

Creating an Accessible Word Document

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Creating an Accessible Word Document

Microsoft Office has various tools available within Word, PowerPoint, Excel, Outlook, and Publisher to support users in creating documents that are accessible to all people.

There are numerous resources with information for creating accessible documents. In some cases, organizations have a standard for how to accomplish certain tasks. This document includes the identified standard for the Michigan Department of Education, Office of Special Education (MDE, OSE).

This document outlines the foundational steps to creating a Word document that is accessible to all users. Following these steps and practices will help to ensure your information is accessible.

It is best practice to make a source document as accessible as possible before converting it to another format, such as an Adobe Acrobat PDF.

Add Document Properties

Document properties are an important component for search engine optimization and supporting accessibility. Document properties include information such as title, subject, author, keywords, and language. The information is used by search engines to return results for users searching for information.

Document properties added in Microsoft Word will carry over in the conversion of a Word document to an Adobe Acrobat (PDF) document.

A screen reader will convey the file name of a document to the user, so it is also important to use good naming conventions. Long or ambiguous file names can be confusing.

OSE Standard

There are several document properties, but the following fields are required to meet the OSE standard:

- **Title:** The title of the document (must match the full title used in the main body of the document).
- **Subject:** Brief identification of the topic of the document.
- **Author:** List as MDE, Office of Special Education.
- **Keywords:** Relevant keywords to help users find a document. Do not repeat the document title. Separate multiple keywords or phrases with a comma.
- **Language:** The language the document was created in.

How to Add Document Properties

To add document properties, click on the **File** tab in the menu bar. By default the Properties will display on the right side of the screen (Figure 1). If the properties are not visible, make sure that the **Info** option is selected from the sub-menu.

To update the properties and set the language, perform the following steps:

1. Open the **Document Properties** dialogue box by selecting the down arrow next to properties and choosing **Advanced Properties**.
2. Select the **Summary** tab (Figure 2).
3. Fill in the appropriate fields as outlined in the OSE Standard.
4. Select the **Custom** tab (Figure 3).
5. Select **Language** from the **Name** field drop down menu.
6. Type the language (typically "English") in the **Value** field.
7. Click the **Add** button.
8. Click **OK** to finish.

