

The Accessibility of: Footnotes, Endnotes, Comments and Track Changes



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Screen Readers versus Text-to-Speech Tools

Screen readers and Text-to-Speech tools are not the same. Screen readers will read the entire user interface IF it has been designed to be accessible. Microsoft Windows and Microsoft 365 are examples of software user interfaces designed to be more accessible.

This means that Ribbons, menus, sub-menus, dialogs, choices in dialogs, navigation, reading and access to the document or content are available to screen readers (and other adaptive technologies). Someone who is blind will be able to use a computer and configure it out of the box without assistance. Screen readers are sometimes utilized with refreshable Braille displays, which use 8-cell Braille to provide additional information about formatting, accents and other information.

Text-to-Speech tools were developed for people with learning, cognitive, or print disabilities. This includes those with information processing issues. The focus is not on the user interface, but on reading the document, web page, or presentation content. Text-to-Speech supports visual access to content.

Depending on the level of vision loss, someone with a visual disability might use screen magnification with either a screen reader or a Text-to-Speech tool. They may also use screen magnification alone.

People who use a refreshable Braille display¹ must have a screen reader to provide the information to the refreshable Braille display. While regular Braille has 6 dots, computer Braille has 8 dots. The additional two dots provide information about formatting, accents, and other information. Refreshable Braille displays have “rockers” and dials to provide additional functionality such as panning, scrolling and navigation. Some people using refreshable Braille displays turn off the audio of the screen reader to focus on the Braille output.

While we use blindness as the baseline for digital accessibility, everyone can understand using a computer without a monitor or a mouse. We build accessibility for other users using that baseline.

Voice Synthesizers

Screen readers and Text-to-Speech tools (TTS) have two components:

- The screen reader or Text-to-Speech tool itself.
- A specific synthesized voice chosen by the end-user.

¹ How Refreshable Braille Displays Work, Beuro of Internet Accessibility: <https://www.boia.org/blog/how-do-refreshable-braille-displays-work>

Figure 1 Visual of robotic voice synthesizer and newer natural phoneme voice synthesizers.



The synthesized voices have different levels of functionality:

- The older robotic-sounding voices may have more complete character sets and a larger pronunciation dictionary.
- The newer natural phoneme or natural sounding voices which may not have complete character sets or evolved pronunciation dictionaries.
 - For example, the Daniel UK synthesized voice will say “was ted” instead of “wasted”.
 - For example, often elements such as the tilde (~), double slash (//) of web addresses (//) and other commonly used symbols.

The pronunciations can affect comprehension. People using specific voices are used to their quirks. It is like listening to a person with speech patterns...we tend to fill in the blanks.

Added to this is the use of non-Unicode fonts which may or may not have complete character sets. This is why it is recommended that Unicode fonts (and emojis) are used in digital content. It is one less thing that can negatively affect digital accessibility. A good font to use in desktop publishing applications is Google Noto which has more complete character sets, is a Unicode font and is being developed for multiple languages including written Indigenous languages. The Microsoft Calibri and Cambria fonts are Unicode fonts. While the new Microsoft fonts, Aptos and Aptos Serif, are Unicode fonts, end-users are reporting difficulty reading text with either font for long periods of time; or they need to increase the font size to make the fonts more readable. There is nothing wrong with staying with Calibri or Cambria as the default font. You may need to modify the Normal font style to ensure this. Modifying the Normal Style is easy to do. (I have another tutorial on how to do this.)

If you want to experience both a screen reader and a Text-to-Speech tool and are using a Windows-based computer, you can start Narrator. Narrator is a screen reader designed to work with the Windows operating system and Windows-based applications. It does not work in applications such as Adobe Acrobat Pro DC. If you use a Microsoft 365 application

such as Word, there is a Read Aloud function from the Review Ribbon. Think of this as “Narrator light” or a Text-to-Speech tool as it only works within the Word document, not the user interface or Windows. Using Narrator and Read Aloud in Word will give you a better understanding of the difference between screen readers and Text-to-Speech tools.

Emojis

JAWS, NVDA and Narrator identify an emoji by its name. For example, “Thumbs Up emoji” and identify any settings applied to it, such as skin tone.

The Read&Write Text-to-Speech tool identifies the emoji by a numeric code. With Text-to-Speech tools that don’t include information about emojis or only include coded information about emojis, those using the tools can experience accessibility barriers. If the end-user cannot visually decode the emoji to understand its purpose, there is no audio support to help.

Emojis are like symbols and come with their own description if the adaptive technology can provide that information to the end-user. If the adaptive technology cannot, the end-user is left with a numerical value for the emoji, even if it is a Unicode emoji.

The Canadian government has guidance on when to use emojis in social media posts, which will be published in the Digital Accessibility Toolkit site². Their guidance states that emojis (and hashtags) should be used at the end of a post and kept to three (3) emojis. The following is an excerpt from the Canadian guidelines:

Ryan Tan of the UX Collective reinforces the “proper” use of emojis for accessibility³. His article provides great advice on using emojis.

The following instructions to add an emoji to an Outlook e-mail, Word, PowerPoint or OneNote document work with or without a screen reader. The “advantage” of using a screen reader is that you hear the descriptions.

To use the keyboard to add emojis or animated GIF emojis to a document:

1. Press Windows Key + Period.
2. The Emoji Dialog opens. Focus is where you can type the name of an emoji. For example, “thumbs up” or “smiley”.
3. Type the name of an emoji⁴.
4. Press Tab to move to the results for emojis.
 - a. The example is for a “thumbs up” emoji.

² Digital Accessibility Toolkit, Government of Canada: <https://a11y.canada.ca/en/>

³ Emojis and Accessibility, How to use them Properly, Ryan Tan, UX Collective: <https://uxdesign.cc/emojis-in-accessibility-how-to-use-them-properly-66b73986b803>

⁴ Full List of Unicode Emojis, Unicode.org: <https://www.unicode.org/emoji/charts/full-emoji-list.html>

- b. The first thing you may come across is a choice of skin colours for the emoji. This is not available for all emojis.
5. Once you've chosen a skin tone or other option, press Tab to move to the emoji.
6. Press Enter on it to add it to the document at the cursor point.
7. The Emojis dialog closes.
8. If it doesn't, press Alt + F4.

If you want to add an animated GIF of the same topic, press Tab once you land on the emoji. This takes you to a list of animated GIFs. Some have Alt Text, which gives a vague idea of the content. As Illustrated in this document, the Alt Text does not always provide a level of description that can confirm that you want to use the GIF.

For the following emoji, JAWS, NVDA, and Narrator read "Thumbs Up sign, medium light skin tone".



Read&Write identified the emoji as "1,212". This is not a Unicode or ASCII keyboard command for the emoji.

Read Aloud (Word) ignores both the emoji and the animated graphic. The end-user does not get any information about either of them.

The Text-to-Speech tool in Dragon NaturallySpeaking (Read That) provides the same information (1,212) for the emoji as Read&Write and ignores the animated graphic. No information is provided about the graphic.

You need to add Alt Text to some of the animated emojis. At least you need to review and edit the Alt Text to provide context and meaning. Remember that they may take focus from adaptive technology as they animate. Also, consider the flicker rates of the content in animated emojis.



The default Alt Text with the preceding animated graphic of a cat dancing with its thumbs up is “cartoon of a cat”. Consider whether this is the message you want to convey with this Alt Text. The animated emoji was part of the search results for the “thumbs up” emoji.

JAWS, NVDA, and Narrator announce that it is an animated GIF and reads the Alt Text. Narrator identifies it as being inline.

Note: The GIF no longer animates if the document is converted to tagged PDF. This is why the Alt text must reflect the animation.

Footnotes and Endnotes

As someone who has used a screen reader for over 20 years (JAWS), I can state that Footnotes and Endnotes are accessible. I use them all the time for academic papers and to enhance the accessibility of my Word content. In my publications, I supplement the contextual links with footnotes containing long web addresses.

Word has separate keyboard commands for Footnotes and Endnotes. These are supplemented with specific keyboard commands for the JAWS screen reader. The NVDA and Narrator screen readers use the Word keyboard commands to access Footnotes and Endnotes.

Read&Write, Read Aloud (Word), and Read That (Dragon NaturallySpeaking) ignore Footnote and Endnote numbers in the document's main body. However, you can click on the Footnote or Endnote Pane and Read&Write will read the information.

One of the issues that the PDF standards don't address is how someone using a screen reader can distinguish a Footnote from an Endnote. For those who can't see the document, it is essential to know whether you are reading a Footnote at the bottom of the page or an Endnote at the end of the chapter or document. The difference is essential in terms of getting back to the point in the document where you choose to read a Footnote or Endnote.

Additionally, the PDF standards force those using screen readers to read Footnote or Endnote content in the middle of a sentence or paragraph. Those not using a screen reader can choose to read Footnotes or Endnotes as needed. For some documents, where Footnotes or Endnotes have multiple paragraphs, this is confusing as we don't know whether we are reading part of a Footnote or Endnote or if we have returned to the document's main content. Our thoughts are often interrupted because we are forced to listen to Footnote or Endnote content. Consider trying to read a textbook or academic paper and constantly being distracted by reading EVERY Footnote or Endnote reference as you come across it.

Word Footnote and Endnote Keyboard Commands

Word has a keyboard command to move from a Footnote or Endnote back to the document's main body. We do not have that capability in PDFs. When we read PDF content, we read the Tags in the screen reader's Virtual Viewer. When we interact with Word (PowerPoint or Excel) content, we are in the text layer of the document.

Word Keyboard Commands for Footnotes or Endnotes:

- Ctrl + Alt + F inserts a Footnote.
- Ctrl + Ald + D inserts an Endnote.

You can use the References Ribbon to insert Footnotes or Endnotes:

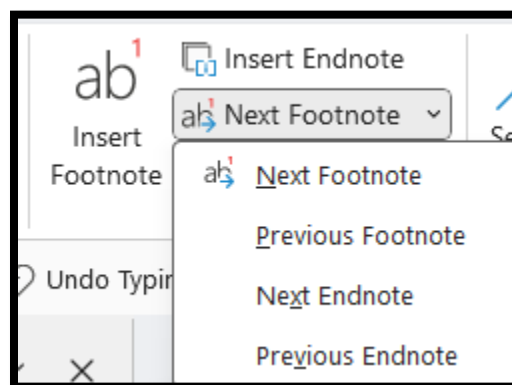
- Press Alt + S, F to insert a Footnote.
- Press Alt + S, E to insert an Endnote.

When you add a Footnote or Endnote, focus is taken to the Footnote Pane at the bottom of the page or the Endnote Pane at the end of the document.

You can move through the document from Footnote to Footnote or Endnote to Endnote using the keyboard:

- Press Alt + S, letter O for the Next Footnote.
- Press Alt + S, P for the Previous Footnote.
- Press Alt + S, X for the Next Endnote.
- Press Alt + S, V for the Previous Endnote.

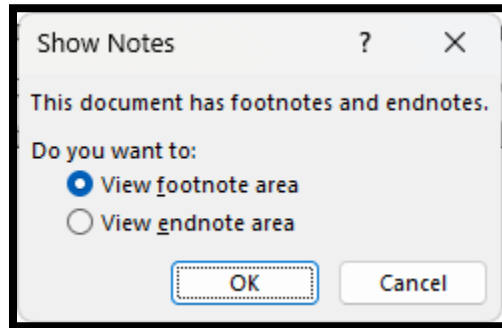
Figure 2 References Ribbon, Footnotes and Endnotes Group, Next Footnote sub-menu.



