



Let's Cook: A Recipe for Creating Accessible Word Documents

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Overview

Everyone knows how to create a Word document, but do you know how to create an *accessible* Word document? This document will guide you through a “recipe” to show you how to create an accessible Word document (and by extension, an accessible PDF document). For example, we’ll learn how to properly add ingredients (e.g. headings, images, tables, charts and graphs, hyperlinks, and list items), use a helpful Word accessibility tool, and learn the preferred method of saving a Word document as a PDF.

Why is this important? Information needs to be accessible to everyone, including those with disabilities. For instance, an individual who is blind may use a screen reader which “reads” the document to the person using synthesized speech.

Think of it in this way... Two innovations, curb cuts and automatic door openers, were originally intended to help people who use wheelchairs. They provided wheelchair users with the ability to easily cross streets and the ability to enter buildings independently. But in reality, these two innovations became a benefit to everyone --- we all use these innovations and they have become so commonplace that we don’t even think twice about them. Document content needs to be provided in such a way so that it is accessible to people with disabilities, which like curb cuts and door openers, can provide benefits to everyone.

So let’s get cookin’!



Note: The instructions in this document pertain to Office 2010 and 2013 for Windows.

Headings

Paragraph headings (such as those you find in this document), provide not only visual cues to major topics, but they also provide a means for navigating the document by a screen reader. However, the paragraph headings are not individually formatted (e.g. larger font size, bolded, and underlined), but are formatted by using styles.

Headings should be applied to paragraph headings based upon their hierarchy within a document. For example, the following headings should be applied as follows:

- Heading 1 – Title of document
- Heading 2 – Major headings
- Heading 3 – Subheadings

Note: JAWS (the most popular screen reader) does not recognize custom named styles. Therefore, only use headings with a name of Heading 1, Heading 2, etc.

Example:

In this document, Heading 1 is applied to the title (on the cover page). Heading 2 is applied to the major topic headings, such as Images (the topic on the next page). Heading 3 is applied to the sentence that precedes the numbered instructions, i.e. *To apply....* (Heading 3 is not really necessary, but it makes it easier for someone to quickly find the instructions if using a screen reader.)

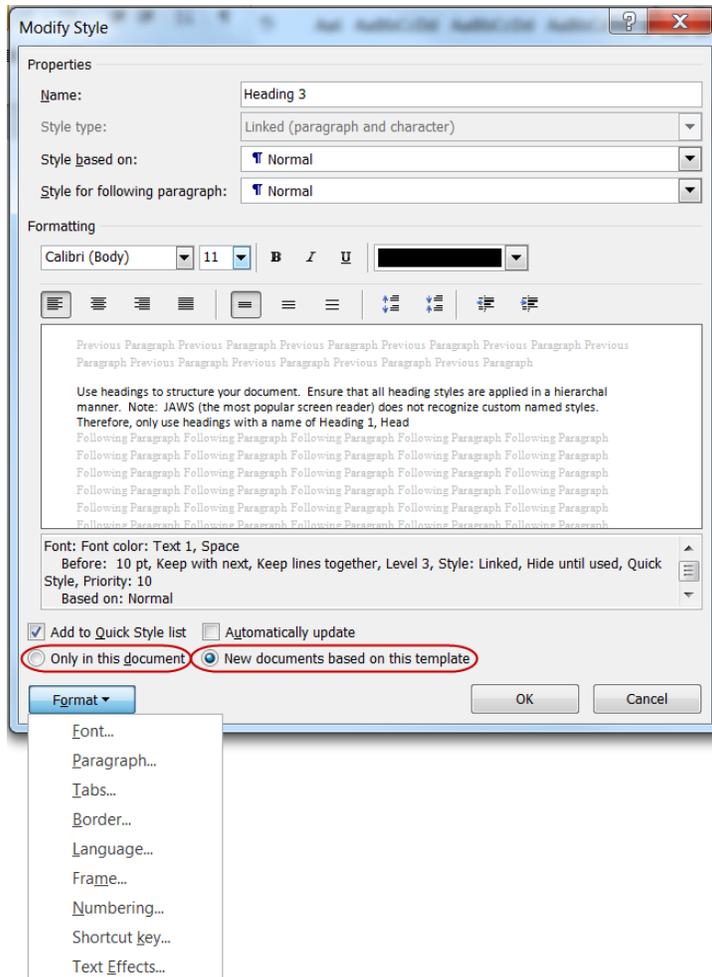
To apply a style to a paragraph heading:

1. Click the **Home** tab.
2. Click on the paragraph that you want to style as a heading.
3. From the Styles section of the ribbon, click on the desired style.



To modify a style:

1. Click the **Home** tab.
2. In the Styles section of the ribbon, right click on the style name.
3. From the shortcut menu, select: **Modify**.
4. Make the desired formatting changes.
 - 👉 To add a style that can be used with other documents, select the option: **New Documents Based on this Template**.

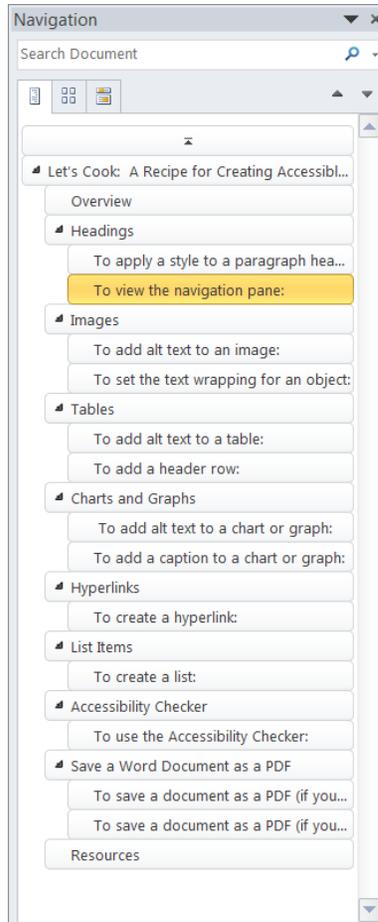


5. Click **OK**.

You can view the heading structure of your document by using Word's navigation pane. Also, the navigation pane allows you to navigate to specific locations within your document based upon your heading levels.

To view the navigation pane:

1. Click the **View** tab.
2. In the Show section of the ribbon, place a checkmark in the box next to Navigation Pane.
3. To navigate to a specific section within the document, click on any item in this pane.



Images

Images must have a description that explains the purpose or the content of that image. This description, referred to as alt text (or alternate text), is read by a screen reader.

Example:

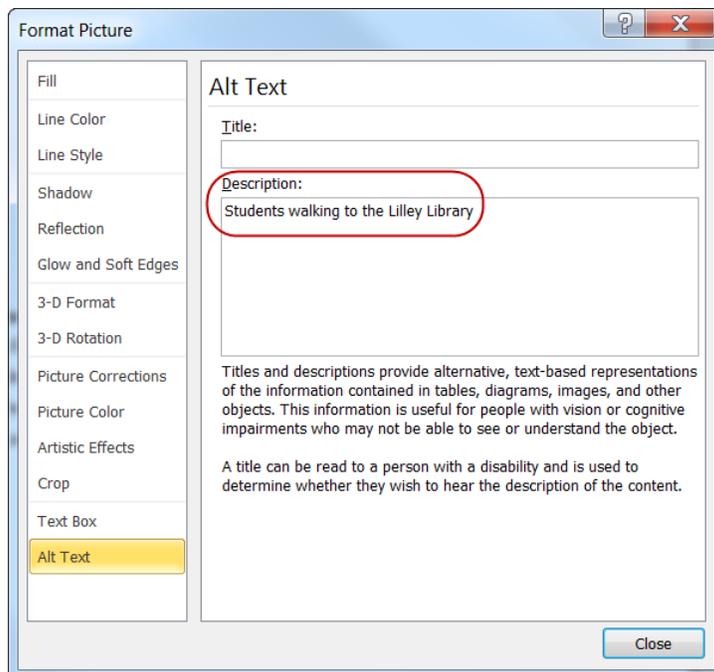


To add alt text to an image:

1. Right click on an image.
2. From the menu, select: **Format Picture**.
Additionally, in Word 2013: Click on the **Layout & Properties** button.

