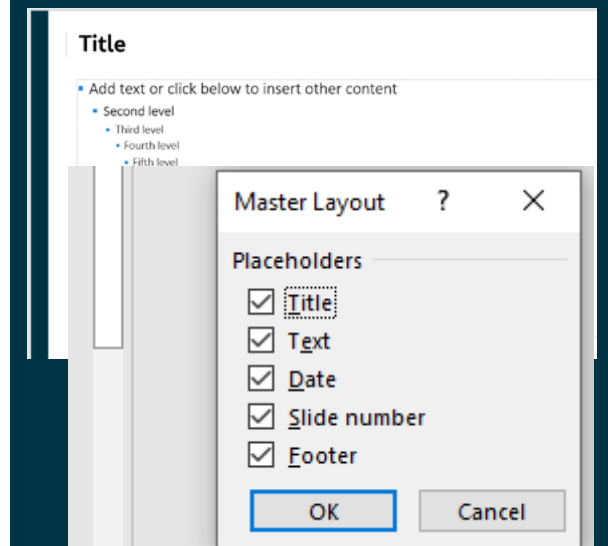
The Master Slide

This slide contains items that will appear on every slide. You can choose which elements you want for all slides by right clicking on the Master slide and choosing "Master Layout..." From here you can select from title, text, date, slide number and footer. Elements selected here will appear on every slide. However, you can add elements to your child slides to hide Master slide elements.

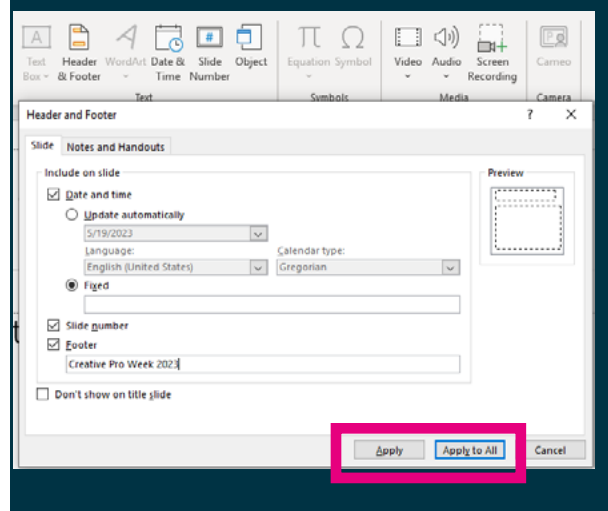
1. Slide Title: Your Title should be visually distinguishable from your body copy. My personal preference is that it should be 10 to 12pts larger than your body copy. If your body copy is 32pt your Heading should be 42 to 48pt. I know that sounds large but again, it will largely depend on your overall content.
2. Color: When choosing a color for your Title you will need to maintain a 3 to 1 color contrast. (see Color Contrast for more info)
3. Logo Placement: Consider size and placement that does not distract or clutter the slide.
4. Master Footer: Your footer can contain the date, custom text and the page number. This can be set by right clicking on the Master slide and choosing Master Layout. If you have already created your slides and want to add the footer afterwards you can select Insert > Header & Footer. The dialog box that pops up will allow you to add elements to the current slide or all slides.

Note: Once you have started laying out your slide deck, deselecting items from this list will not remove footers from existing slides. Use Insert > Header/Footer to remove them from a slide or the entire deck.

Elements to choose from:



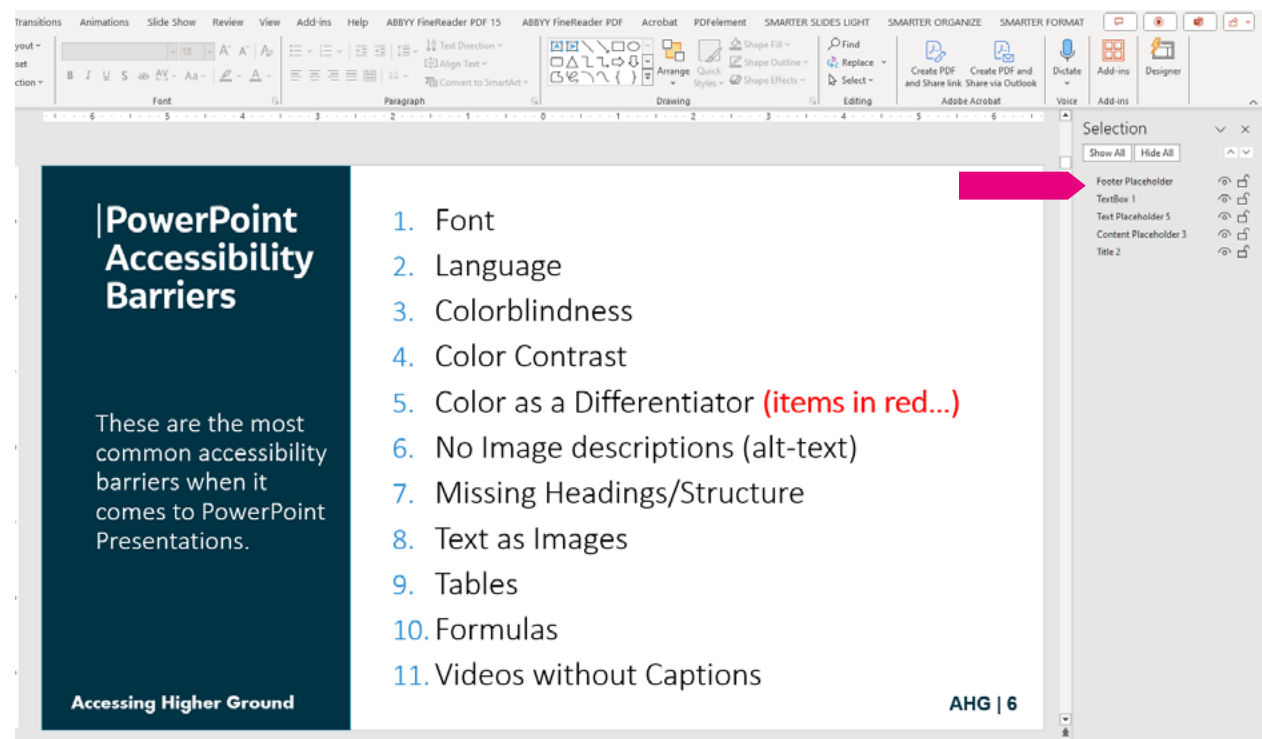
Header/Footer Options



Other Accessibility Considerations

- 1. Accessibility Consideration 1:** Visual Page numbers are not required when your final output is a PDF. Acrobat has their own page numbering system. However, if you choose to add page numbers, make sure they match the PDF page numbers.
- 2. Accessibility Consideration 2:** If the information in the footer contains vital information and needs to be presented to the user you will need to copy the footer information in text boxes or manually tag the content in the PDF. If you use the default boxes in the template they will be ignored by screen reading assistive technology. Typically you would only do this on your first or last slide of the presentation.