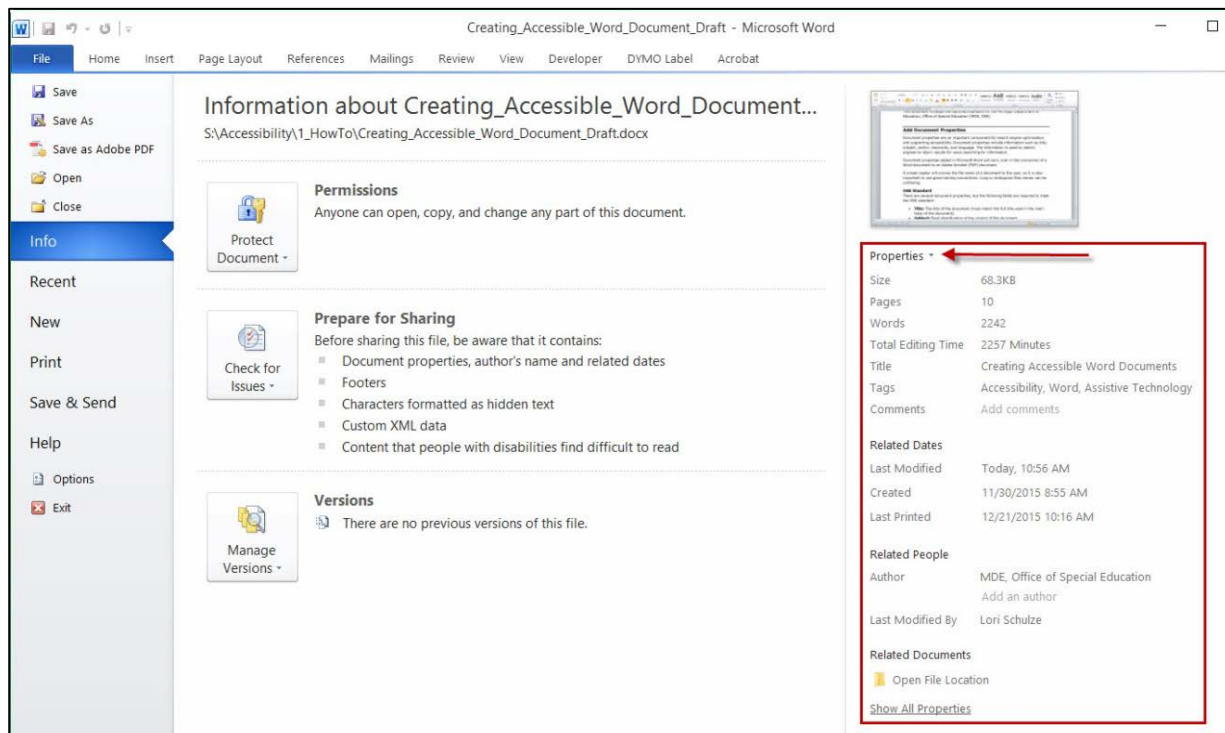


Figure 1. Adding document properties

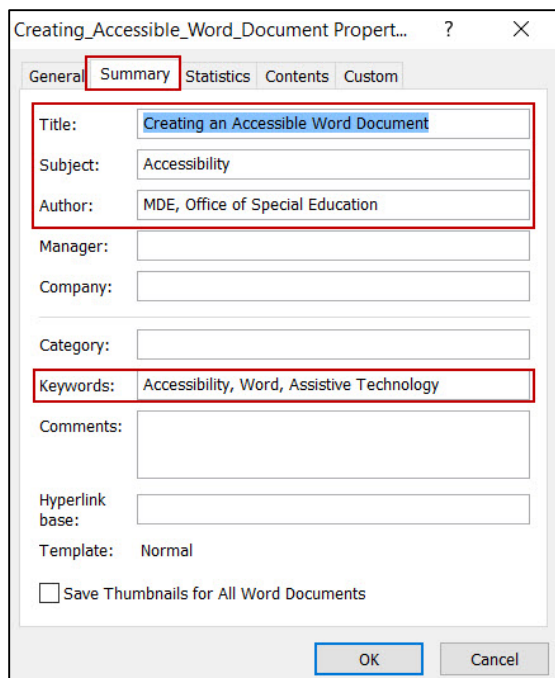


Figure 2. Summary tab in the document properties dialogue box.

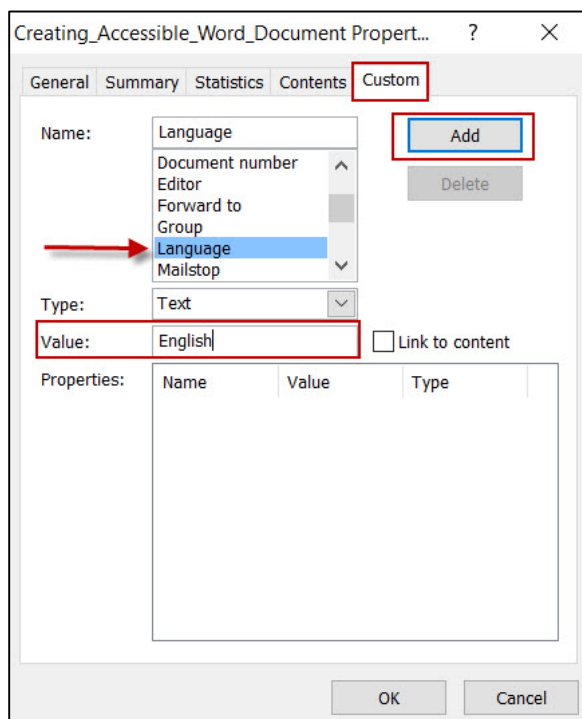


Figure 3. Custom tab in the document properties dialogue box.

Structure Content Using Appropriate Headings & Styles

The use of built-in styles is the single most important step to making a document accessible. Headings and styles help to provide a structure and logical reading order and allow keyboard-only and assistive technology users to navigate content.

Headings

When headings are defined using Microsoft Word's built-in heading styles, screen reader users can quickly navigate through the document and can easily skip from heading to heading.

When headings are incorrectly marked up, using character formatting only (i.e., applying bold format, larger fonts, or using ALL CAPITAL LETTERS), there is no way for screen reader software to know where the headings are in the document.