 The button looks like this: 

3. From the category list, click: **Alt Text**.
4. In the Description box, type a brief description.
 -  Do not type the alt text in the Title box.
 -  For alternative text, do not use the phrases: “Image of...”, “Picture of...”, or “Pic of ...”. They are redundant.
 -  Alternative text should communicate the message being conveyed by the image.



5. Click the **Close** button.

It is also helpful if the images are not floating objects. For example, an image is considered a floating object if it isn't "in line" with the text. This makes it challenging for a screen reader user to navigate the document. However, an image that is formatted in line is treated as if it was a single, large character with text flowing above and below the image.

Another advantage of formatting an object in line is that you eliminate the extra blank lines that are often inserted to position a floating image.

And, although images must be in line, you can format the images to better control the placement of the image. To do so, use indents. (You can also create a style for images that will provide consistent indentation of all images. Generally, you'll want to set the left indent and the spacing before and after the image.)

To set the text wrapping for an object:

1. Right click on the object.
2. From the shortcut menu, select: ***Wrap Text***.
3. Click on the following: ***In Line with Text***.
4. If needed, indent the line to place the image in the desired location.

Tables

Tables should include alt text as well as column headings.

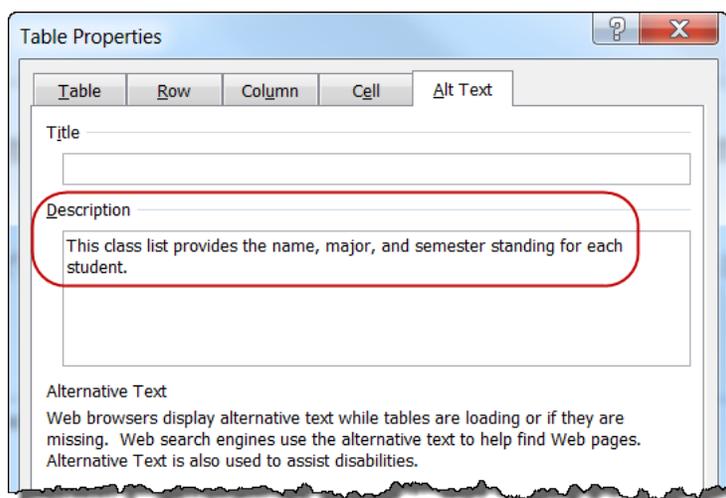
Example of a table with column headings:

Class List

Name	Major	Semester Standing
Nancy Johnson	Engineering	06
Mark Smith	History	01
Rita Brown	Biology	04
Ted Belle	Business	08

To add alt text to a table:

1. Right click on the table.
2. From the shortcut menu, select: **Table Properties**.
3. Click on the **Alt Text** tab.
4. In the Description box, type a brief description.
👉 Do not type the alt text in the Title box.



5. Click **OK**.

Another feature that helps to make your tables more accessible to screen readers is the header row option. (Also, this option is useful for another purpose: If you have a table that splits across more than one page, it will repeat the column headings for every page on which the table appears.)

To add a header row:

1. Type column headings in the first row of the table.
2. Select the first row containing the column headings.
3. From the **Table Tools** tab on the ribbon, click: **Layout**.
4. Click the **Repeat Header Rows** button.

Charts and Graphs

Charts and graphs also require alt text as well as a short caption.