Press Alt + S, H to "Show Notes," which will take you to the document's Footnote or Endnote Pane. After reading the Footnote or Endnote, press Alt + S, H again to return to the Footnote or Endnote number in the document (where you left off).

If the document has both Footnotes and Endnotes, you will get the Show Notes dialog to choose whether you want to view Footnotes or Endnotes.

Figure 3 Show Notes dialog for Footnotes or Endnotes.



Note: You may lose your place if you explore multiple Footnotes/Endnotes while in the Footnote or Endnote Pane and want to return to the document. In that case, the best solution is to use the Find and Replace dialog (Ctrl + G) to go to a specific Footnote or Endnote (the one you were just on).

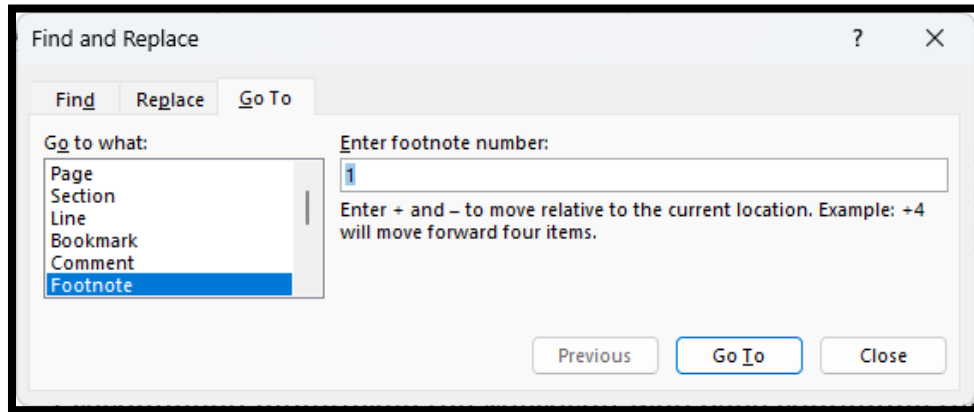
The following keyboard commands are for the Find and Replace (Go To) dialog:

1. Press Ctrl + G to open the Find and Replace dialog, which used to be the “Go To” dialog. This is why the keyboard command is Ctrl + G.
2. Once the Find and Replace dialog opens, press Shift + Tab to move to the list of things to Go To. Page is the default. Use the Up or Down Arrow or first character navigation to select the element you want to go to. For this example, it is either Footnotes or Endnotes.
3. Press Enter on footnotes or Endnotes.
4. Press Tab to move to the edit area where you can enter a Footnote (or Endnote) number to go to.
5. Once the first Footnote or endnote is found, press Escape to dismiss the Find and Replace dialog.
6. You can then use Ctrl + Page Up to go to the Previous Footnote or Endnotes or Ctrl + Page Down to go to the Next Footnote or Endnote.

Note: If you use the Find and Replace dialog to go to Footnotes or Endnotes, you must reconfigure it to go to a page. Press Ctrl + G, then Shift

+ Tab, choose Page, press Tab and enter a page number. Press Enter to go to that page. Press Escape to dismiss the Find and Replace dialog. You can then use the Ctrl + Page Up or Ctrl + Page Down Arrow to go to the Previous Page or Next page.

Figure 4 Go To dialog showing the item selected is Footnote 1.



JAWS Keyboard Commands for Footnotes and Endnotes

JAWS announces whether there is a Footnote or endnote in the line or paragraph you are reading. Use Ctrl + Left Arrow or Ctrl + Right Arrow to move to the Footnote or Endnote, and then use either the JAWS Footnote or Endnote keyboard commands or the one provided in Word.

JAWS Footnote and Endnote keyboard commands:

- Press Alt + Shift + E to read the current Footnote or Endnote if the cursor is just before the Footnote or endnote number. The cursor doesn't move to the Footnote or Endnote Pane, but the information is read.
- Press JawsKey + Shift + F to list Footnotes.
- Press JawsKey + Shift + E to list Endnotes.

If you are in the Footnote or Endnote Pane (Alt + S, H), and want to reread the Footnote or Endnote, use JawsKey + NumPad 2 (with the NumLock turned off). This reads the Current line. To read the current paragraph, press Ctrl + NumPad 5 (with the NumLock turned off).

NVDA Footnote and Endnote Keyboard Commands.

There are no specific keyboard commands for NVDA to read and navigate footnotes or Endnotes. However, there is a solution.

When using NVDA, use a combination of the ability to show the Notes Pane (Alt + S, H) to move to and read the Footnote or Endnote and the same keyboard command to return to

the main body of the document; and Ctrl + G to go to a specific footnote using the Go To dialog.

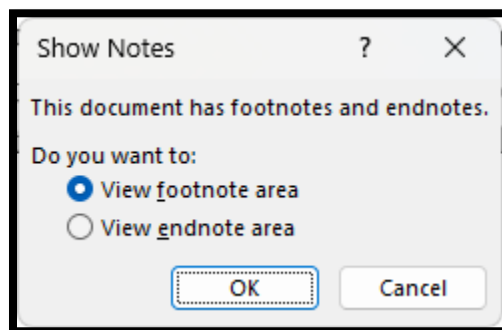
The process looks like this:

1. Ensure the cursor is just before the Footnote or Endnote in the document's main body.
 - a. NVDA reads the Footnote or Endnote number while you are reading a paragraph or a line.
 - b. NVDA identifies it as either a Footnote or Endnote.
 - c. Use Ctrl + Left Arrow or Ctrl + Right Arrow to place the cursor before a Footnote or Endnote number.
2. Press Alt + S, H to Show Notes Pane and read the Footnote or Endnote information.
 - a. If the document has both Footnotes and Endnotes, you will get a Footnotes or Endnotes dialog.
 - b. In the Footnote or Endnote dialog, press Alt + F to move to the Footnote Pane or Alt + E to move to the Endnote Pane.
 - c. Press Enter.
 - d. NVDA should read the current Footnote or Endnote in either Pane.
3. When finished, press Alt + S, H again to move the cursor just before the Footnote or Endnote in the document's main body.

To reread the Footnote or Endnote in the Notes pane, press NVDA + Up Arrow.

If the document has both Footnotes and Endnotes, you will get the Show Notes dialog to choose whether you want to view Footnotes or Endnotes.

Figure 5 Show Notes dialog for Footnotes or Endnotes.



Narrator Footnote and Endnote Keyboard Commands

You can use Narrator to read Footnotes and Endnotes.

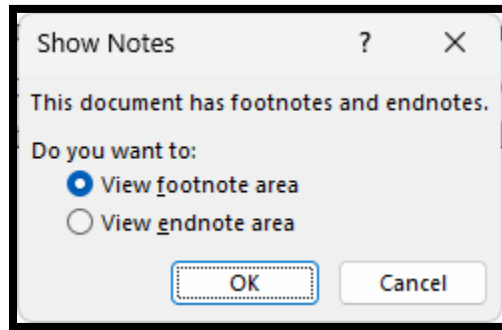
The process is the same as that of NVDA.

1. Ensure the cursor is just before the Footnote or Endnote in the document's main body.
 - a. Narrator reads the Footnote or Endnote number while you are reading a paragraph or a line.
 - b. Narrator identifies it as either a Footnote or Endnote.
 - c. Use Ctrl + Left Arrow or Ctrl + Right Arrow to place the cursor before a Footnote or Endnote number.
2. Press Alt + S, H to Show Notes Pane and read the Footnote or Endnote information.
 - a. If the document has both Footnotes and Endnotes, you will get a Footnotes or Endnotes dialog.
 - b. In the Footnote or Endnote dialog, press Alt + F to move to the Footnote Pane or Alt + E to move to the Endnote Pane.
 - c. Press Enter.
 - d. Narrator should read the current Footnote or Endnote in either Pane.
3. When finished, press Alt + S, H again to move the cursor just before the Footnote or Endnote in the document's main body.

To reread the Footnote or Endnote in the Notes pane, press Narrator + R.

If the document has both Footnotes and Endnotes, you will get the Show Notes dialog to choose whether you want to view Footnotes or Endnotes.

Figure 6 Show Notes dialog for Footnotes or Endnotes.



Read&Write - Footnotes and Endnotes

If you are using Read&Write, you can click in the Footnote or Endnote Pane and click on Play. You can click on Play once you are in the Footnotes or Endnotes Pane to hear the Footnote or Endnote text.

Read Aloud Ignores the Footnotes and Endnotes while reading the document. You can use the mouse to position the cursor in the Footnotes or Endnotes Pane and read the Footnote or Endnote text.

Read That (Dragon NaturallySpeaking), which ignores Footnotes and Endnotes while reading a document. Use the “Read That” tool in the Footnotes or Endnotes Pane to hear the reference text.

Comments

There are currently two styles of Comments in Microsoft Word 365 (desktop application): Classic and Modern. Most people using screen readers prefer Classic Comments. This may be because they’ve been around for years, and using the Modern Comments takes a bit of getting used to.

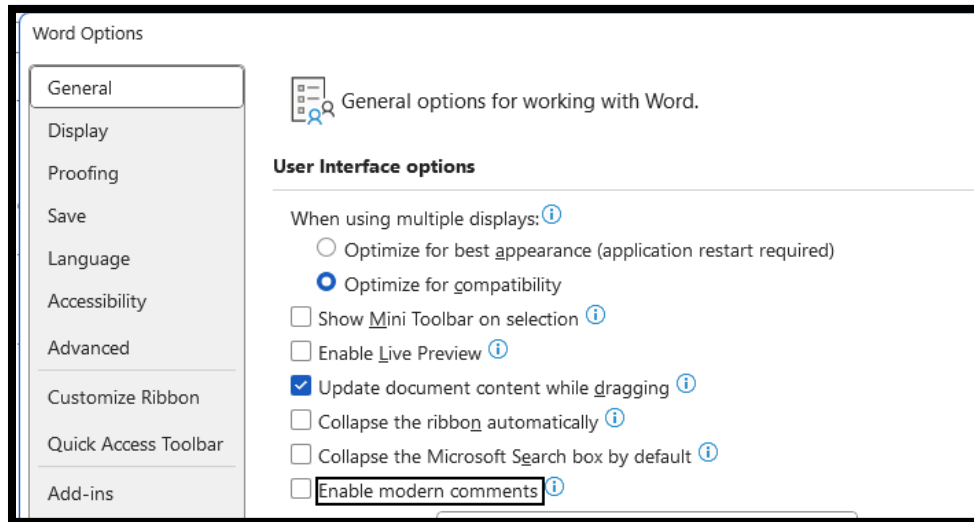
As with Footnotes and Endnotes, Comments are most accessible when accessed in the desktop version of Word.

The font size of the text in the Comments “balloons” can be modified to be larger or in a different font. The two Styles to modify are the “Balloon Text” And “Comment Text”. Ensure that both have the same font and font size attributes. Ensure that both modifications are applied to “New documents based on this template” (See Appendix A).

Modern Comments

The ability to choose Classic or Modern Comments is a temporary setting that will eventually be removed.

Figure 7 Word Options, General Category with checkbox for turning off Modern Comments highlighted.



To turn Modern Comments on or off:

1. Press Alt + F, T for the File/Backstage area, Options.
2. Ensure that the General category is selected.
3. Tab to the checkbox to “Enable Modern Comments”.
4. Press the Spacebar to check or uncheck it, depending on your choice.
5. Tab to and activate the OK button.