Heading Order and Heading Styles

Headings should be applied to provide a sequential and relational understanding.

Heading styles should be applied as follows:

- Heading 1 – Title of the document.
- Heading 2 – Major heading.
- Heading 3 – Subheading.
- Headings 4-9 – Sub-subheadings.

Rules for Headings

When using Heading styles adhere to the following rules:

- The document title should be assigned a Heading 1.
- There should only be one Heading 1 in each document.
- Heading styles must be ordered correctly (i.e., Heading 4 is a child of Heading 3, not Heading 2).
- Headings should be used to divide content into meaningful sections, not to format text.

Title Style

To allow for appropriate visual formatting, if a document includes a cover page, assign the **Title Style** to the document title on the cover page and a Heading 1 to the document title on the first page of the document content.

Note: The Title Style is not recognized in Adobe Acrobat. After converting a Word document to a PDF, you must open the PDF in Adobe Acrobat and tag the document title on the cover page with a heading tag.

Columns

Columns should be created using the **Column Tool**. Spaces and tabs should never be used to create the appearance of columns. If using the column feature, avoid using more than three columns.

Lists

When lists are formatted using the bulleted or numbered lists functions, screen readers will properly announce the text as being part of a list. List formatting provides the user with a means to easily navigate between items as well as skip them.

When lists are made with repeated use of the tab key or spacebar, screen readers will not recognize them as lists, meaning that the list reading controls are inoperative.

In general, plain bullets and numbers are more accessible than graphical bullets and numbers. Do not use the Wingdings font or manually typed characters (e.g., hyphens, asterisks, numbers, or graphics).

Sub-lists should be created by using the increase indent function.

How to Use Styles

By default, a small number of styles are visible from the **Quick Styles** gallery in the menu bar (Figure 4).

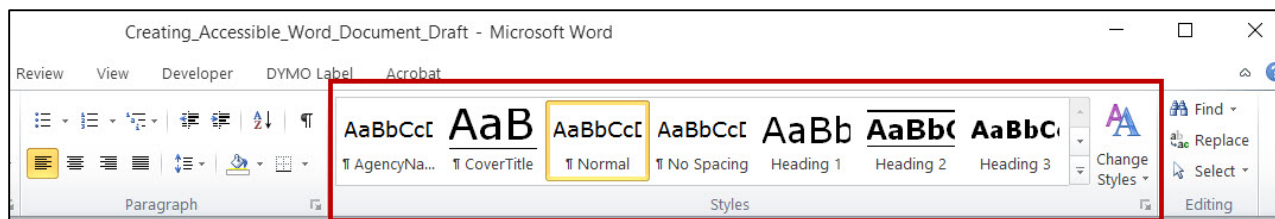


Figure 4. Quick styles gallery.

Opening the Styles Task Pane

Users may find it beneficial to open the **Styles Task** pane (Figure 5) to see more styles as well as other options. The styles task pane also shows a preview of each style. To open the styles task pane, perform one of the following steps:

- Click on the expand icon in the bottom right corner of the styles group (Figure 6).
- Use the keyboard shortcut CTRL+ALT+SHIFT+S.

Predefined Styles

Word has a number of predefined styles, including styles for headings, normal text, emphasis, lists, and bold. Users can modify the predefined styles or create their

own. However, it is important to note that JAWS (the most popular screen reader software) does not recognize custom named styles. Therefore, it is best to customize Word's predefined styles instead of creating your own.

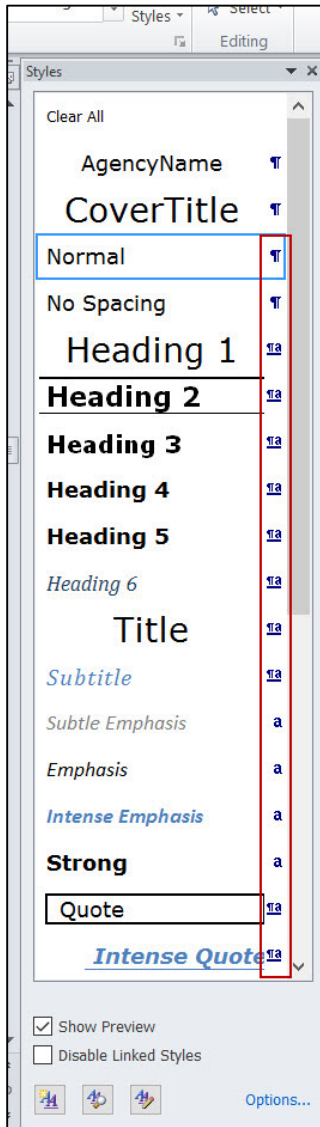


Figure 5. Styles task pane.