Example of a chart with a caption:

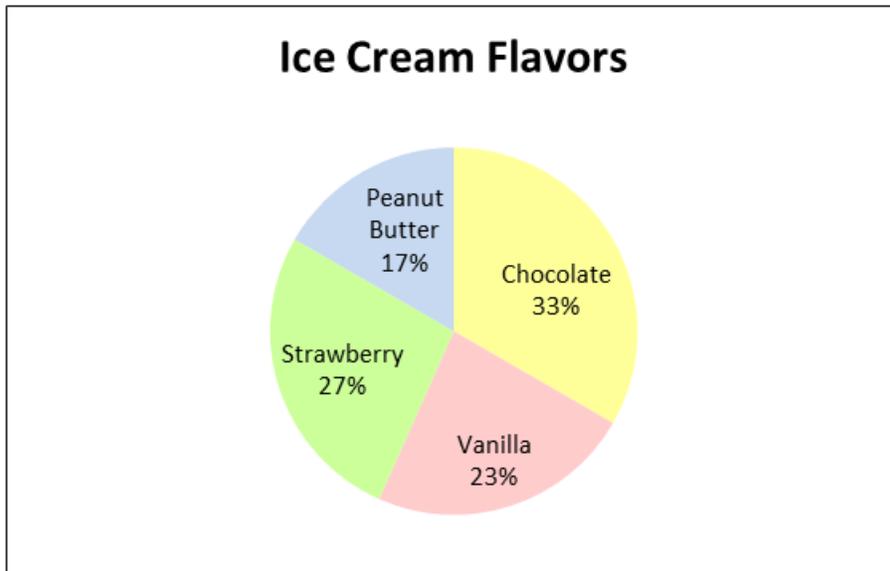


Figure 1: Favorite Ice Cream Flavors for August

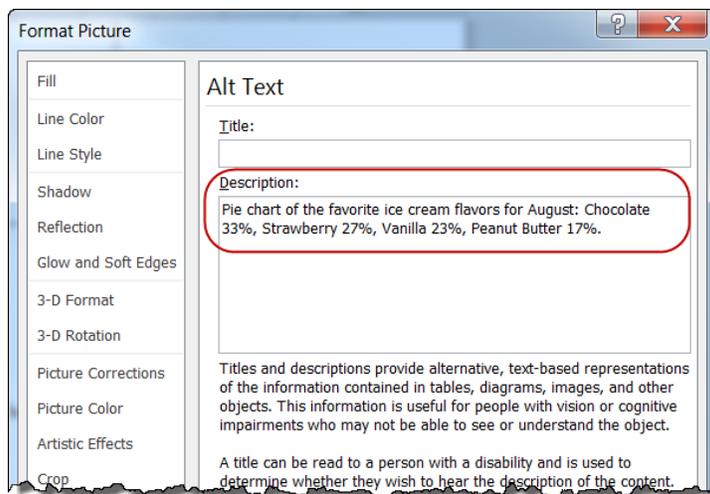
To add alt text to a chart:

1. Right click on the chart's border.
2. From the menu, select: **Format Chart Area**.
Additionally, in Word 2013: Click on the **Layout & Properties** button.

 The button looks like this: 