If you use Modern Comments, you can use Alt + R, P, number 1 to Show the Comments Pane.

For this tutorial, I’m using Modern Comments.

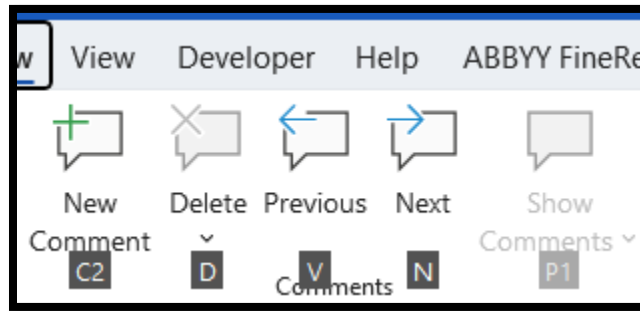
Word Keyboard Commands for Comments

The Word keyboard commands can be used by those using screen readers.

Word has keyboard commands for inserting, deleting and finding Comments.

- Press Alt + R, C, 2 to insert a Comment.
- Press Alt + R, D to Delete the Comment.
- Press Alt + R, V to move to the Previous Comment.
- Press Alt + R, N to move to the Next Comment.

Figure 8 Review Ribbon, Comments Tools.

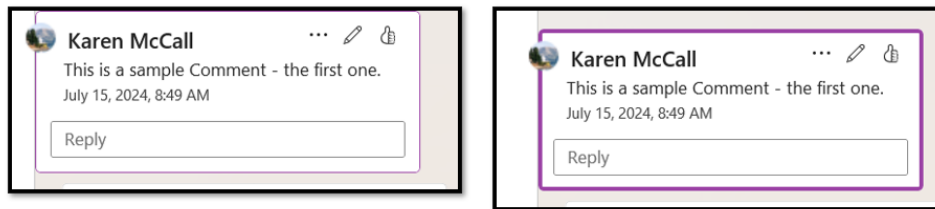


When a Comment is added and ready to be posted, press Tab to the Post button (blue check mark) and press Spacebar or Ctrl + Enter. If you want to Cancel the Comment, Tab to the Cancel button (X) and press Spacebar.

Keyboard Commands within Comments

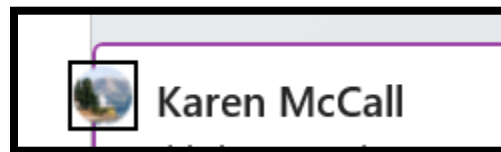
When you press Alt + R, N to go to the next Comment, focus is put on the Comment. I'm using Inline Comments as an example since this is the most used format for Comments.

Figure 9 Comment balloon before focus (Left) and with Focus (Right).



Once a Comment has focus, press Tab to move to the name of the person who made the Comment. JAWS, NVDA and Narrator announce the name of the person who added the Comment.

Figure 10 Person's name icon selected in a Comment.



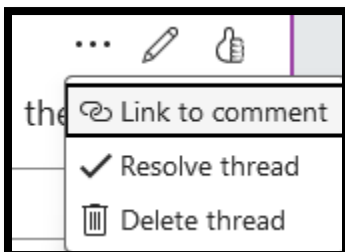
Press Tab again to move to your actions on a Comment. Press Spacebar to open the context list. The options are:

- Link to Comment (default).
- Resolve Thread.
- Delete Thread.

When you've finished reviewing the options, press Escape once to close the context menu.

If you make a decision that is different from the default, you don't need to press Escape to go back to the button itself. The button remains selected after you make a selection.

Figure 11 More button open in a Comment.

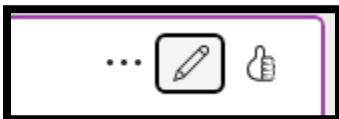


Press Tab to move to the Edit button. This will open the Comment to editing. Press Tab again until you get to the content of the Comment. You can then read it as normal text.

I find that there are times when I need to go through the Comment word by word or line by line and going into editing mode lets me do that with my screen reader.

Press Tab to move to the Post button or Cancel button after reviewing a Comment in Editing mode. If you don't, you can't add or review other Comments.

Figure 12 Edit button selected in a Comment.



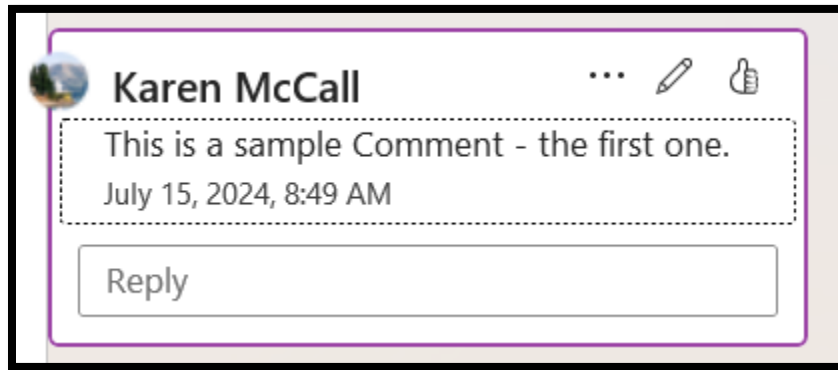
Moving through the Comment balloon, from the More options button, press Tab again to land on the "Like" button which can also provide a list of people who are reviewing the document when Alt + Down Arrow is activated.

Figure 13 "Like" button selected in a Comment.



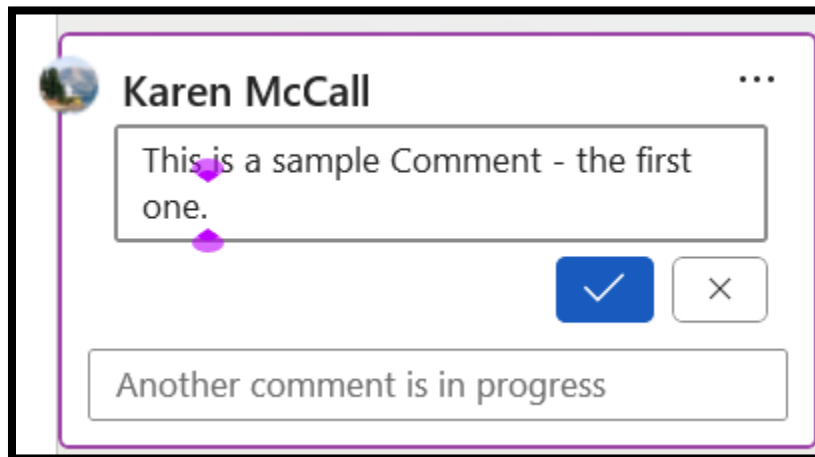
Press Tab again to land on the text. If you have switched to Edit mode, you may need to use Tab to get to the comment text.

Figure 14 Comment text area in focus in a Comment.



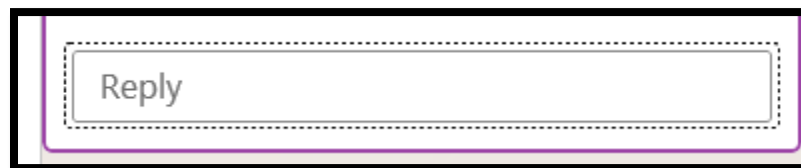
If you've gone into Edit mode to review a Comment and then activated Cancel, pressing Tab again will land on the Reply button. If you activate the Reply button, the cursor is in a "sub-Comment" where you can type a reply to the previous Comment. Pressing Tab again will take you to the Cancel button.

Figure 15 A Comment in Edit mode.



Once you've finished adding the reply, Tab to the Post button or press Ctrl + Enter to Post the reply.

Figure 16 Reply button selected in a Comment.



JAWS Keyboard Commands for Comments

JAWS has specific keyboard commands for reading and editing comments.

1. Press Windows Key + Semi-colon.
2. The JAWS Items to Display in Virtual Viewer dialog opens.
3. Choose Comments.
4. Press Enter.
5. The list of Comments in the document opens in the JAWS Virtual Viewer.
6. Use the Up and Down Arrows to navigate to a specific Comment.
7. Press Enter on a Comment to move to that Comment in the document. Your cursor is placed just before the Comment marker.

Figure 17 Items to Display in Virtual Viewer dialog with Comments selected (JAWS).

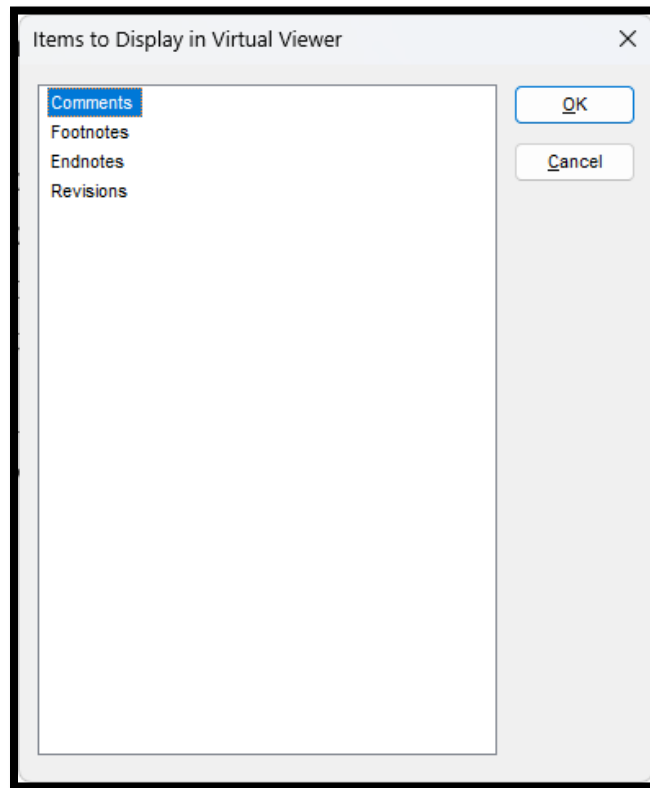
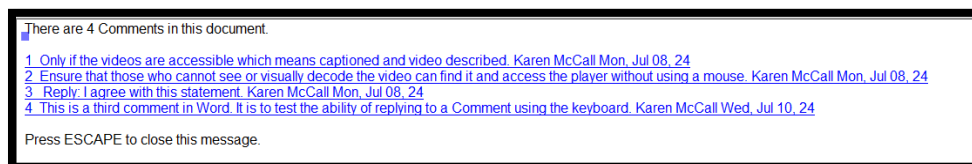
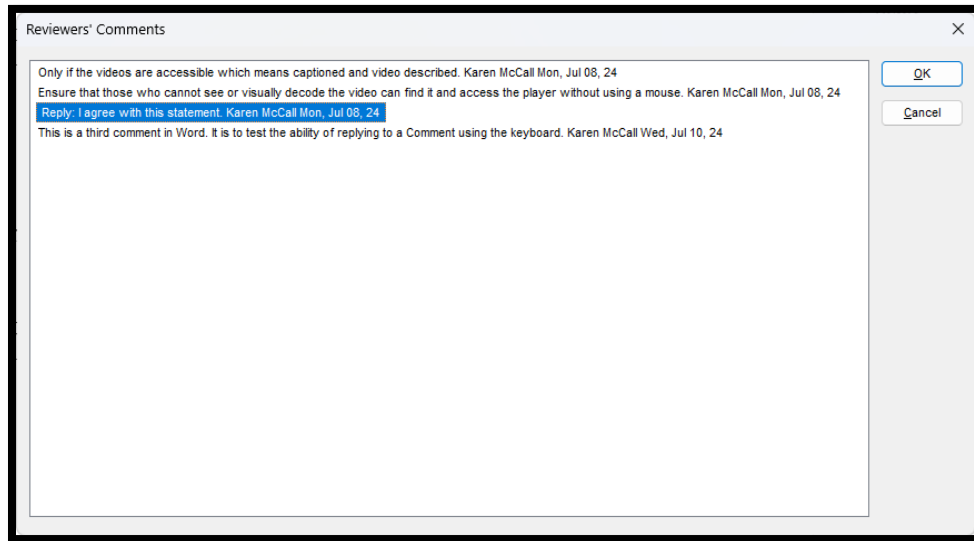


Figure 18 JAWS Virtual Viewer showing Comments in a Word document.