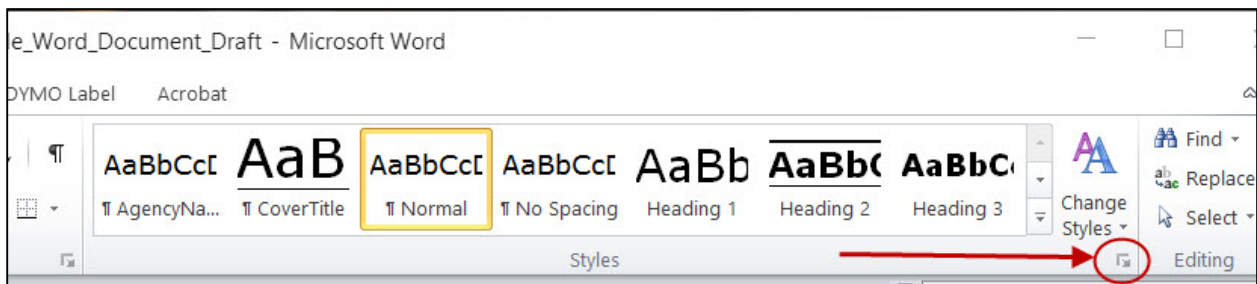


Figure 6. Icon to expand styles task pane.

Types of Styles

There are three different types of styles in Word:

1. Paragraph styles
2. Character styles
3. Linked styles

Each style type is depicted by an icon (Figure 7) in the styles task pane.

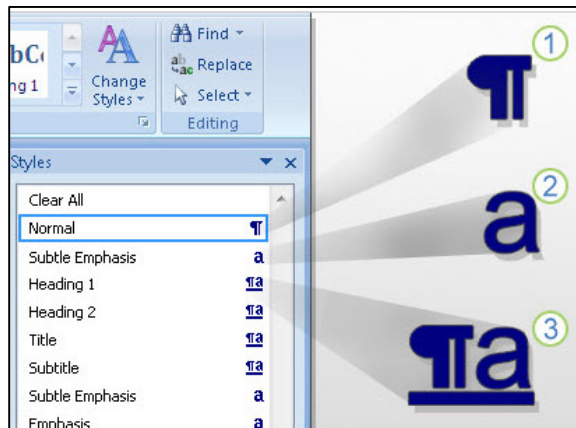


Figure 7. Style type icons.

Paragraph styles include the font, font type, and size as well as formatting elements for a whole paragraph's text positioning and spacing. A paragraph style can be applied to one or more paragraphs.

A paragraph style's formatting will be applied to all the text within the paragraph where your cursor is located.

Character styles are applied at the character level; to blocks of words or letters. You can apply character styles along with a paragraph style. For example, all text in this document has the paragraph style **Normal** applied to it. The word normal in previous sentence also has the character style **Strong** applied to convey importance.

Linked styles can function as either a paragraph style or a character style, depending on what you select. If you select a word or phrase in a paragraph and apply a linked style, the style is applied as a character style, with no effect on the paragraph as a whole. However, if you select a paragraph and then apply a linked style, the style is applied as a paragraph style.

Note: Word includes character styles called **strong** and *emphasis* to help convey meaning to a screen reader. When you need to apply bold and italics, it is best practice to apply the strong and emphasis style.

Applying a Style

To add a **paragraph style**, put your cursor anywhere within the paragraph or line and then select the desired style from the **Quick Styles** gallery (Figure 4) or the **Styles Task** pane (Figure 5).

To add a **character style**, highlight the appropriate text and then select the style from the quick styles gallery or the styles task pane.

Modifying a Style

The characteristics of any predefined style can be modified. This includes everything from font type and size to alignment, spacing, and indentation, to borders and tabs. To modify an existing style, perform the following steps:

1. From the **Quick Styles** gallery (Figure 4), right click the applicable style and select **Modify**. Or, from the **Styles Task** pane (Figure 8), select the down arrow to the right of the applicable style and select **Modify**.
2. Make the appropriate changes in the **Modify Styles Dialogue Box** (Figure 9).
3. Select the **Format** option within the dialogue box for more options.