3. From the category list, click: **Alt Text**.
4. In the Description box, type a brief summary that explains the chart.

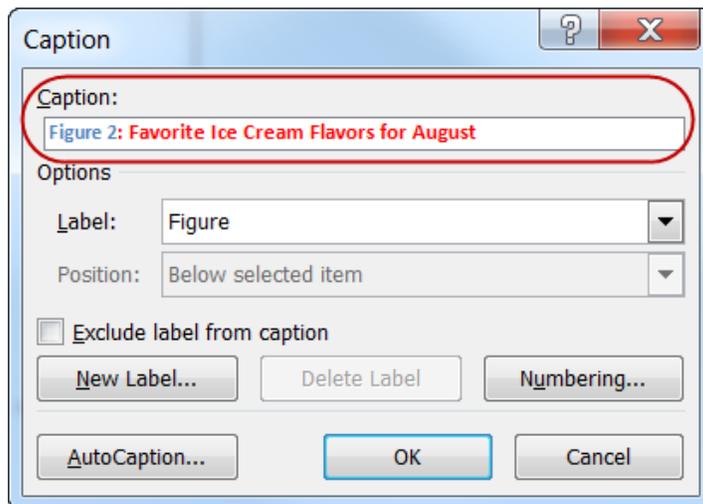
 Do not type the alt text in the Title box.



5. Click the **Close** button.

To add a caption to a chart:

1. Right click on the chart's border.
2. From the shortcut menu, select: **Insert Caption**.
3. In the Caption box, type the desired text for the caption.



4. Click **OK**.
5. Format and position the caption as desired.

Hyperlinks

Another guideline for web accessibility concerns the use of non-descriptive links. A non-descriptive link, such as "click here" or "read more", is not helpful to screen reader users --- especially if there is more than one non-descriptive link within a page or document. (That's because a screen reader can scan a document for links and then read those list of links to a user; so it is imperative that the links make sense without the surrounding text.) A descriptive link, on the other hand, is just that --- it describes the link.

Another recommendation: Do not use the hyperlink address in the document (such as <http://psbehrend.psu.edu>). If you do, a screen reader will read each individual character/word which can be quite tedious to listen to --- especially for a lengthy hyperlink address. Instead, use a descriptive link (e.g. [Penn State Behrend](#)).

Example of a non-descriptive link:

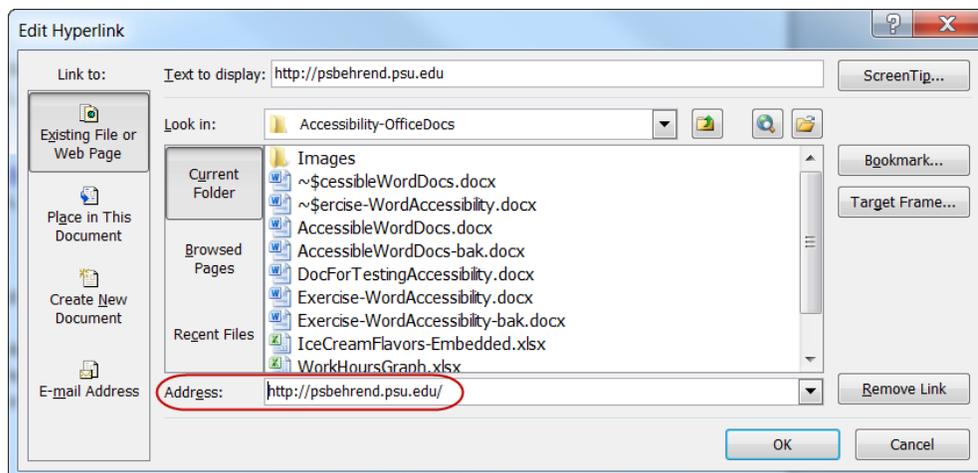
Penn State Behrend is now selling Berkey Creamery ice cream. The college community, as well as the public, can buy ice cream cones, dishes, sundaes and milk shakes. [Read more...](#)

Example of descriptive link:

[Penn State Behrend is now selling Berkey Creamery ice cream](#). The college community, as well as the public, can buy ice cream cones, dishes, sundaes and milk shakes.

To create a hyperlink:

1. Use your web browser and go to the page that you want to link to.
2. Copy the web address.
3. In the Word document, select the text that you want to use for the hyperlink.
4. Right click and from the shortcut menu, select: **Hyperlink**.
5. Paste the web address into the Address box.



6. Click **OK**.

List Items

Lists of related items should be formatted as bullets. This is important since a screen reader will announce that there is a bulleted list and then read those items.