Bug Alert: If you include the page number in your template and you add content later it is possible that your content may not get tagged correctly if you did not set your reading order. PowerPoint currently hides the item directly above the page number in the Reading Order pane. Therefore you need to make sure you adjust your reading order so that the page number is read last. Or if you are using the Selection Pane to set your reading order, that the page number is the top most item in the selection pane.



PowerPoint will artifact any element directly above the page number placeholder

Step 3: Selecting Fonts and Sizes

Accessible fonts

While most people agree that San Serif fonts are easier to read, there is no real definitive study to support the claim. What makes the most impact is spacing, line height and consistency.

Source Sans, Tahoma, Calibri, Helvetica, Arial, Verdana, and Times New Roman are all considered as accessible fonts. However be aware that letters like Capital I and lowercase l, or b and d can be confusing in many san-serif fonts. My goto is font is often Source Sans. Notice the tails on the lowercase letter l.

Illustrator: Calibri Bold

Illustrator: Source Sans Bold

Dax's Recommendations for font sizes:

1. Headings: 36 to 48 pt
2. Body/Bullets minimum: 24 to 32pts
3. Footnotes/References: 18pt

Step 4: Picking your Color Palette

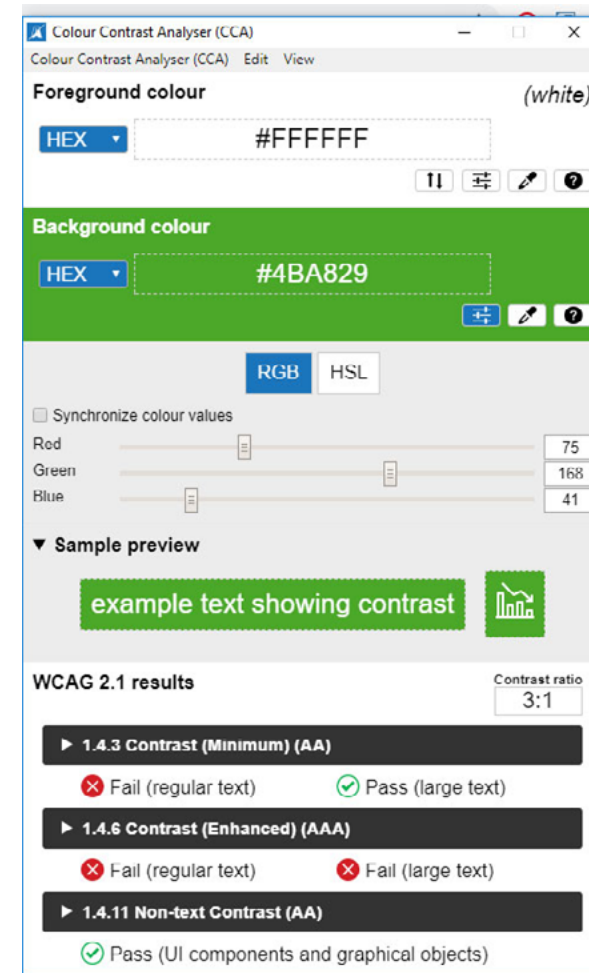
Color Contrast

Color Contrast is the the difference in luminance or color between a graphic or text element and its neighbor or the background. It plays a crucial role in making content readable to all individuals, including those with low vision. While WCAG only requires a 3 to 1 Color Contrast I strive to meet 4.5 to 1 just to make sure that all my text can be read regardless of room lighting or method of presentation.

Regular text: Any text smaller than 18pt or 14pt bold. Regular text must have a 4.5 to 1 color contrast ratio to it's background.

Large Text: Any text that is 14pt bold or 18pt and larger. Large text requires a 3 to 1 color contrast because the text is larger and generally easier to see.

While there are online tools that allow you to paste color values into them to figure out the color contrast, the easiest way to evaluate contrast is with a free tool called the Color Contrast Analyzer by TPGI. <https://www.tpgi.com/color-contrast-checker>



TPGI Color Contrast Checker Interface

Using color alone to distinguish elements

WCAG Success Criteria 1.4.1 Color Only (Level A). Color is not used as the only visual means of conveying information, indicating an action, prompting a response, or distinguishing a visual element.

This accessibility guideline ensures that important information or instructions are not conveyed only through color. Some people may have difficulty seeing or interpreting colors, so it's important to provide alternative ways to understand the content.

Imagine you come across a website that uses only color to indicate whether a button is selected or not. If you cannot see the colors properly, you may get confused or miss important information. This success criterion ensures that websites use other visual cues, like symbols or text, in addition to colors.

For example, if a slide contains different colored cells in a table that indicates project status, they should also have labels or symbols to indicate their values as well so people can understand them even if they can't see the colors clearly.

Milestone	Phase 1	Phase 2	Phase 3	Phase 4
Environmental study	unfunded	In progress	In progress	In progress
Ground soil Evaluation	Complete	Complete	Complete	unfunded
Hazardous Materials Testing	In progress	In progress	unfunded	unfunded
Endangered Species Report	Complete	Complete	Complete	Complete

Simulation - Deuteranope 100% severity

Milestone	Phase 1	Phase 2	Phase 3	Phase 4
Environmental study	unfunded	In progress	In progress	In progress
Ground soil Evaluation	Complete	Complete	Complete	unfunded
Hazardous Materials Testing	In progress	In progress	unfunded	unfunded
Endangered Species Report	Complete	Complete	Complete	Complete

Colorblind simulated view for someone with Deuteranopia (most common form of colorblindness)

Step 5: Adding Content Accessibly

Controlling Reading Order

One of the most overlooked accessibility barriers is checking and setting the Reading Order. It is not an issue when you stick to the template and have simple Title and bullet content. But the moment you start copying and pasting content from other sources or adding elements to the slide you run the risk of mixing up the reading order of the elements on the page. This is easily fixable but you have to know where to look. The answer to “Okay, where do I look?” is “It depends.” If you are using a current Windows version of Office 365 you can use the Read Order Panel. But, if you are using a MAC or are using the Browser-based version of Office 365 you must use the Selection Pane.

Controlling content with the Reading Order Panel

This is a new option that has been recently added for most of the world running Windows desktop versions of Office 365. It is so much better than the Selection Pane method and really makes setting the Reading Order very easy.

You can access the Reading Order Pane from the Review > Accessibility > Reading Order

The screenshot displays the PowerPoint interface with the Reading Order panel open on the right. The panel lists slide elements with numbered red circles (1-5) indicating their reading order. The Color Contrast Analyzer tool is also visible, showing foreground and background color values, contrast ratio, and WCAG 2.1 results. A list of instructions is provided for using the tool.