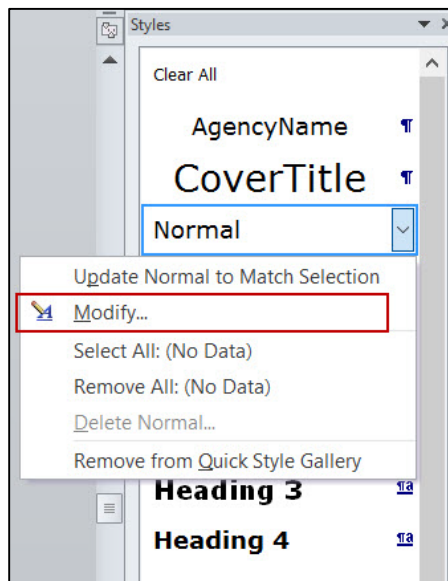


Figure 8. Modify a style.

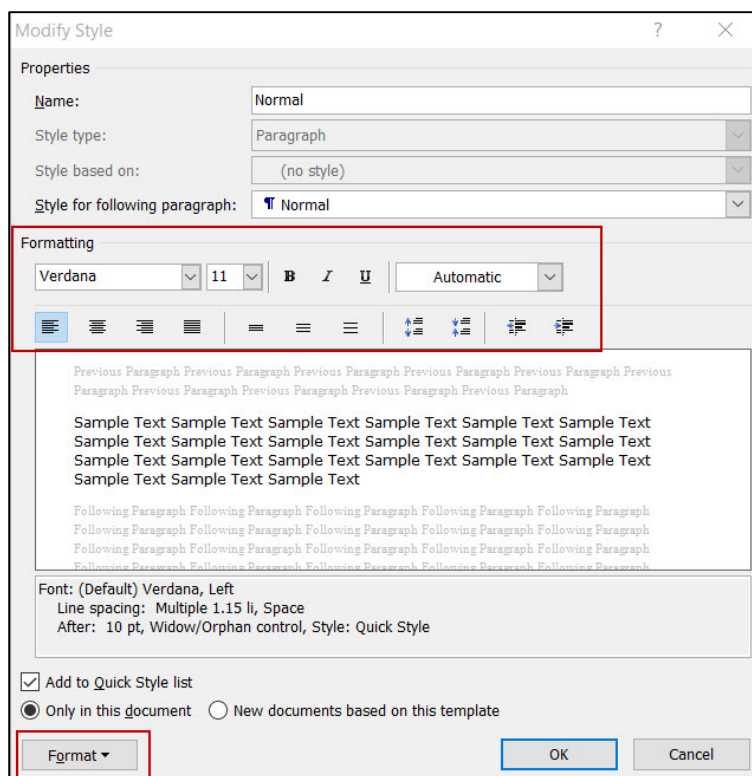


Figure 9. Modify style dialogue box.

White Space and Borders

White space in a document should be controlled using the styles in the document.

The “Enter” key should never be used to create white space within a document (e.g., spaces between paragraphs or pushing content to the following page). Spaces and empty paragraphs may be perceived as blanks by people using a screen reader and can cause a user to assume they have reached the end of the information.

Borders should be added using styles versus text boxes or tables.

Note: Text boxes are not accessible and should never be used. Instead, use the border function to highlight or call out text.

OSE Standard

Adhere to the following minimums when setting line and paragraph spacing:

- **Line spacing:** 1.08
- **Spacing after the paragraph:** 6 pts.

How to Adjust Spacing

To modify the line spacing and spacing between paragraphs, perform the following steps:

1. From the **Quick Styles** gallery (Figure 4), right click the applicable style and select **Modify**. Or, from the **Styles Task** pane (Figure 8), select the down arrow to the right of the applicable style and select **Modify**.
2. Click the **Format** drop down button and select **Paragraph** (Figure 10).
3. Adjust the line spacing and spacing before and after the paragraph in the **Paragraph** dialogue box (Figure 11).
4. Click **OK** twice to finish.