Example of a list:

My favorite pizza toppings are:

- Pineapple
- Ham
- Bacon

Often a list can be used as an alternative to a table when presenting information.

Example of a table:

Shuttle Bus Service

Times	Location
7:40 am	University Gate Apartments
7:43 am	Burke Center (south)
7:46 am	Ohio Hall
7:49 am	Burke Center (north)

Example of using a list rather than a table for the above information:

Shuttle Bus Service: Times and Location

- 7:40 am – University Gate Apartments
- 7:43 am – Burke Center (south)
- 7:46 am – Ohio Hall
- 7:49 am – Burke Center (north)

To create a list:

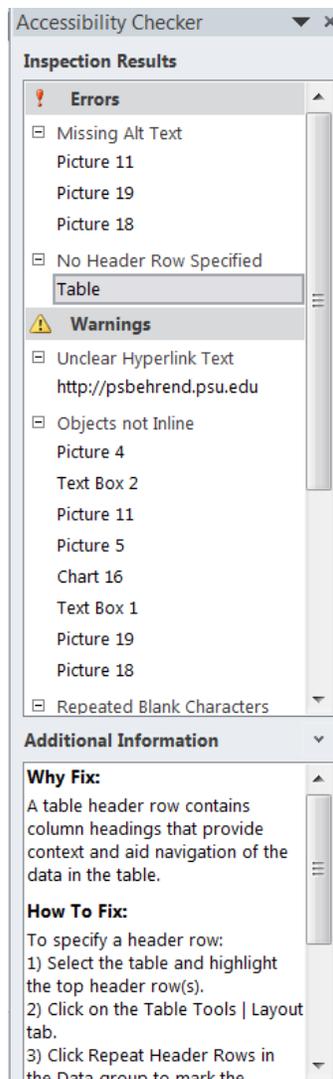
1. Type each item on a single line.
2. Select the group of items.
3. Click the bullet or numeric bullet button.

Accessibility Checker

The Accessibility Checker is a great tool to check for problems in your Word document. It points out things such as missing alt text, missing table row headers, unclear hyperlink text, and more. Not only that, but it provides instructions on how to fix any items that have been flagged as inaccessible.

To use the Accessibility Checker:

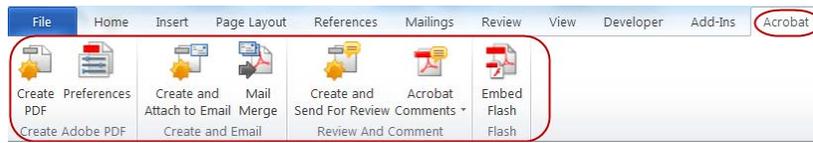
1. Click on the **File** tab.
2. Click on **Info**.
3. Click on the **Check for Issues** button.
4. From the menu, select: **Check Accessibility**.
 - 👉 An Inspection Results pane will appear. It provides a list of errors and warnings that it found in the document.



5. Under the errors section, click on an item.
 - 👉 Word navigates to the item in error.
 - 👉 In the Additional Information section of the Inspection Results pane, information is given explaining why the item needs fixed and how to remedy the error.
6. Under the warnings section, click on an item.
 - 👉 In the Additional Information section of the Inspection Results pane, information is given explaining why the item needs fixed and how to remedy the error.
7. Fix the errors and warnings as appropriate.

Save a Word Document as a PDF

There is more than one way to save a Word document as a PDF. You can save a document as a PDF by using Adobe's Acrobat add-in or Word's add-in.



Adobe's add-in produces a better tagged and accessible PDF (especially for more complex documents). If you have the full version of Adobe Acrobat installed on your PC, you will have an Acrobat tab on the ribbon.

However, even if you don't have Adobe Acrobat, Word's add-in does a good job for a typical document which has headings, lists, images, etc.

Important: In either case, it is essential that you create an accessible Word document *before* you convert it to a PDF.