1. Use the eyedropper to sample a color
2. Check the Contrast Ratio for compliance
3. Adjust the HSL or RGB
4. Check synchronize values when using RGB
5. Copy the new values
6. Paste into PPT

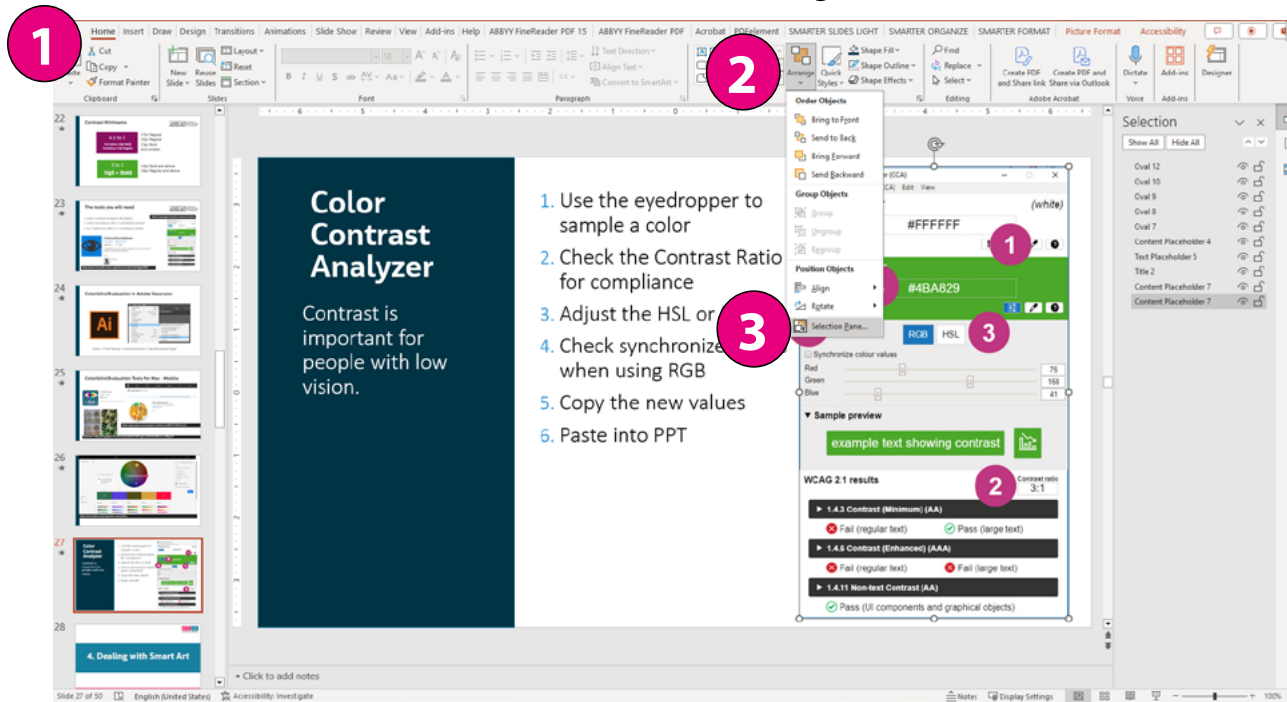
From this panel you will be able to set the reading order in a natural top-down method. You will see all the elements are conveniently numbered. If you double click on any item you can directly access the image descriptions. If an element does not have an image description you will see a warning triangle next to the item. If you would like to omit (artifact) a decorative item like the numbered circles in the example you just simply uncheck the boxes. Unlike the Selection Pane,

this does not remove the item from the visual page. It only hides it from people using assistive technology. Read more on that topic in the section of this handout titled Alternate Descriptions.

Controlling content with the Selection Pane

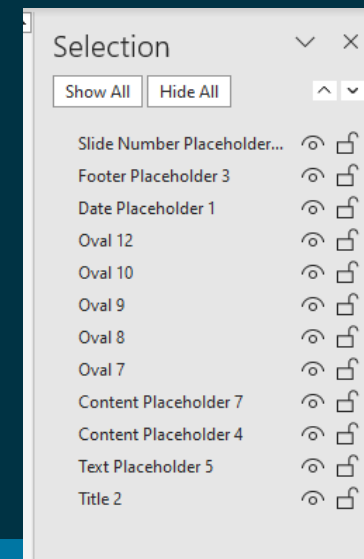
This panel is less robust and does not include direct access to alt-text descriptions or have the ability to mark something as decorative. You simply drag the items up or down to adjust the order from the bottom up. The bottom-most item is the first item read by assistive technology. The top-most item is the last. If you are including slide numbers you will want to make sure they are at the top (last) to avoid the bug we discussed earlier.

You can access the Selection Pane via the Home tab > Arrange > Selection Pane.



Depending on your slide content you may see more or less items from this view but the typical items you will see here are labeled:

- Title 1
- Text Placeholder 2
- Picture 1
- Date Placeholder 1
- Footer Placeholder 2
- Slide Number Placeholder 4



Note If you are trying to meet HHS Accessibility standards each of these elements must be properly labeled.

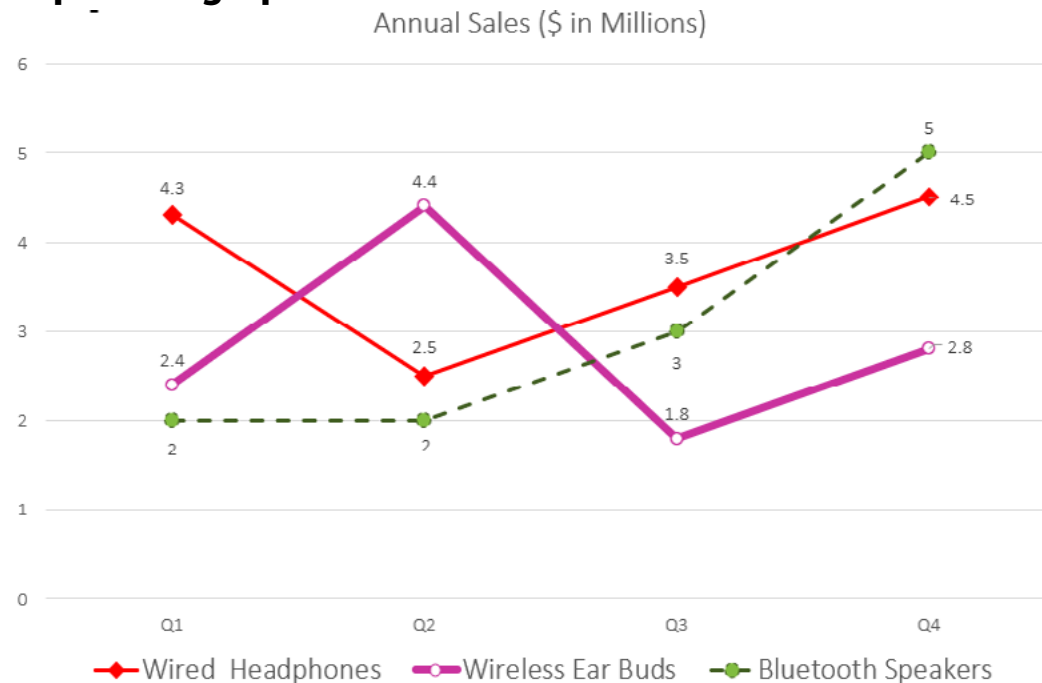
What should I say?