Pressing Ctrl + Shift + Apostrophe will list Comments.

Figure 19 A list of Comments in a Word document (JAWS).



Using JAWS, you can use the Word keyboard commands to move to, navigate through and read Comments in Word documents.

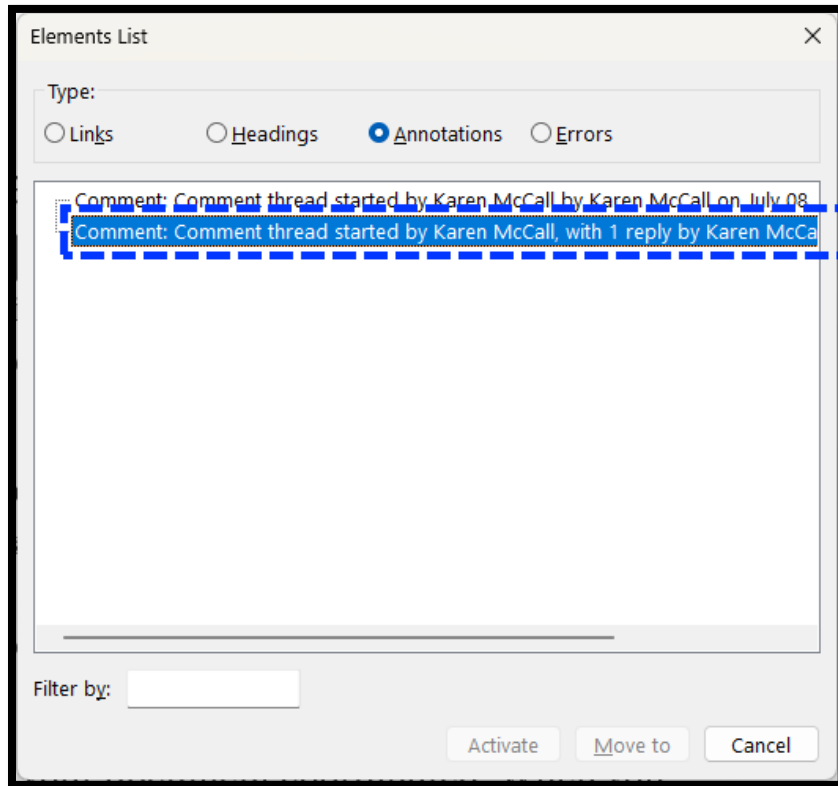
NVDA Keyboard Commands for Comments

The NVDA specific keyboard commands for listing Comments (and Revisions) is currently broken in NVDA 2024. Revisions are not being shown and none of the actionable buttons are available. However, this is the process if it is working!

NVDA has specific keyboard commands for reading and editing Comments.

1. The first step is to turn on Browse mode by pressing NVDA + Spacebar.
2. Once you are in Browse mode, press NVDA + F7 to get a list of Elements in the document.
3. Press Tab or Shift + Tab to move to the tabs representing types of elements.
4. Move to the Annotation tab. You can also press Alt + A while in the Elements dialog for NVDA to move to the Annotations tab.
5. Press Tab to move into the list of Annotations.
6. Use the Up and Down Arrows to locate a Comment in the list and press Enter to go to that point in the document.
 - a. You should be able to use NVDA + Alt + C to read the comment at the cursor point but I can't get it to work.

Figure 20 NVDA Elements dialog, Notations tab showing Comments in a Word document.



To read any comments at the current cursor position, press NVDA +Alt + C.

You can use the Word keyboard commands to move to, navigate through and read Comments in Word documents using NVDA.

Narrator Keyboard Commands for Comments

Narrator can access Comments by using the Word keyboard commands for working with Comments.

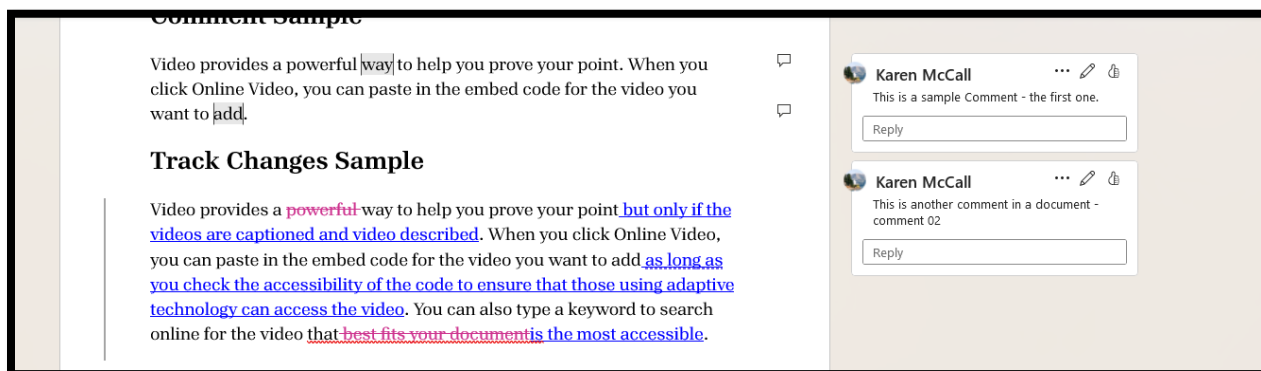
Read&Write Access to Comments

Read&Write from TextHelp uses a different approach to reading Comments. When someone clicks on a Comment balloon indicator in the right margin, the Comment balloon disappears, the Comment Pane opens, and another Pane opens at the bottom of the screen. You can use the mouse to Position the cursor in the new Pane and activate the Play button in the Read&Write toolbar above the Word application. Once you've finished reading Comments, you must close the Pane at the bottom of the screen to return to the regular functionality of Read&Write.

Note: You must close the Pane at the bottom of the screen before you exit Read&Write or the ability to close it disappears.

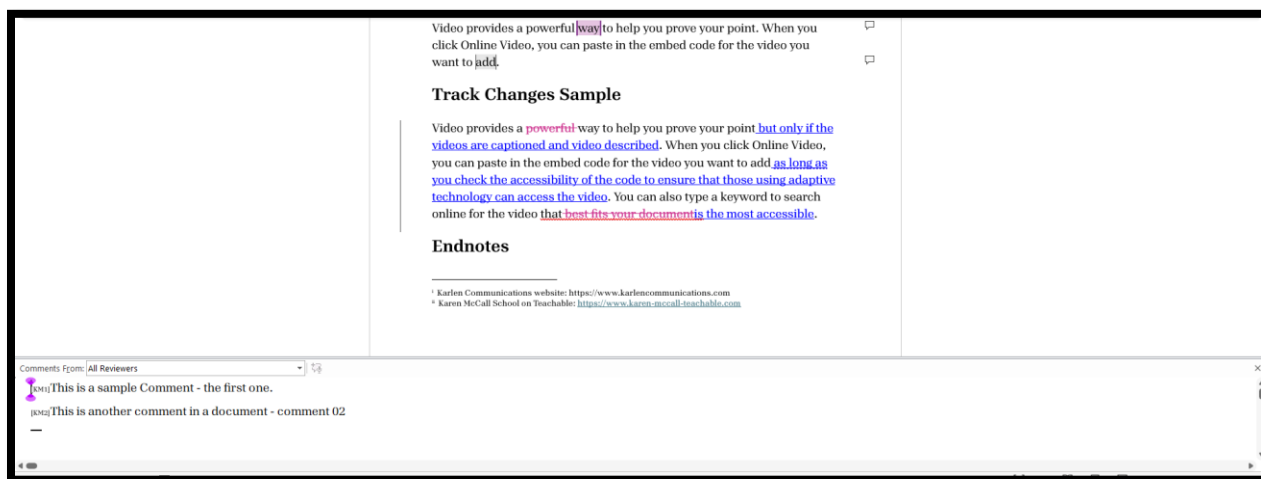
The following graphic shows the regular inline Comments view.

Figure 21 Inline Comments with an icon in the right margin and Comment Balloon to the right.



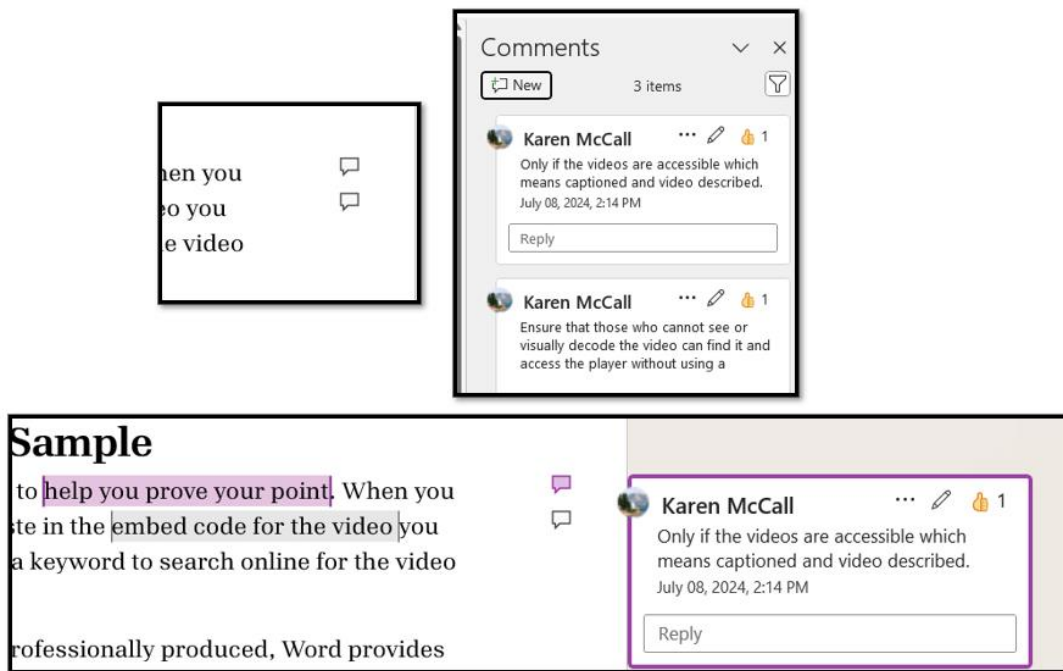
The following graphic shows the Read&Write pane at the bottom of the screen.

Figure 22 Comment balloons collapsed. Read&Write Pane open.



The following graphic shows the three views of Comments in Word.