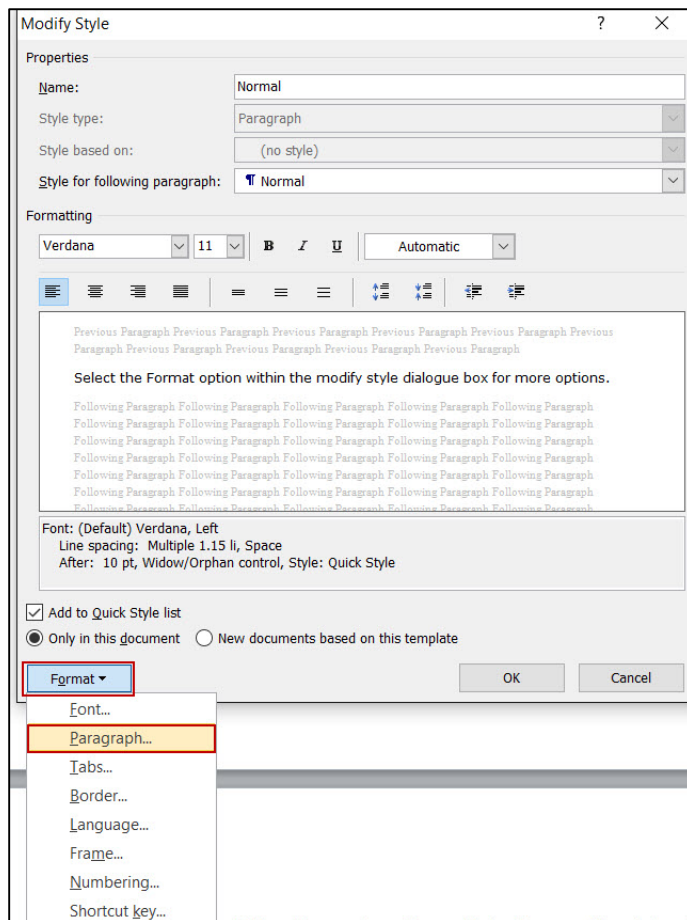


Figure 10. Select paragraph settings.