1. Set the Stage
Annual Sales for Headphones, earbuds and speakers...
2. Describe the Axis/Legend
sales in millions of dollars by quarter...
3. Relate quantity/trend
showing a significant drop in wireless ear buds hitting a \$1.8M low. Wireless headphones and bluetooth speakers showed a steady increases from the second quarter to the end of the year...
4. If it has data/values your description should have some too!
"...with sales for ear buds at \$4.5M and \$5M for bluetooth speakers."

Step 6: Alternate Descriptions for Images

All non-text content requires one of two things. Either you mark it as decorative or you provide a short but meaningful description. How do I know if I should mark something as decorative? Ask yourself: "If this item were not here would the reader lose any valuable information?"

Example Line graph



Now put it all together:

Annual Sales in millions of dollars for Headphones, earbuds and speakers by quarter showing a significant drop in wireless ear buds hitting a \$1.8M low in the 3rd Quarter. Wireless headphones and bluetooth speakers showed a steady increases from the second quarter to the end of the year with sales for ear buds at \$4.5M and \$5M for bluetooth speakers.

Describing an Image

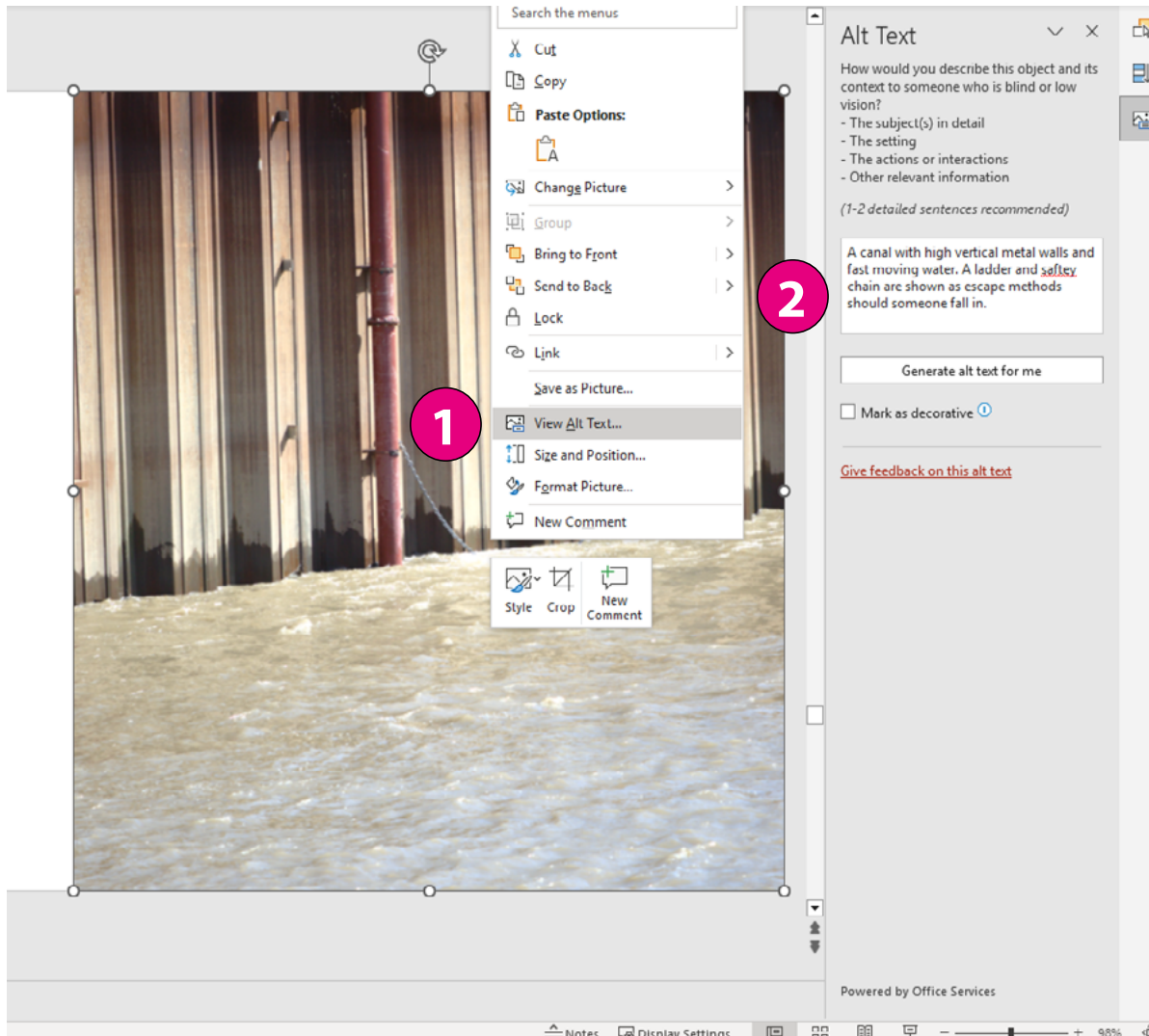


What should I say?

1. What are the important features of the setting, if any?
A canal with high vertical metal walls.
2. Are there actions or interactions?
fast moving water
3. Does describing the subjects add value to the description?
A ladder and safety chain are shown
4. Avoid adding non-descriptive data unless it would be obvious to the visual reader.
as escape methods should someone fall in.

Now put it all together:

A canal with high vertical metal walls and fast moving water. A ladder and safety chain are shown as escape methods should someone fall in.



Where to add Alt-text

Right click on any image and choose View Alt-text. Here you can enter your description.

Well-written Alt-text

- 2-3 sentences
- Describes the main point or elements of an image
- Starts with the most important info
- Includes quantitative data if it exists in the image, chart or graph.
- Avoid visual layout like extra hard returns (not read by screen readers)
- Avoids excessive use of symbols
- Avoids hyperlinks since they are not interactive in alt-text

NOTE: Did you know someone using assistive technology cannot pause alt-text and must start from the beginning if something is missed.