Figure 23 Inline Comment indicator (upper left), Comment balloon (upper right), and Comment Pane (bottom).



Read Aloud (Word Text-to-Speech tool) ignores the Comments in the text. They are not announced.

Read That (Dragon NaturallySpeaking) ignores the Comments in the text. They are not announced.

Track Changes

There is a “rumour” about Track Changes and Section 508 that is misleading. It promotes that to be Section 508 conforming you can’t use Track Changes. The theory specifies that Track Changes must not be present in a published document.

The misleading part of the statement is that it negates the value of Track Changes for collaborating on content. While no document should be officially published with Track Changes turned on...unless the goal is to let people identify revisions before the final publication, Track Changes is a useful tool for those of us using screen readers. I’ve used Track Changes since 2001 to make my suggestions to students clear and identifiable. My JAWS screen reader can access the revisions, which lets me work collaboratively on editing a Word document.

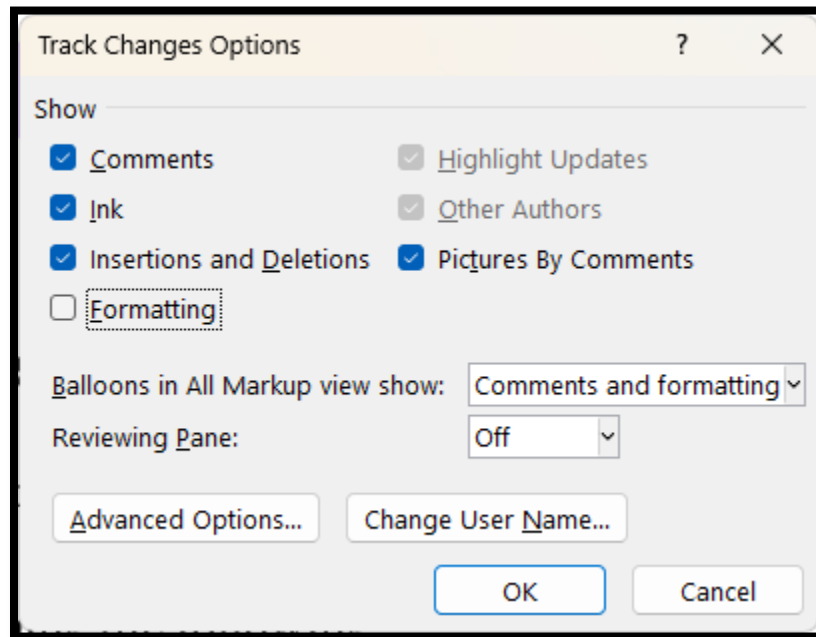
The caveat is that this works best in the Word desktop application on Windows. The Windows-based desktop applications are the most accessible and have the most accessibility tools for content authors. As with any other tool, you must learn how to use it effectively with a screen reader.

I use Track Changes to compare and combine documents in Word...but that's another tutorial.

Hide Formatting Changes in Track Changes

Most of the time, I don't want to see formatting changes in a document. They are distracting for someone using a screen reader. I just want to see the deletions and revisions!

Figure 24 Track Change Options dialog showing Formatting checkbox unchecked.



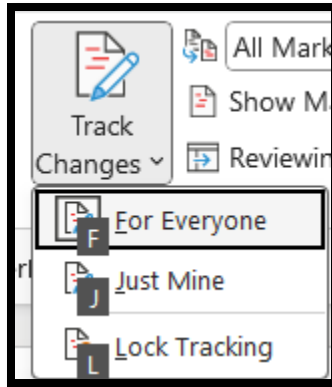
While I can temporarily turn Formatting changes off using the Track Changes dialog, I can also turn it off permanently (or until I want to see formatting changes again). This will need to be redone with updates to Microsoft 365.

The following steps are for turning off Formatting changes:

1. Press Alt + R, D and change the Track Changes view to Simple Markup.
2. Press Alt + S letter O for the Track Changes Options dialog.
3. Press Alt + F to move to and uncheck the Formatting checkbox.
 - a. The default is checked. This is a toggle so pressing the keyboard command will uncheck it.
4. Press Alt + A to open the Advanced Settings dialog.
5. Press Alt + T to move to and uncheck the Text Formatting checkbox.
6. Tab to the Ok button and press Enter.
7. You are returned to the Track Changes Options dialog.
8. Tab to and activate the OK button.
9. Press Alt + R, T, D and change the setting to All Markup.

- a. All Markup works best for those using screen readers or screen magnification. This lets you see the changes, while the simplified view provides no auditory feedback on where changes are in the document.

Figure 25 Review Ribbon, Track Changes sub-menu.



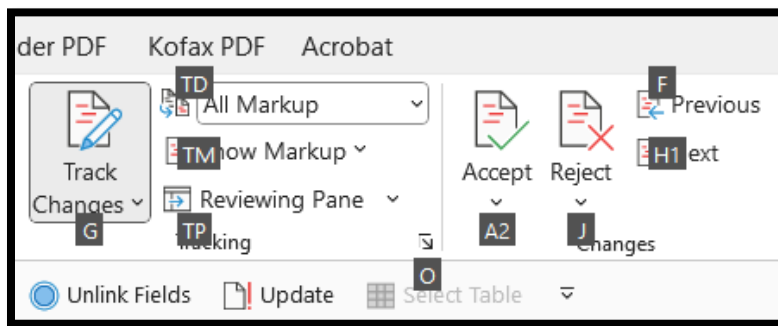
Track Changes keyboard commands

There are keyboard commands from the Review Ribbon to work with Track Changes.

- Press Alt + R, G to open the Track Changes sub-menu. When the sub-menu opens:
 - Press F for Everyone.
 - Press J for Just Me.
 - Press L for Lock Tracking. This lets you create a password so that Track Changes cannot be turned off by anyone who doesn't have the password.
- Press Ctrl + Shift + E to toggle Track Changes on or off.
- Press Alt + R, T, C to change Track Changes visible in the document. The default is Simplified.
- Press Alt + R, T, M to Show Markup. This has a sub-menu for you to further define the types of changes you want to see. This is also the place to decide which revisions will be in balloons. It is suggested that revisions be not shown in balloons if you are using a screen reader.
- Press Alt + R, T, P to show the Revision Pane horizontally or vertically.
- Press Alt + letter O to open the Track Changes Options dialog.
- Press Alt + R, A, 2 to Accept a revision. This has a sub-menu to let you choose how to move through revisions.
 - Press Alt + R, A, 2, M to Accept the current revision and Move to the next one.
 - Press Alt + R, A, 2, C to Accept Current Change (at the cursor point).
 - Press Alt + R, A, 2, A to Accept Changes Shown.
 - Press Alt + R, A, 2, L to accept All Changes.

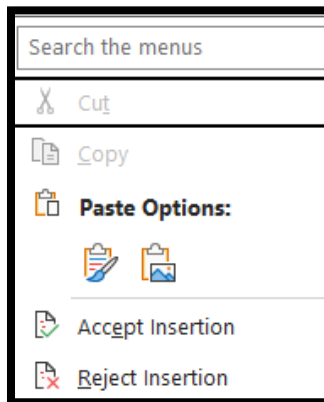
- Press Alt + R, A, 2, S to Accept All Changes and Stop Tracking.
- Press Alt + R, J to open the sub-menu for rejecting revisions.
 - Press Alt + R, J, M to Reject and Move to the Next Revision.
 - Press Alt + R, J, R to Reject change (at the cursor point).
 - Press Alt + R, J, A to Reject Changes Shown.
 - Press Alt + R, J, L to Reject all Changes.
 - Press Alt + R, J, S to Reject all Changes and Stop Tracking.
- Press Alt + R, F to move to the Previous Revision.
- Press Alt + R, H, number 1 to move to the Next Revision.

Figure 26 Review Ribbon, Track Changes tools.



If you are working on the document and coming across a revision but don't want to use the Review Ribbon, you can press the AppKey on the revision and either E to Accept Insertion or R to Reject Insertion.

Figure 27 Context menu for a revision.



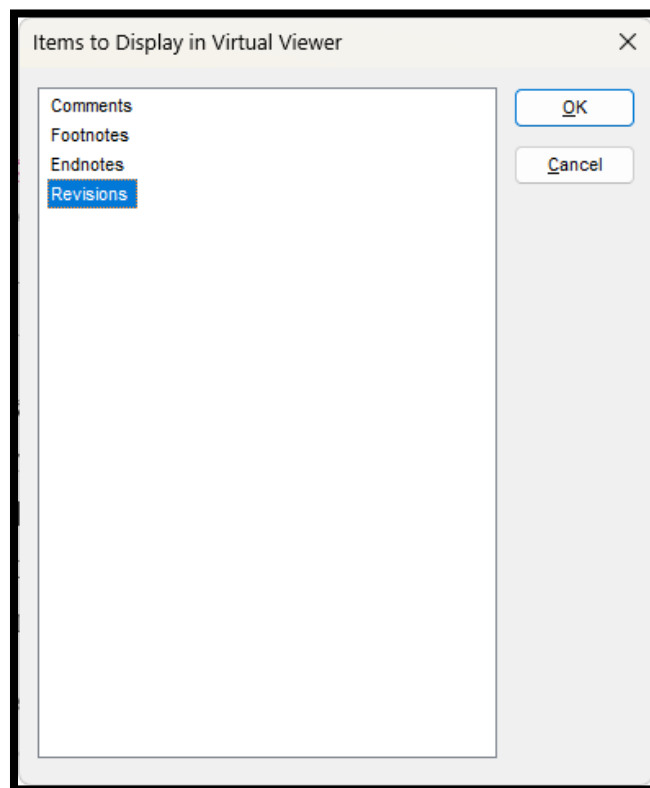
JAWS Track Changes Keyboard Commands

JAWS has specific keyboard commands that work with Track Changes.

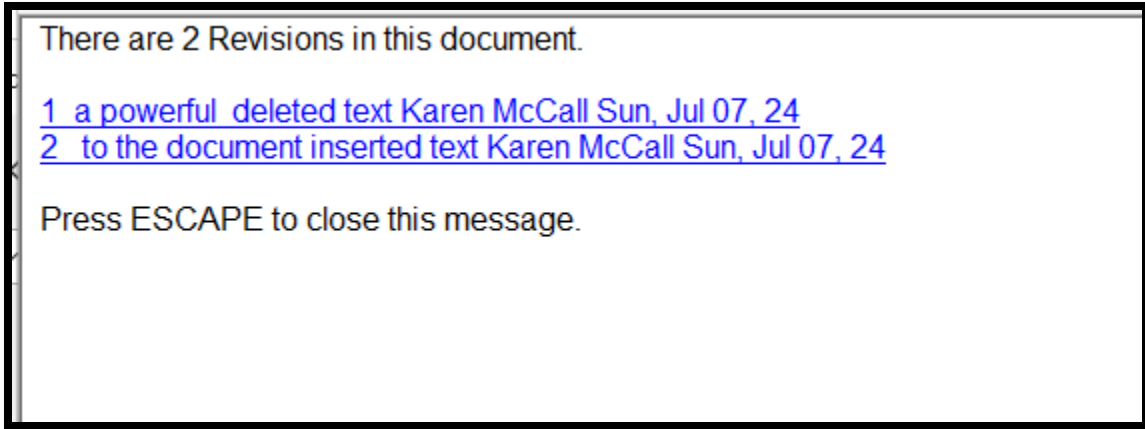
Windows Key + Semi-colon lists Comments, Footnotes, Endnotes or Revisions.