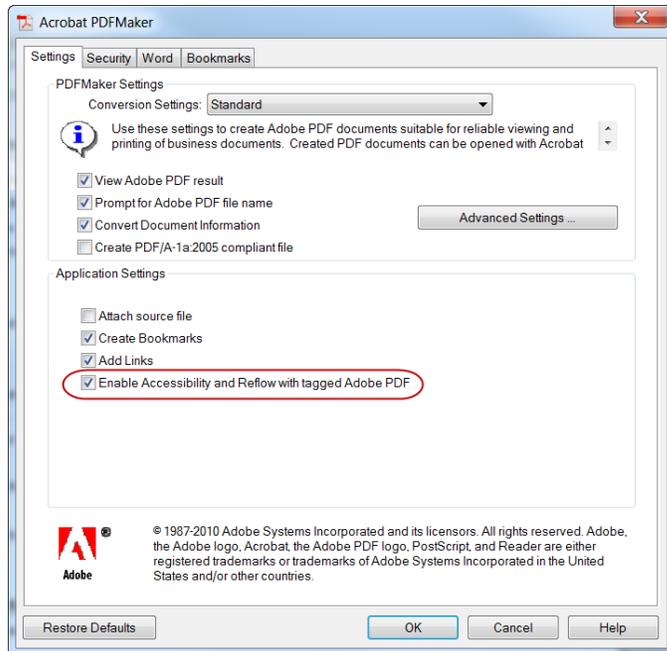
Accessibility Alert

Note that even a PDF that has been created from an accessible Word document will almost always have accessibility issues. As a result, the PDF will require further remediation so that it is accessible. Remediation of a PDF can be a time-intensive and costly process depending upon the complexity of the document.

Web site content editors: Keep in mind that PDF documents cannot be the **sole** source of presenting online information unless they have been remediated for accessibility issues. Therefore, it is recommended that PDF content be provided in an alternative format. (A link to an inaccessible PDF is acceptable as long as you provide the content in an alternative, accessible format.) Acceptable alternative formats include web pages and accessible Word documents. For more details, visit the [PDFs and Alternative Formats](http://behrend.psu.edu/pdfalternatives) web site (<http://behrend.psu.edu/pdfalternatives>).

To save a document as a PDF (if you have the Acrobat tab in the ribbon):

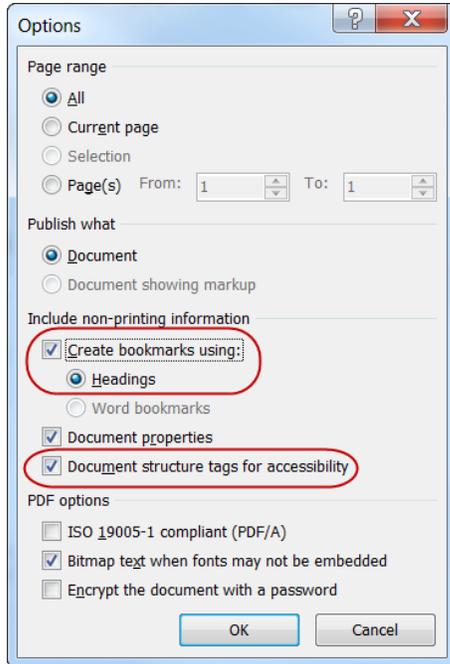
1. Open a Word document.
2. Prepare the document so that it is accessible.
3. Click the **Acrobat** tab.
4. Click the **Preferences** button.
 - a. In the Application Settings section, make sure that there is a checkmark in the box for this option: Enable Accessibility and Reflow with Tagged Adobe PDF.



- b. Click **OK**.
5. Click the **Create PDF** button.
 6. Click the **Save** button.