Don't forget the Screen Tip

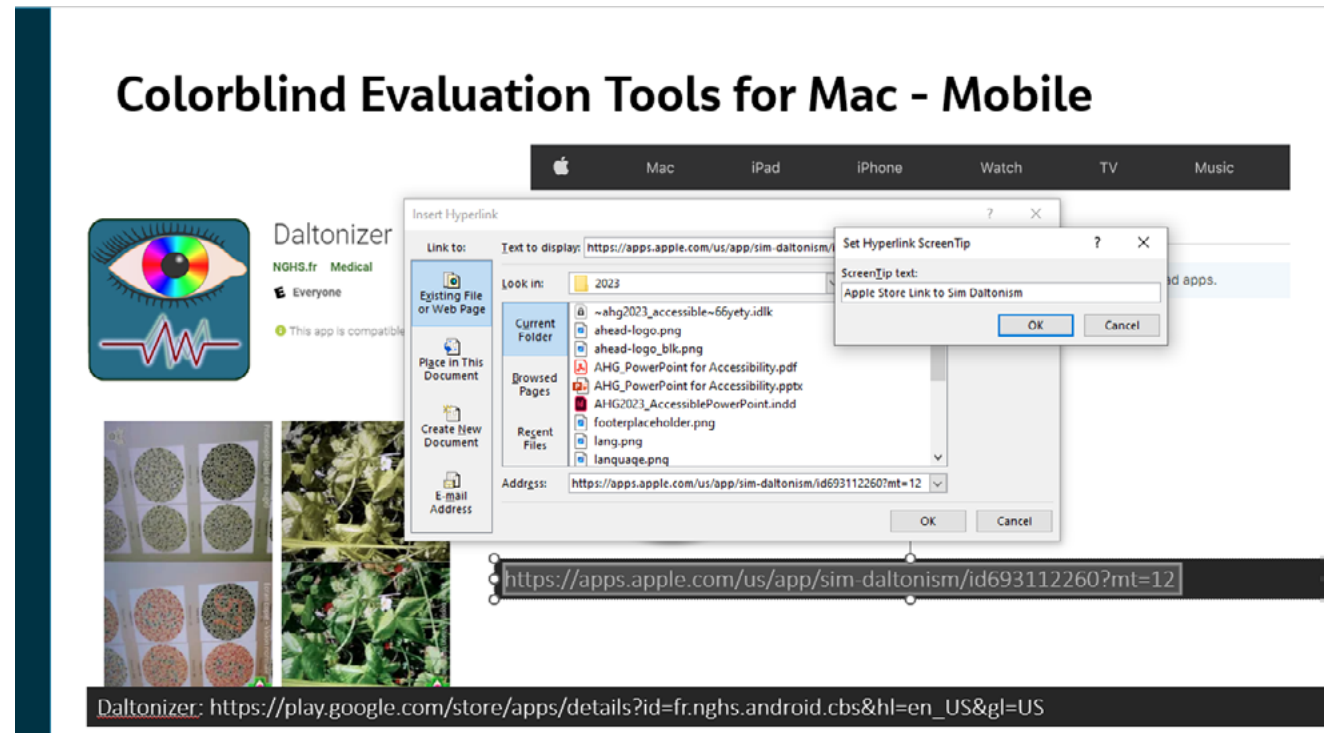
When setting a link in the content of your slide you should always add a Screen Tip. This is the descriptive text the screen reader user will hear when they encounter the link. "Apple Store link to Sim Daltonism" is much more descriptive than "https://apps.apple.com/us/app/sim-daltonism/id693112260?mt=12"

Click Here

Avoid phrases like "Click here," "Watch," or "Read More" without context. "Click here to download the Accessibility Report," "Watch the video on Vimeo" or "Read More about alpaca" are much more informative links.

Step 7: Create Accessible Links

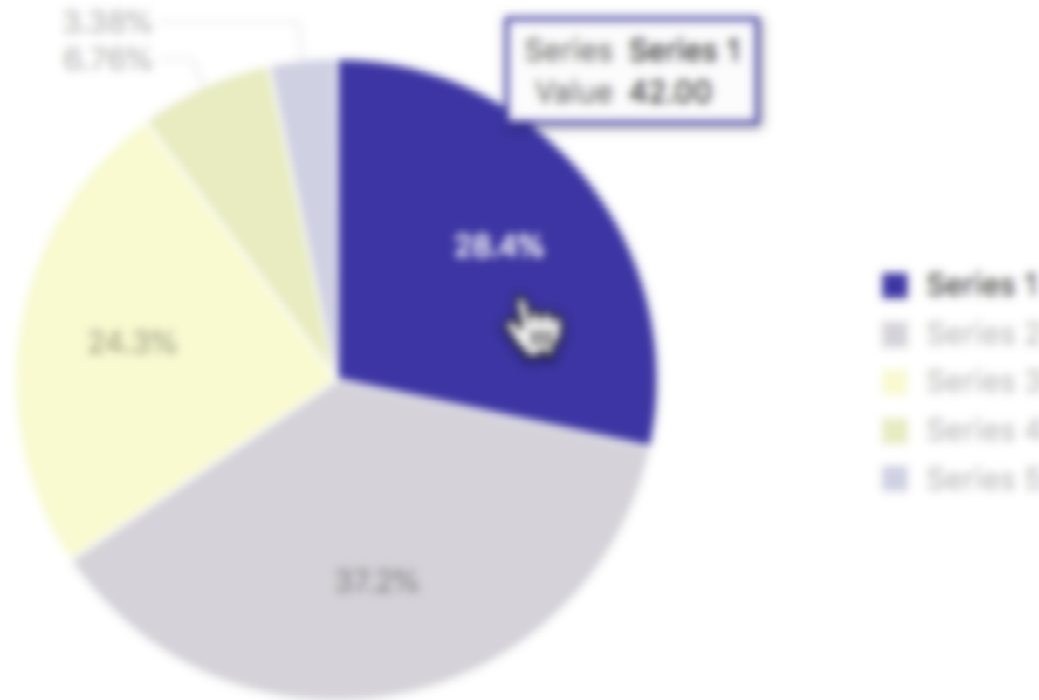
Repeating Links in the footer of your slides should not be active. PowerPoint will hide them from the screen reader (artifact them) by default. However if you assign a url to them, you may get errors when running the PDF Accessibility Checker if you are creating a PDF from your PPT.



1. Highlight the text or select your image.
2. Right Click and choose **Insert Link**.
3. Enter the URL and then in the top right corner click the **Screen Tip** button and add a short description for the user to know where they are going if they click the link.
4. Click **Ok**.