1. Press Windows Key + Semi-colon.
2. From the list of elements, choose Revisions.
3. Press Enter.
4. The JAWS Virtual Viewer opens, showing the revisions in the document and their type.
5. Use the Up and Down Arrows to locate the revision you want, and press Enter.
6. The Virtual Viewer disappears, and you are at the beginning of your chosen revision.
7. You can press the AppKey and choose either E to Accept the revision or R to reject the Revision.

Figure 28 JAWS list of Items to Display in the Virtual Viewer.

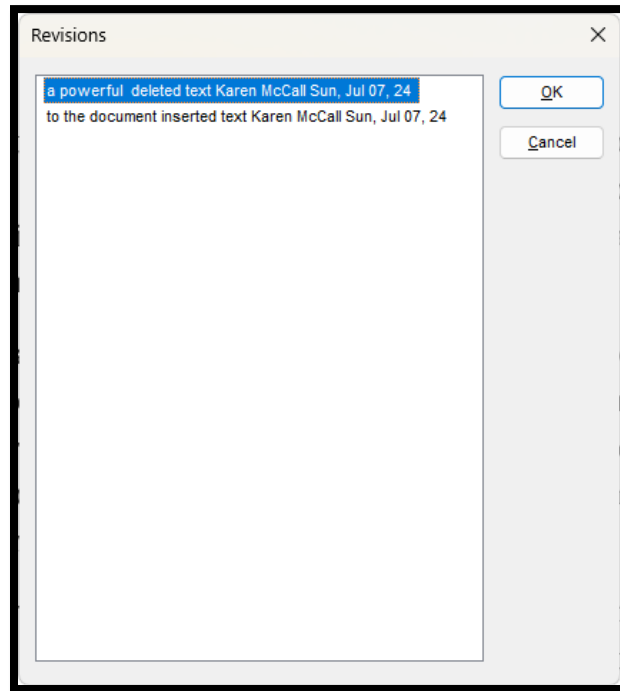


Revisions are shown in the JAWS Virtual Viewer.



Pressing JawsKey + Shift + R lists Revisions.

Figure 29 JAWS list of revisions in a Word document.



When you press Enter on a revision, you are taken to the beginning of the revision, which you can then review. Press the AppKey and choose either E to Accept or R to Reject.

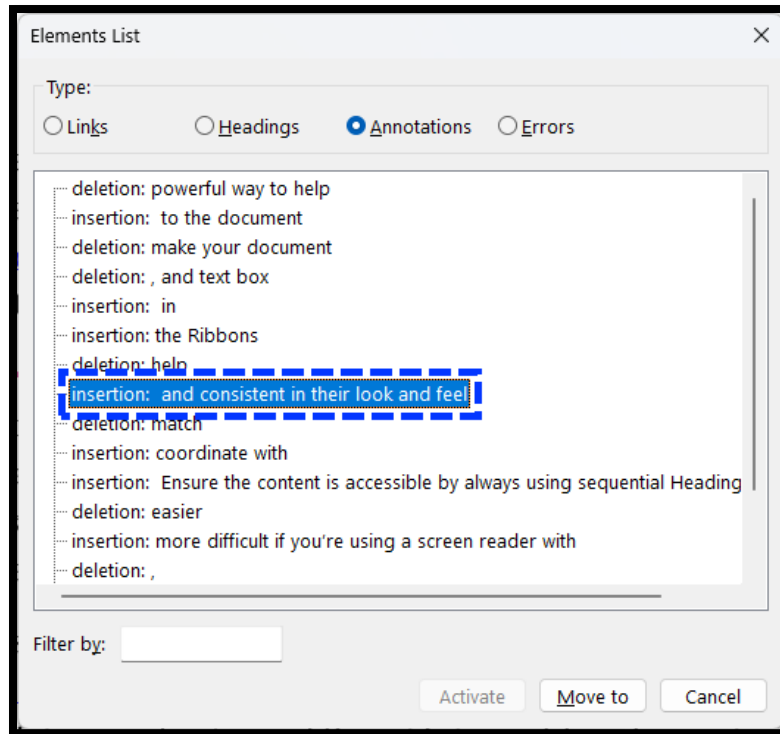
NVDA Track Changes Keyboard Commands

NVDA has a keyboard command to access Track Changes.

1. Turn on Browse mode by pressing NVDA Key + Spacebar.
2. Once in Browse mode, press NVDA Key + F7 to open the Elements dialog.
3. Press Alt + A to move to the Annotations tab.

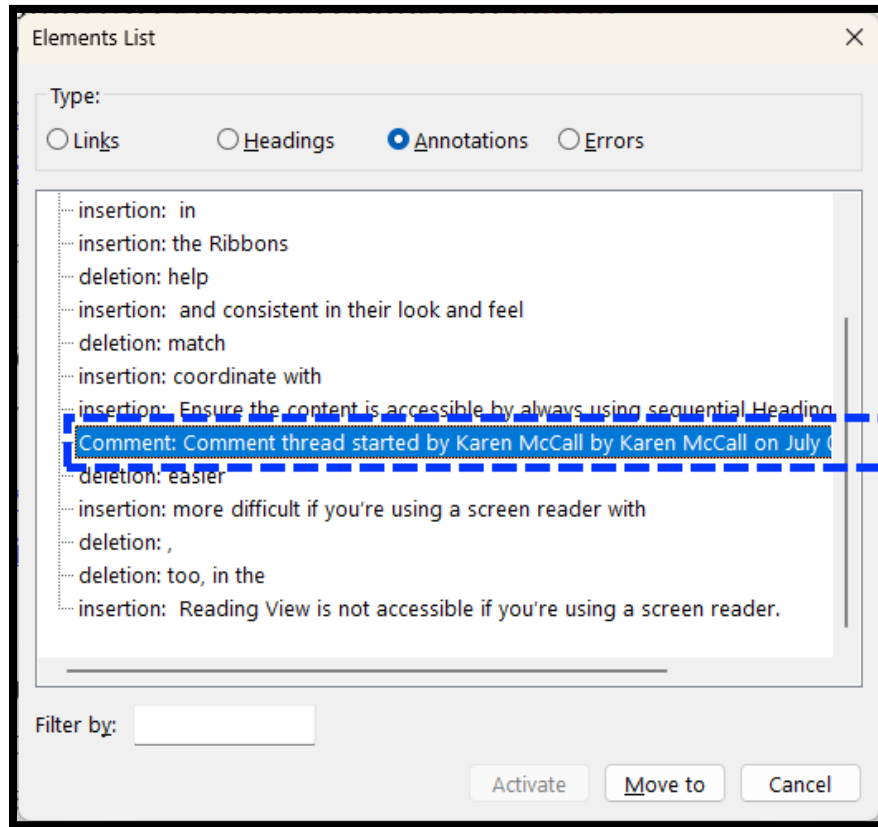
4. Press Tab to move into the list of Annotations.
5. Locate the revision you want to examine, and press Enter.
6. The cursor is before the first character of the revision.

Figure 30 NVDA Elements dialog, Annotations tab showing a revision in a document.



If the document has Comments and Revisions, you will hear Comments identified as you move down the list of Annotations in the NVDA Elements dialog.

Figure 31 NVDA Elements dialog, Annotations tab showing a Comment among revisions.



Narrator and Read& Write – Track Changes

Narrator identifies the start and end of revisions; and uses the Word keyboard commands to move between revisions and to accept or reject them.

Read&Write, Read Aloud (Word) and Read That (Dragon NaturallySpeaking) do not read any of the Track Changes. They read everything without an audio indication of changes. It is like reading a word salad.

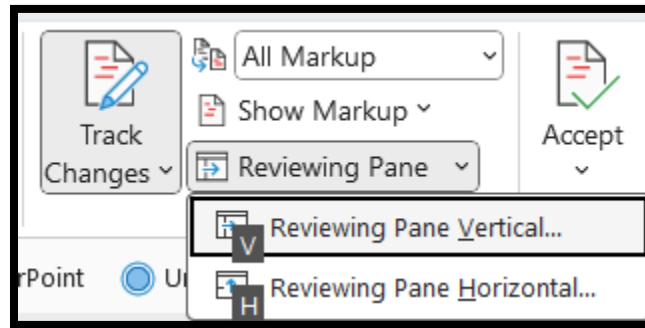
For those using Text-to-Speech tools, the Reviewing Pane is a better strategy for identifying revisions. The Revisions Pane isolates revisions for easier identification. You can accept or reject deletions and insertions from the Revision Pane.

Reviewing Pane

Word has a Revision Pane that can open horizontally or vertically while working on a document. If you use a screen reader, you must use F6 and Shift + F6 to move focus to and from the Revision Pane. A better strategy is to use Alt + R, H, number 1 to move to the next deletion/insertion if you use a screen reader.

Turn on the Revision Pane by pressing Alt + R, T, P and choosing V for Vertical, or H for Horizontal.

Figure 32 Review Ribbon, Reviewing Pane sub-menu.

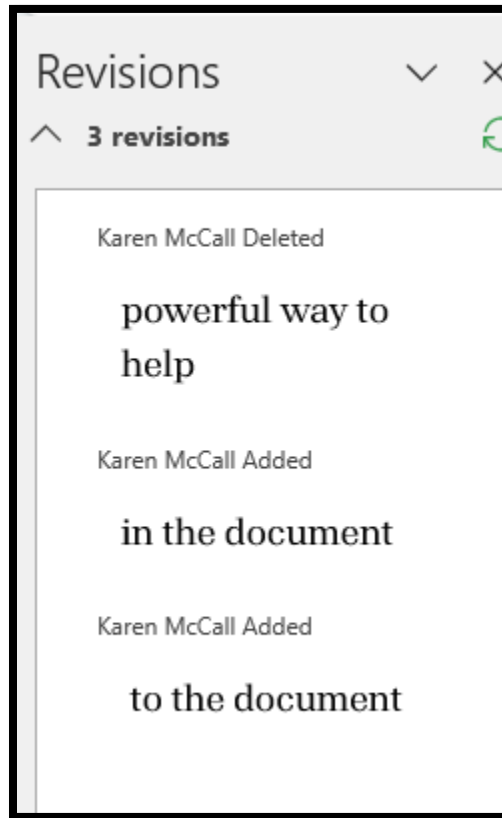


1. Focus is on the Revisions Pane once it launches after deciding which view you want.
2. Press Tab to Refresh the Revisions Pane.
3. Press Tab again to move into the list of revisions.
4. Use the Up and Down Arrows to move through the Revisions. The revisions are not read in context. The visual focus will shift from revision to revision in the document. The first thing you'll hear using a screen reader is the author of the revision and what type of revision it is. Use the Down Arrow to read the revision.
5. While in the Revision Pane, press the AppKey to access the context menu and press either E to Accept Revision or R to Reject Revision.

If you are using a screen reader, press F6 to move to that revision in the document to read it in context, then press the AppKey to choose either E to Accept Revision or R to Reject Revision.