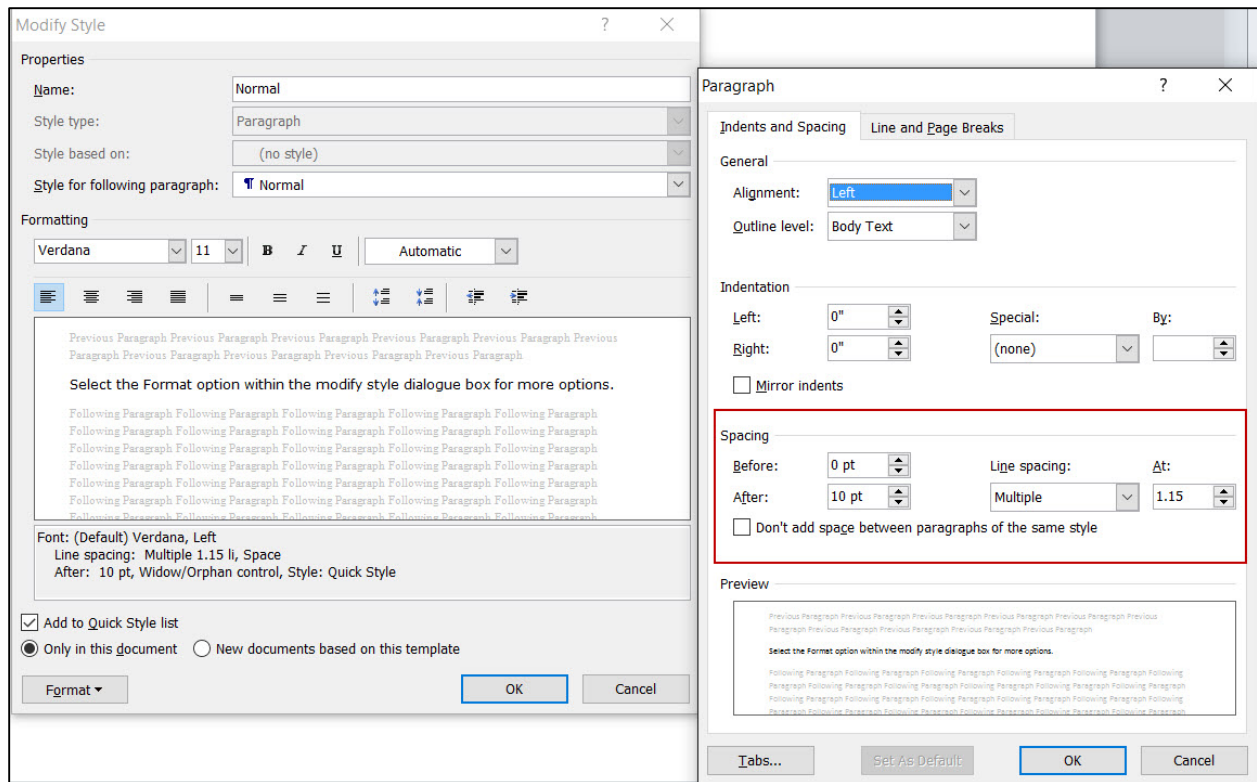


Figure 11. Paragraph spacing options.

Normal Style and Body Text Style

The text of a document is automatically formatted with the **Normal** style. Normal is the style on which almost all other styles (unless you change this) are based.

If you change the font or paragraph formatting of the **Normal** style, it will have a ripple effect throughout most of the other document styles.

Body Text is a style intended for the ordinary text of the body of a document. By default, it is identical to the **Normal** style except that it has an additional half line of spacing between paragraphs. Use of the **Body Text** style is optional.

As a reminder, line spacing and spacing between paragraphs should be controlled using styles and not be adding extra returns.

How to Make a Style Permanent for New Documents

All styles can be modified to incorporate the desired font type, size, and spacing options. If you use similar formatting options in most documents, the style can be set as a default for future documents.

To set a style as the default for new documents, perform the following steps (Figure 12):

1. From the **Styles** pane, select the appropriate style.
2. From the **Menu** bar, select the down arrow next to **Change Styles**.
3. Click **Set as Default**.

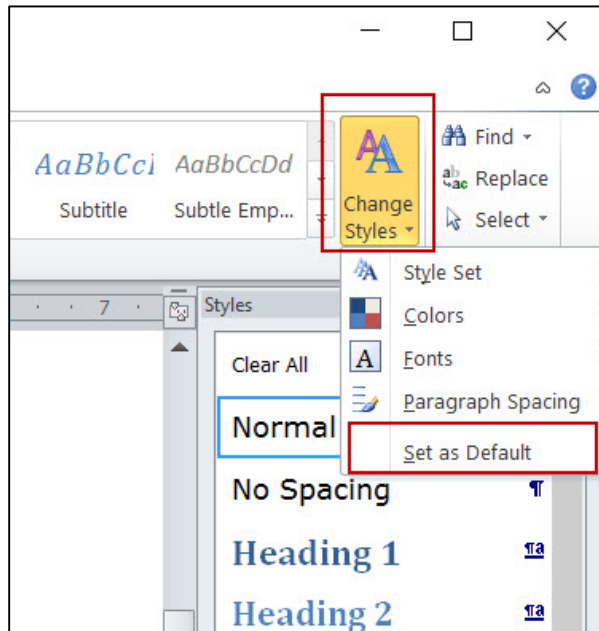


Figure 12. Set style as a default.

Include a Table of Contents and Cover Page

Provide a table of contents and cover page for documents that are more than eight pages. Microsoft Word can create a table of contents from the heading structure.

How to Add a Table of Contents

To add a table of contents, go to the page where the table of contents should be added and perform the following steps:

1. Select **References** from the menu bar.
2. Select the down arrow next to **Table of Contents**.
3. Select the desired style and the table of contents will automatically populate.

As more information is added to the document, the table of contents can be updated to reflect the changes by performing the following steps:

1. Click on the table of contents to reveal the available options.
2. Select the **Update Table** (Figure 13) option at the top of the table of contents.
3. Select update page numbers only or update entire table from the **Update Table of Contents** dialogue box.
4. Click **OK** to finish.