Step 8: Use Accessible Colors in Graphics

As we have discussed before color plays an important role in the accessibility of graphics. The use of labels instead of legends also improves cognitive understanding. When we consider color there are two accessibility barriers we are trying to mitigate – Low vision and color blindness. We have already discussed color blind considerations and WCAG 1.4.1 Use of Color. Let’s discuss the other potential barrier; low vision.



Low Vision Considerations

WCAG Success Criteria 1.4.11 Non-text Contrast (Level AA)

The visual presentation of the parts of graphics required to understand the content have a contrast ratio of at least 3:1 against adjacent color(s). <https://www.w3.org/WAI/WCAG21/Understanding/non-text-contrast.html>

Color contrast is the determining factor for low vision. Ask yourself:

- “Can someone with low vision tell one thing from another?”
- “Are text labels or data points dark (or light) enough to be read against the page or background colors of charts, graphs and infographics?”
- “Are the important elements in my map or infographic dark enough to meet the 3 to 1 color contrast requirement?”

Step 9: Create Accessible Tables

What makes a table accessible? Here are my 10 basic accessible table qualifiers:

1. It is not an image
2. It has logical structure with the same number of columns in every row.
3. It has no blank Column headers.
4. It avoids cramming unlike items together for aesthetic reasons.
5. It doesn't use blank columns to visually style or separate data.
6. It does not use colored cells as the only way to communicate information.
7. It does not use symbols alone to communicate information
8. It avoids merged cells (when in PPT format. PDF is okay but requires extra steps).
9. The title of the table is not embedded in the first row.
10. Footnotes are not embedded in the last row

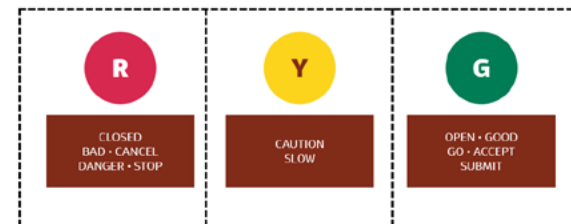
BONUS: The A1 cell can be blank but you will need to modify it in your PDF and mark it as a TD.

The A1 Cell	Column Header	Stacked		Stacked	
		Split	Cell	Split	Cell
Row Header	Table Data	Table Data		Table Data	
Row Header	Table Data	Table Data		Table Data	
Merged Cell	Table Data	Table Data		Table Data	
	Table Data	Table Data		Table Data	
Footer Row	Footer Row	Footer Row		Footer Row	

Layout tables

While most accessibility professionals avoid tables that are used only for the purpose of spacing out or visually dividing graphics or paragraphs of text, it is not a barrier if the presentation of the elements when read left-to-right, top-to-bottom make logical sense. However, be aware that you will not pass any accessibility checkers unless your table has column headers. So it is best to avoid them whenever possible.

Now which one is red?



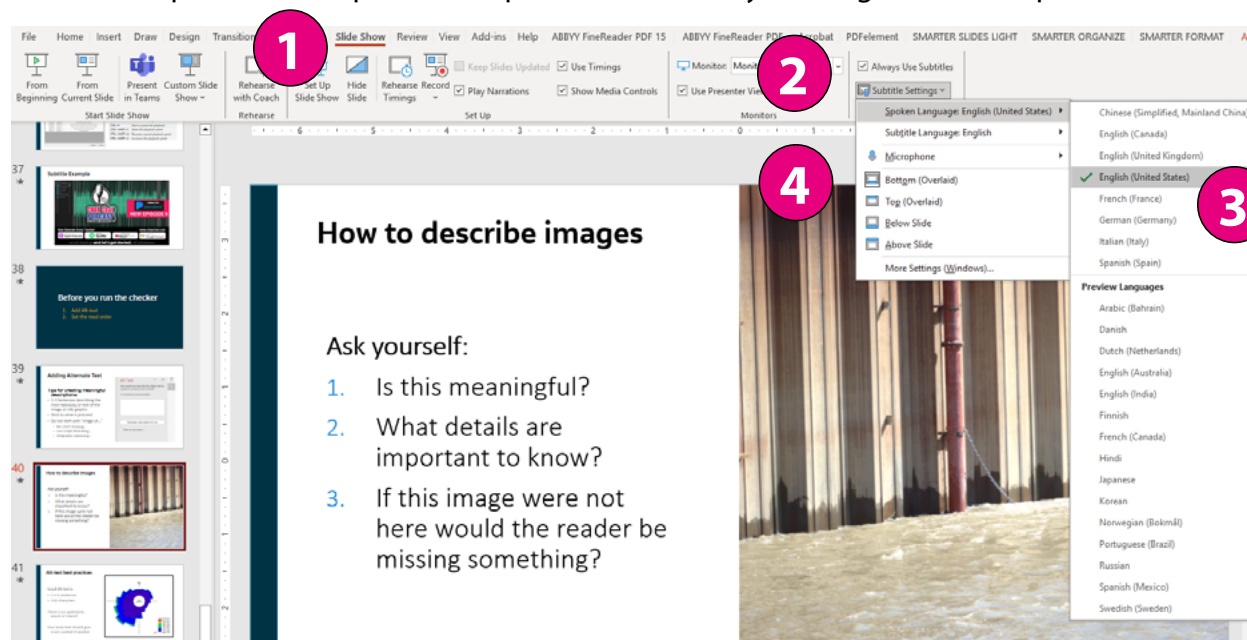
creative
PRO

Step 10: Create Accessible Video in PowerPoint

A note about Captions and Subtitles.

Captions are text that in the same language as the live presenter or the video content. Subtitles are when the spoken word is translated to a different language. PowerPoint, however, does not differentiate the two. To set live captions you go to the Slideshow tab (1) and then select "Always Use Subtitles (2). Then you can choose the base language or have them translated to a different language (3). Live captioners are always a better choice than automation, but if you need to set them for your presentation the alternatives are there.

You can adjust the position of the captions or subtitles (4) as well as which microphone to listen to. Remember to turn this off if you are in a Zoom meeting or other online meeting where their platform also provides captions. Otherwise you will get one on top of the other.