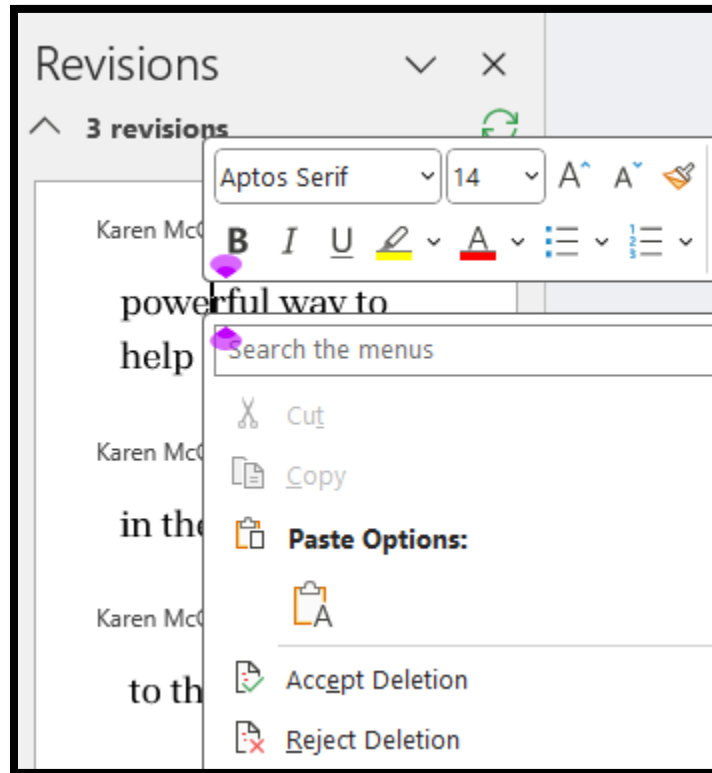
While the Revisions Pane is accessible using a screen reader, it can be more useful for someone using a combination of screen magnification and screen reading (or Text-to-Speech). Isolating the revisions can also be helpful for those with learning, cognitive, or print disabilities or for those with information processing issues. Using the Revisions Pane, which does not display colour but only the revision, can also be useful.

Figure 33 Revisions Pane (vertical) showing revisions in a Word Document.



Once you decide what to do with a revision, press the AppKey while in the Reviewing Pane and press either E to Accept Revision or R to Reject Revision.

Figure 34 Revisions Pane showing context menu to accept or reject revision.

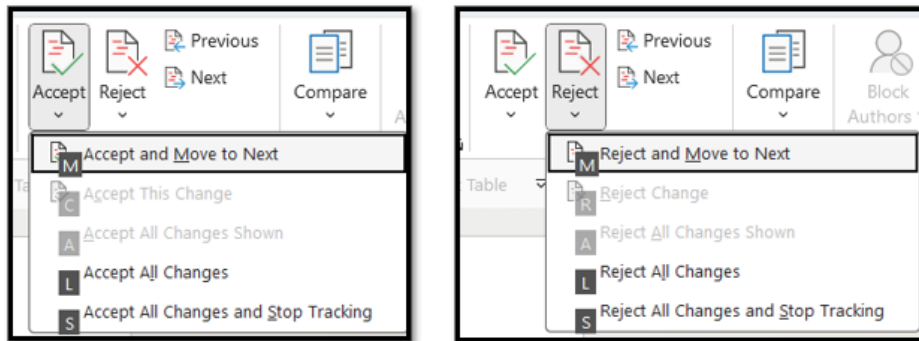


While the focus is in the Revisions Pane, press Ctrl + Spacebar followed by C to Close it.

Using Read&Write with the Reviewing Pane provides isolated revisions and their description. Once a revision is read, right-click to choose Accept Revision or Reject Revision; or, doing the same thing from the Review Ribbon, lets the user effectively use Track Changes. The process is a bit awkward until you get used to it.

1. Turn on the Revisions Pane by choosing Review Ribbon, Reviewing Pane, List.
2. Click on a revision.
3. Activate the Read functionality.
4. The sentence/line containing the revision is read and highlighted.
5. Choose to Accept or Reject the revision by clicking the Review Ribbon, Accept or Reject, then choose one of the options.

Figure 35 Track Changes Accept options (left) and Reject options (right).



The options for Accept are:

- Accept and Move to Next.
- Accept this Change.
- Accept All Changes Shown.
- Accept All Changes.
- Accept All Changes and Stop Tracking.

The options for Reject are:

- Reject and Move to Next.
- Reject Change.
- Reject All Changes Shown.
- Reject All Changes.
- Reject All Changes and Stop Tracking.

Contact Information

The content of this presentation is based on tutorials I've written and updated since Microsoft Office 2003.

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Contact: info@karlencommunications.com

Appendix A: Modify the Balloon and Comment Styles in Word

Modify two styles to make the text larger in the Comments in Word. Both work in tandem.

Modify the Balloon Style:

1. Press Alt + H, F, Y to open the Styles Pane.
2. With the focus in the Styles Pane, press Shift + Tab twice to land on the “Manage Styles button”.
3. Press the Spacebar or Enter.
4. When the Manage Styles dialog opens, Shift + Tab while on the Edit tab (default) until you are in the list of Styles.
5. Use first character navigation by pressing B until you hear or see Balloon Text (hide until used).
6. With the Balloon Text selected, press Alt + M to open the Modify dialog.
7. Press Tab until you hear or see the font size indicator.
8. Choose the font size you want. I set mine to 14 point.
9. Press Alt + D to move to the radio buttons for “Only in this Document”. And “New Documents based on this template”.
 - a. Make a choice

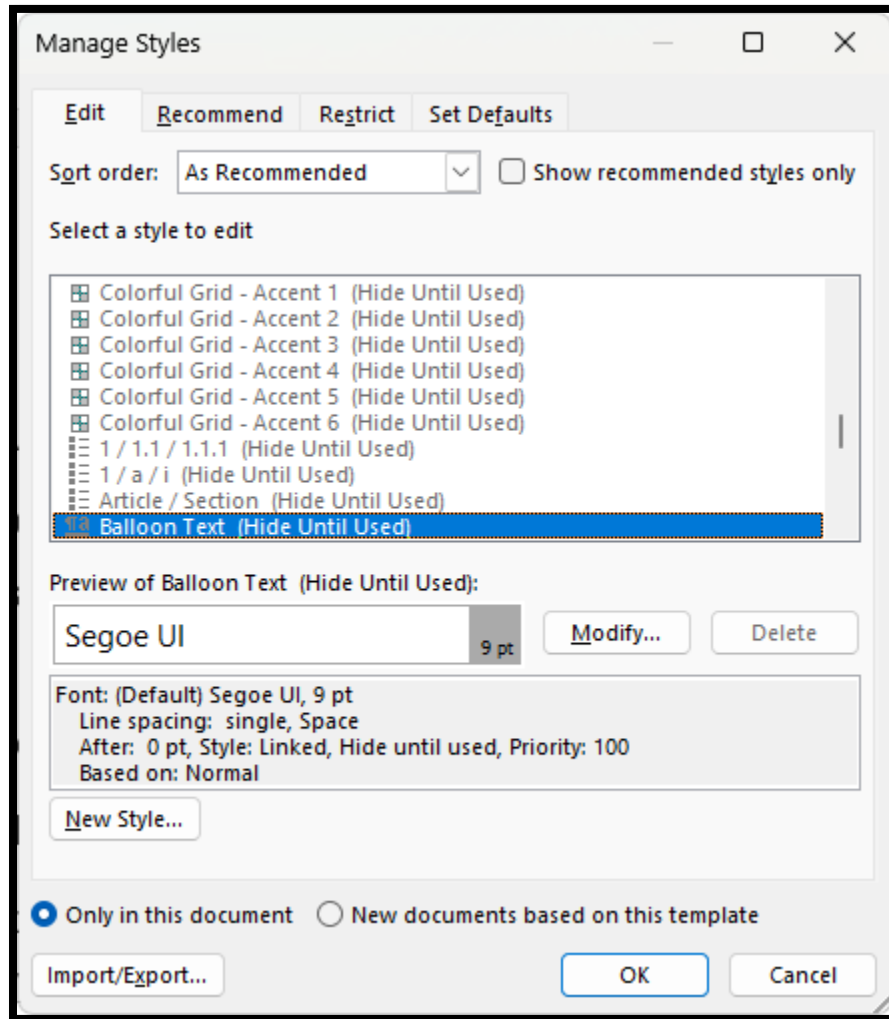
Tab to and activate the OK button.

You are returned to the Manage Styles dialog.

Note: there is no keyboard command to move to the “Only in this Document” or “new Documents Based on this Template” radio buttons in this dialog! You will need to Tab to it and make your choice.

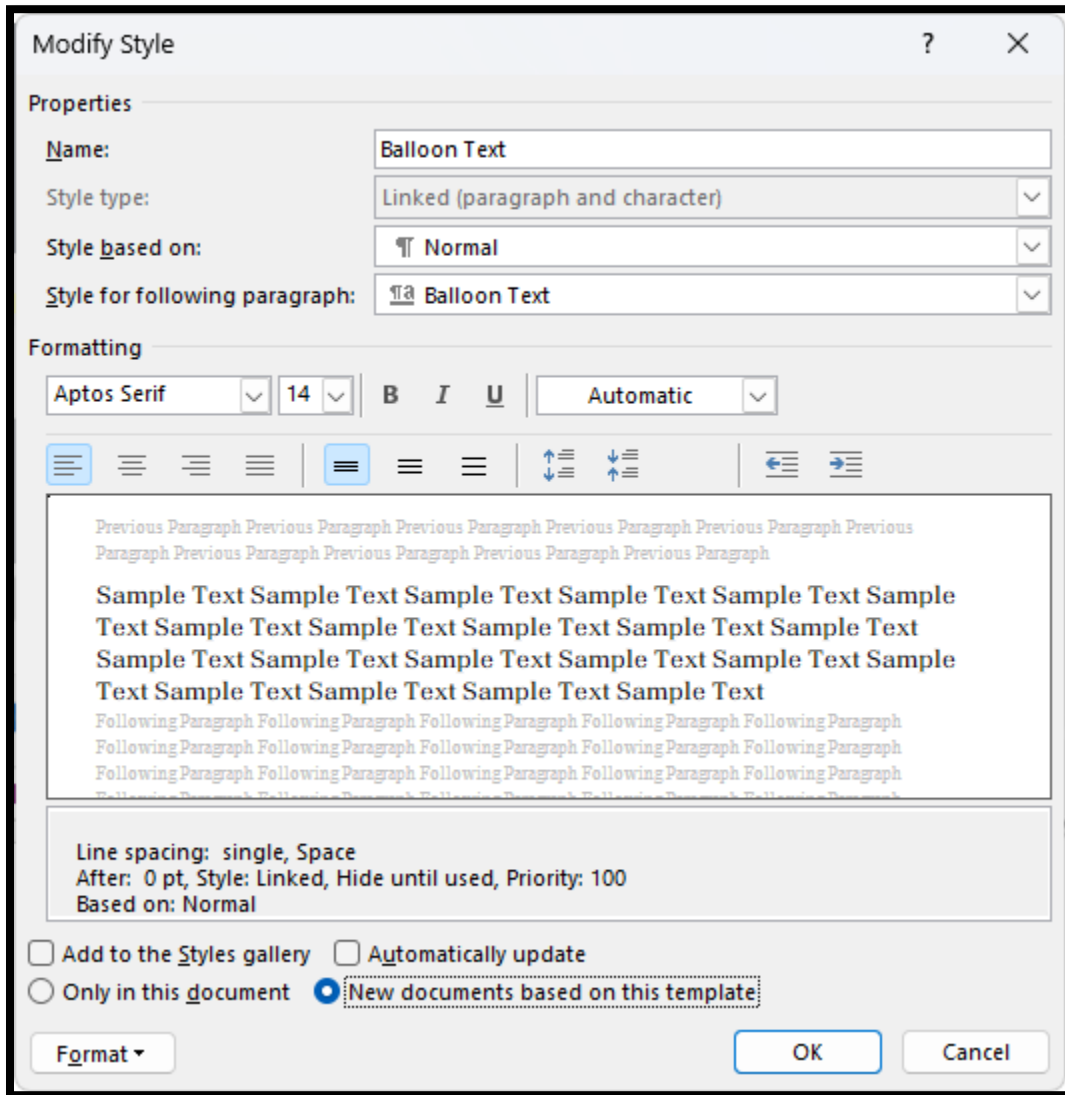
Then Tab to the Ok button and activate it to accept the modifications and close the Manage Styles dialog.