To save a document as a PDF (if you DO NOT have the Acrobat tab in the ribbon):

1. Open a Word document.
2. Prepare the document so that it is accessible.
3. Click the **File** tab.
4. From the menu, select: **Save as**.
Additionally, in Word 2013: Select the location where you want to save the file (i.e. Current Folder, Recent Folders, or Browse options).
5. Click the drop-down arrow for the Save as Type box and select: **PDF**.
6. Click the **Options** button.
7. Click to place a checkmark in the box for this option: Create Bookmarks Using.
8. Underneath the option, Create Bookmarks Using, click: Headings.
9. Click to place a checkmark in the box for this option: Document Structure Tags for Accessibility.



10. Click **OK**.
11. Click the **Save** button.

Best Practices

Keep this in mind if you plan to convert a document to a PDF:

- Prep the Word document first so that it is accessible.
- Then, if needed, convert it to a PDF.

Here are some tips to guide you in the creation of an accessible Word document.

- Use headings to structure and organize your document. Ensure that all heading styles are applied in a hierarchal manner. Note: JAWS (the most popular screen reader) does not recognize custom named styles. Therefore, only use headings with a name of Heading 1, Heading 2, etc.
- Include alt text for images, tables, and charts and graphs. Also, include captions for charts and graphs.
- Do not format objects as floating. Format objects as "In Line with Text".
- Keep tables simple --- do not use nested tables. Include column headings for tables and specify a header row for tables. Do not split or merge cells, rows, or columns.
- Do not use tabs or spaces to create columns. Instead, use the **Page Layout/Columns** command.
- Use descriptive hypertext links.
- Use bulleted and numeric lists for related items.
- Keep titles short. (Less than 20 words are recommended, but shorter is even better if it still adequately conveys the intended meaning).
- Include a table of contents (which Word can generate if you use styles).
- Avoid watermarks. If you must use one, make sure that the information it contains is also included elsewhere in the document.
- Be cautious as to the colors you choose. Some colors and color combinations can be difficult to read, especially for someone who has color blindness. Also, do not use color to solely convey meaning.
- Include closed captions or transcripts for any audio or video elements.
- FYI... Information contained in headers, footers, and footnotes is accessible to screen readers (if the document is read in Outline view).

Resources

Here are some additional resources for learning how to make your document accessible.

- [Microsoft Word Tips](http://accessibility.psu.edu/microsoftword) - <http://accessibility.psu.edu/microsoftword>
- [Guide for Creating Accessible Microsoft Word 2010 Documents](http://teachingcommons.cdl.edu/access/docs_multi/documents/StandardsandTechniquesGuideforCreatingAccessibleMSWord2010Docs v1.0.pdf) - http://teachingcommons.cdl.edu/access/docs_multi/documents/StandardsandTechniquesGuideforCreatingAccessibleMSWord2010Docs v1.0.pdf
- [Creating Accessible Word Documents](http://webaccess.msu.edu/tutorials/accessible-word-documents.html) - <http://webaccess.msu.edu/tutorials/accessible-word-documents.html>
- [Microsoft Accessibility Checker Rules](http://webaccess.msu.edu/tutorials/accessible-word-documents.html) - <http://webaccess.msu.edu/tutorials/accessible-word-documents.html>
- [Ten Tips for Accessible Documents](http://office.microsoft.com/en-us/help/ten-tips-for-accessible-documents-HA010337552.aspx) - <http://office.microsoft.com/en-us/help/ten-tips-for-accessible-documents-HA010337552.aspx>
- [Creating Accessible Word Documents](http://office.microsoft.com/en-us/word-help/creating-accessible-word-documents-HA101999993.aspx) - <http://office.microsoft.com/en-us/word-help/creating-accessible-word-documents-HA101999993.aspx>

Training Exercise

You can download a [Word exercise file](#) so that you can practice what you have learned in this document. For those reading the printed version of this document, the exercise can be downloaded from: <http://psbehrend.psu.edu/intranet/computer-center/exercise-files/exercise-files-for-training>.