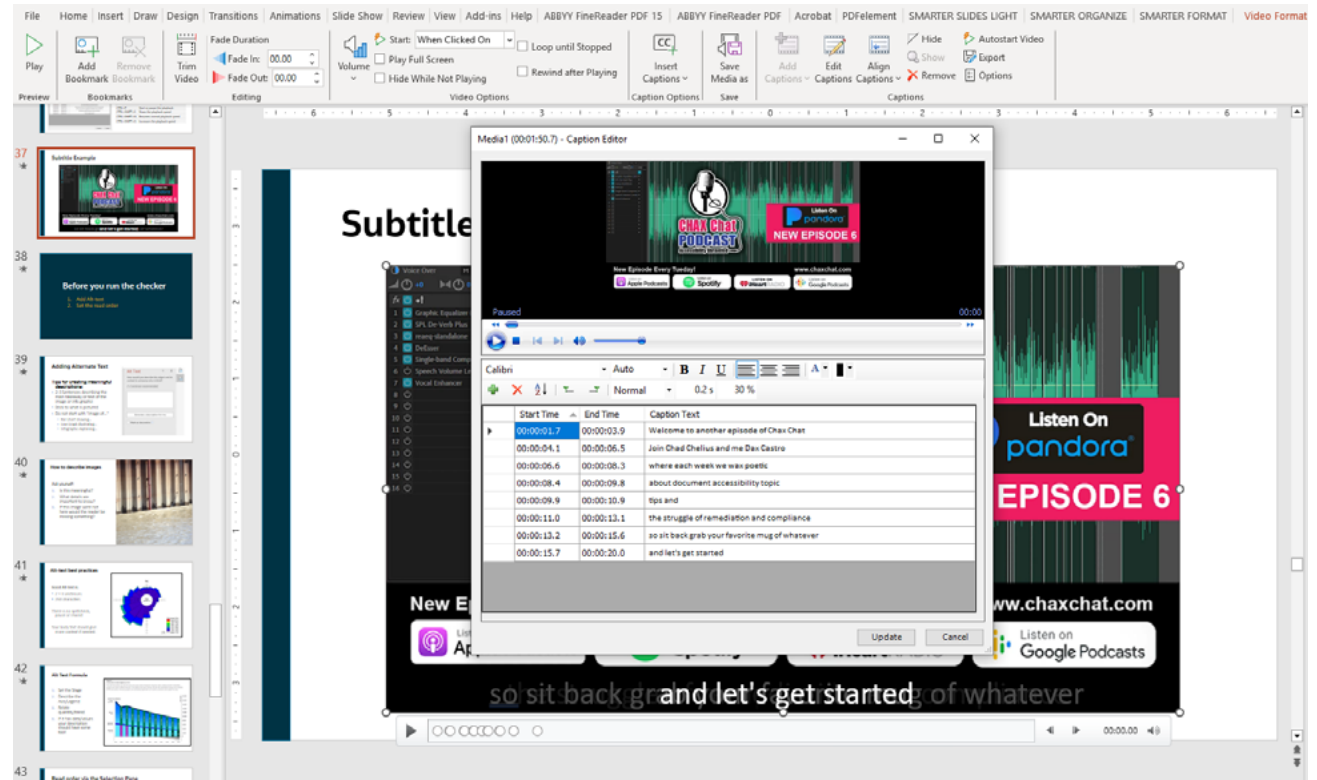
When live PPT files are shared ensure your video content is not set to autoplay

It is important that your video content is not set to autoplay when delivering a live PPT source file to someone who may use a screen reader. When the video plays it can be startling and if there is speech or music it can overshadow the users screen reading assistive technology. Always make sure your video content is set to play on click. Another key accessibility function is not hiding the controls or moving them off screen. A user should be able to easily control start, stop, pause, volume or mute.

Use Video Captions

Captions should always be available for your video content. Captions come in two variations. Open Captions and Closed Captions. Open Captions are burned into the video and are part of the actual video file. Closed captions are produced via a separate file and can be available in several language options for the user.

A great tool I always recommend is the free plugin STAMP if you need to include video in your actual presentation rather than hopping out to YouTube or Vimeo. STAMP has several ways to import captions or create your own. The option for creating your own can be a bit clunky at first but with some practice you can get the hang of it. However, if time is valuable, creating Open Captions that are burned into the video really saves a ton of time.



Options for creating captions:

1. Adobe Premiere has a new captioning feature that lets you produce open or closed captions. It also lets you produce a transcript as well.
2. YouTube studio allows you to add captions manually as PowerPoint compatible VTT files.
3. STAMP Subtitling Add-In for Microsoft PowerPoint <https://blogs.microsoft.com/accessibility/subtitling-add-in-for-microsoft-powerpoint-stamp-now-supports-office-2013-and-later/>

Does your Video-only content have audio descriptions or a transcript?

Much like audio-only content, video only content can be a significant barrier for people who are blind or low-vision. The best option is audio descriptions. To hear a great example of a video with audio descriptions visit this Vimeo video from the Blind Institute of Technology.

<https://vimeo.com/820638084/f9d28374f4>

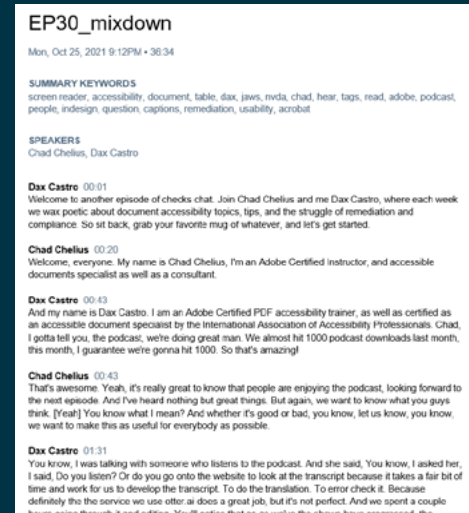
A secondary alternative is a digital transcript in the form of an accessible PDF or Word document that a person could access using assistive technology. Giving this file out ahead of time is proper etiquette to allow the audience time to review the content.



The Greatest Equalizer - (With Audio Description) ↓

Do you have Audio-only content?

Are you playing a clip from a podcast or radio program? To consider those you are Deaf you will want to have captions on screen as well. Otherwise you can provide a transcript ahead of time as a less-inclusive but accessible option. Transcripts include things like speakers names, sounds, and can include time stamps if you feel the need to add them.