Figure 36 Manage Styles dialog.



Once you press Alt + M, you are in the Modify Styles dialog. Keep the style name the same! We are only going to modify the font style and the font size. Usually, the Font Style is the same as the document, but it is worth checking since you have to Tab to it before you Tab to the Font size indicator.

Figure 37 Modify Style dialog shows the font and font size changed. Focus is on the “New Documents Based on this Template” radio button.



Modify the Comment Style:

1. Press Alt + H, F, Y to open the Styles Pane.
2. With the focus in the Styles Pane, press Shift + Tab twice to land on the “Manage Styles button”.
3. Press the Spacebar or Enter.
4. When the Manage Styles dialog opens, Shift + Tab while on the Edit tab (default) until you are in the list of Styles.
5. Use first character navigation by pressing C until you hear or see Comment Text (hide until used).

6. With the Comment Text selected, press Alt + M to open the Modify dialog.
7. Press Tab until you hear or see the font size indicator.
8. Choose the font size you want. I set mine to 14 point.
9. Press Alt + D to move to the radio buttons for “Only in this Document”. And “New Documents based on this template”.
 - a. Make a choice

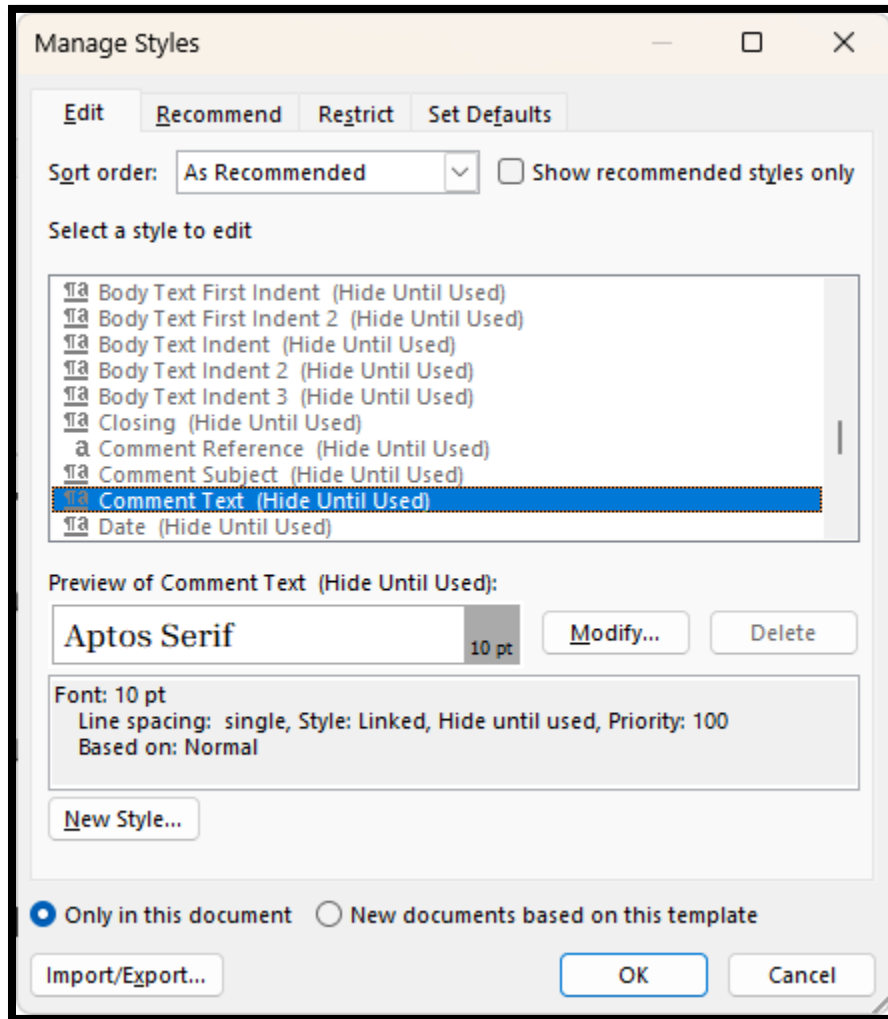
Tab to and activate the OK button.

You are returned to the Manage Styles dialog.

Note: there is no keyboard command to move to the “Only in this Document” or “New Documents Based on this Template” radio buttons in this dialog! You will need to Tab to it and make your choice.

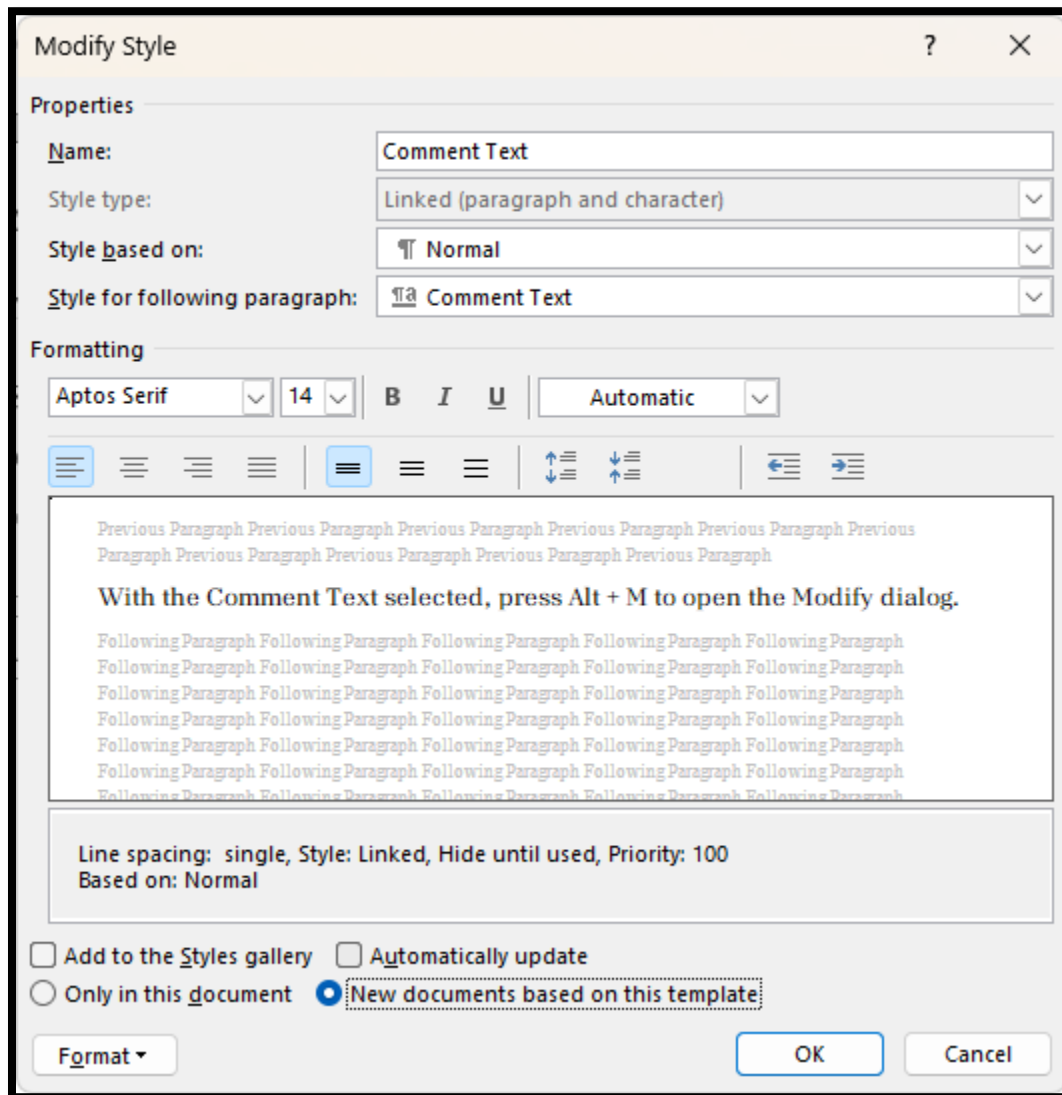
Then, Tab to the Ok button and activate it to accept the modifications and Close the Manage Styles dialog.

Figure 38 Manage Styles dialog showing Comment Text (hide until used).



Once you press Alt + M, you are in the Modify Styles dialog. Keep the style name the same! We are only going to modify the font style and the font size. Usually, the Font Style is the same as the document, but it is worth checking since you have to Tab to it before you Tab to the Font size indicator.

Figure 39 Modify Style dialog for Comment Text shows the font, font size and radio button to apply to "New Documents Based on this Template" radio button checked.



Resources

Alt Code Shortcuts for Emoji, Smileys and Emoticons.

<https://www.webnots.com/alt-code-shortcuts-to-insert-smileys-and-emoticons/>

Canada.ca Style Guide, government of Canada (this has valuable resources for content authors):

Emoticon keyboard shortcuts (Microsoft Support).

<https://support.microsoft.com/en-us/office/emoticon-keyboard-shortcuts-5dbe678c-cef7-4a63-aa62-f07c2f38b267>

Full Emoji List v15.1, Unicode.org.

<https://www.unicode.org/emoji/charts/full-emoji-list.html>

Insert ASCII or Unicode character codes in Word (Microsoft Support).

<https://support.microsoft.com/en-us/office/insert-ascii-or-unicode-character-codes-in-word-e97306f7-00c1-490d-9920-c924ca443f87>

Screen reader support for Word.

<https://support.microsoft.com/en-us/office/screen-reader-support-for-word-c014d8b8-4ef3-4a7a-935d-295663f3343c>

Use a screen reader to add, read, and delete comments in Word.

<https://support.microsoft.com/en-us/office/use-a-screen-reader-to-add-read-and-delete-comments-in-word-c4648d50-4f7b-4795-b487-9e3141a5a596>

Use a screen reader to track and review changes in a document in Word.

<https://prod.support.services.microsoft.com/en-us/office/use-a-screen-reader-to-track-and-review-changes-in-a-document-in-word-8d415281-6ef2-41ea-8532-38e410be5988#:~:text=Use%20a%20screen%20reader%20to%20track%20and%20review.off%20Track%20Changes%20...%208%20See%20also%20>

Windows Keyboard Tips and Tricks (Microsoft Support, includes emojis).

<https://support.microsoft.com/en-us/windows/windows-keyboard-tips-and-tricks-588e0b72-0fff-6d3f-ae4e-6e5116097942>

Why Don't Screen Readers Always Read What's on the Screen? Part 1: Punctuation and Typographic Symbols

<https://www.deque.com/blog/dont-screen-readers-read-whats-screen-part-1-punctuation-typographic-symbols/>