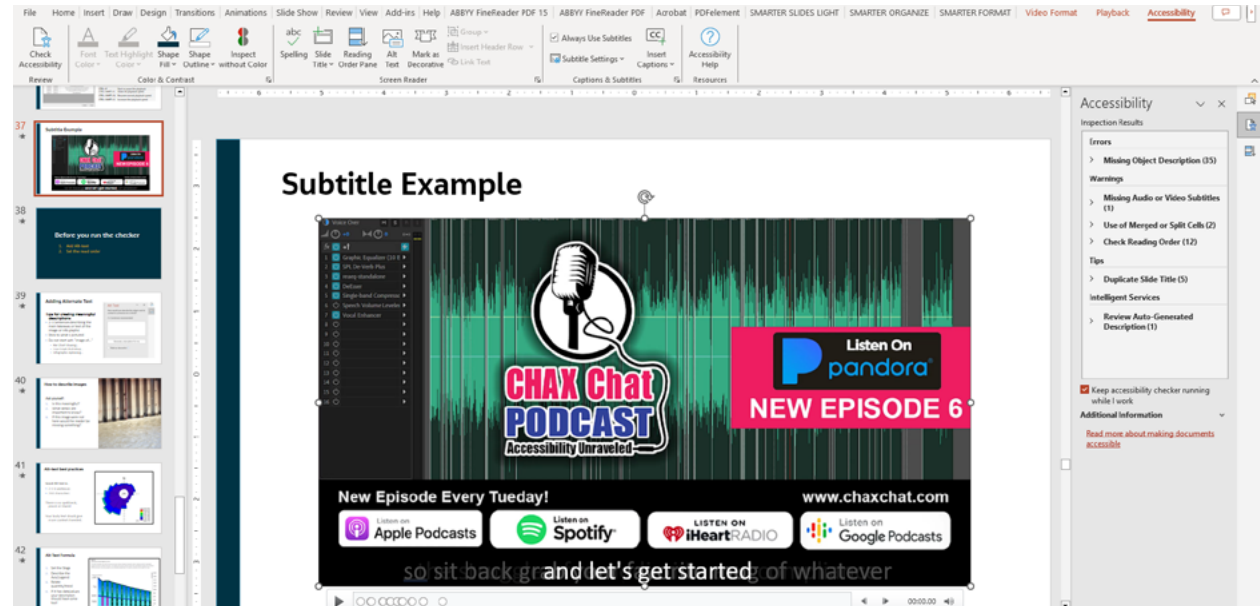


Transcript sample from Otter.ai

Step 11: Run the Microsoft Accessibility Checker

When you are finished with your document and have incorporated all the steps above you should have very little errors in your document. However, if you are running the checker on a document you did not create you will need to understand what the errors mean and how to fix them. The good thing is that Microsoft does a pretty good job of walking you through it.

NOTE: The current Microsoft Checker in PowerPoint does not check for minimum color contrast.



Typical Accessibility Checker Warnings and Errors

1. Missing Slide Title: Make sure every slide has a title. Sometimes you might need to hide one behind an image if your entire slide is just an image.
2. Duplicate Slide Title: Use Continued (1) or Continued (2) but each slide title must be unique.
3. Missing Object Description: Right click on the image and add a short meaningful description
4. Use of Merged or Split Cells: This only matters when you are delivering a live PPT file to someone who will need to use assistive technology to read it. If you are exporting to PDF you should ensure you table has proper Scope and Spans set for accessibility.
5. Check Reading Order: Use the Reading Order or Selection Pane to verify the order.
6. Mission Audio or Video Subtitles: Add them or provide accessible alternatives.
7. Review Auto-Generated Descriptions: Please don't use these. Just don't They are never good and no one likes "Possible image of sunglasses. Generated with medium confidence" as an image description for a chart or graph. (yes, this really is true example)

The following table provided by Microsoft includes key best practices for creating PowerPoint presentations that are accessible to people with disabilities.

What to fix	How to find it	Why fix it	How to fix it
Include alternative text with all visuals.	To find missing alternative text, use the Accessibility Checker.	Alternative text helps people who can't see the screen to understand what's important in images and other visuals.	Add alt text to visuals
Make sure slide contents can be read in the order that you intend.	Use the Accessibility Checker to find slides that have possible problems with reading order. Try navigating your slides with a screen reader.	A screen reader reads the elements of a slide in the order they were added to the slide, which might be very different from the order in which things appear.	Set the reading order of slide contents Use built-in slide designs for inclusive reading order, colors, and more
Add meaningful and accurate hyperlink text and ScreenTips.	To determine whether hyperlink text makes sense as standalone information, visually scan the slides in your presentation.	People who use screen readers sometimes scan a list of links. Tip: You can also add ScreenTips that appear when your cursor hovers over text or images that include a hyperlink.	Create accessible hyperlink text and add ScreenTips
Ensure that color is not the only means of conveying information.	Select Start > Settings > Accessibility > Color filters . Turn on the Color filter switch, and then select Grayscale . Visually scan each slide in your presentation for instances of color-coding.	People who are blind, have low vision, or are colorblind might miss out on the meaning conveyed by particular colors.	Use an accessible presentation template Use built-in slide designs for inclusive reading order, colors, and more
Use sufficient contrast for text and background colors.	To find insufficient color contrast, use the Accessibility Checker. You can also look for text in your presentation that's hard to read or to distinguish from the background.	Strong contrast between text and background makes it easier for people with low vision or colorblindness to see and use the content.	Use accessible font color Use built-in slide designs for inclusive reading order, colors, and more

What to fix	How to find it	Why fix it	How to fix it
Give every slide a unique title.	To find slides that do not have titles, use the Accessibility Checker.	People who are blind, have low vision, or have a reading disability rely on slide titles to navigate. For example, by skimming or using a screen reader, they can quickly scan through a list of slide titles and go right to the slide they want.	Give every slide a title Hide a slide title
If you must use tables, create a simple table structure for data only, and specify column header information.	To ensure that tables don't contain split cells, merged cells, or nested tables, use the Accessibility Checker.	Screen readers keep track of their location in a table by counting table cells. Screen readers also use header information to identify rows and columns.	Avoid using tables Use table headers
Use a larger font size (18pt or larger), sans serif fonts, and sufficient white space.	To find potential issues related to fonts or white space, review your slides for areas that look crowded or illegible.	People who have dyslexia describe seeing text merge or distort.	Use an accessible presentation template Use accessible font format and color
Make videos accessible to people who have a vision or hearing disability.		<i>Subtitles</i> typically contain a transcription (or translation) of the dialogue. <i>Closed captions</i> typically also describe audio cues such as music or sound effects that occur off-screen. <i>Video description</i> means audio-narrated descriptions of a video's key visual elements. These descriptions are inserted into natural pauses in the program's dialogue. Video description makes videos more accessible to people who are blind or have low vision.	Use captions, subtitles, and alternative audio tracks in videos
Create accessible PDFs or other file formats of your presentation.		Include accessibility tags to PDF files you create from your presentation. The tags make it possible for screen readers and other assistive technologies to read and navigate a document. You can also save the presentation in a format that can be ported to a Braille reader.	Save your presentation in a different format

Accessibility Special Considerations

1. Avoid adding images or charts in the notes area. This area is difficult to access for those using assistive technology and non-text objects in this area can be very hard or impossible to read.
2. Page numbers can be included in your slide decks. However, ensure your on-page numbers match the PDF document page number if you are generating a PDF of your slides.
3. If you are trying to meet the Department of Health and Human Services standard for PowerPoint presentations you will need to include titles and subtitles for all objects in your selection pane. (See previous section: Ordering Objects)
4. Avoid forms or quizzes in your PowerPoint slides. These are not accessible and can provide a confusing user experience for people using assistive technology. If you must include these elements consider providing accessible alternative HTML or digital documents.
5. Turn off the Automatic Alt-text setting. You can find this under Review > Check Accessibility > Options: Accessibility.

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