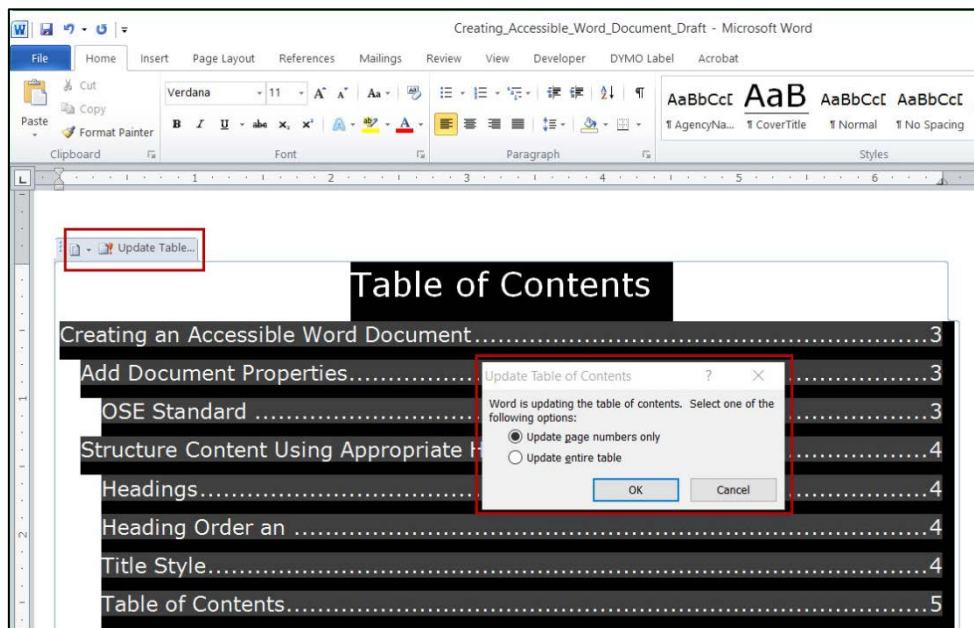


Figure 13. Update table of contents options.

OSE Standard

If a document includes a table of contents, a cover page should be added to the document. The cover page must include the following components:

- Document title
- Date of document
- Name of office (Michigan Department of Education, Office of Special Education)
- MDE logo

Avoid Putting Vital Information in Headers & Footers

Screen readers do not automatically read the information contained in headers, footers, and watermarks. Vital information such as the document title, author or contact information, and date of the document or document version number must be duplicated at or near the start of the main content area or on a cover page.

It is acceptable to put running headers, logos, page numbers, and copyright messages in the header or footer.

Provide Alternative Text for Images, Graphs, & Figures

Users who are blind or have low vision need an alternative way to understand information represented by images, tables, diagrams, and other visual mediums. Alternative text provides a text-based representation of information contained in items that cannot be seen.

Images

Alternative text for images should:

- Be accurate.
- Be concise.
- Convey in words—as briefly as possible—the same information that is communicated by the image.
- Represent the purpose and function of the image, not just describe its appearance.
- Exclude the phrases “image of” or “graphic of.”

Note: Alternative text cannot be read by screen readers in the same way as regular text. The screen reader will read all of the alternative text or none of it. Users can't explore it or read it character by character or word by word. Ensuring that alternative text is concise and meaningful supports users understanding of an image or object.

Adding Alternative Text

When adding alternative text in Word, a dialogue box will open with two fields: Title and Description.

The title can be read to a person using a screen reader and is used to determine whether he or she wishes to hear the description of the item. The main information about the image should be added to the description field.

Some resources indicate the title field should only be used if the description is lengthy and other sources say to always leave it blank. In general, the title field is optional and the description field is required.

Decorative Images

In general, decorative images do not need alternative text. However, when the accessibility checker ([see page 26](#)) is run, an error will be generated in the checker. Consider the need or purpose before adding decorative images.

Adobe Acrobat allows a decorative image to be marked as a background element. Items marked as background elements will be ignored by assistive technology. Microsoft Word does not have a function to mark images as decorative.

OSE Standard

In Microsoft Word, do not add alternative text to decorative images. However, once the document is converted to a PDF, the image must be tagged as a background element so the image isn't read by a screen reader.

How to Add Alternative Text

To add alternative text, perform the following steps:

1. Right-click on the image.
2. Select **Format Picture**.
3. Select **Alt Text** in the **Format Picture** dialogue box (Figure 14).
4. Type the description of the image in the **Description** field.
5. Click **OK** to finish.

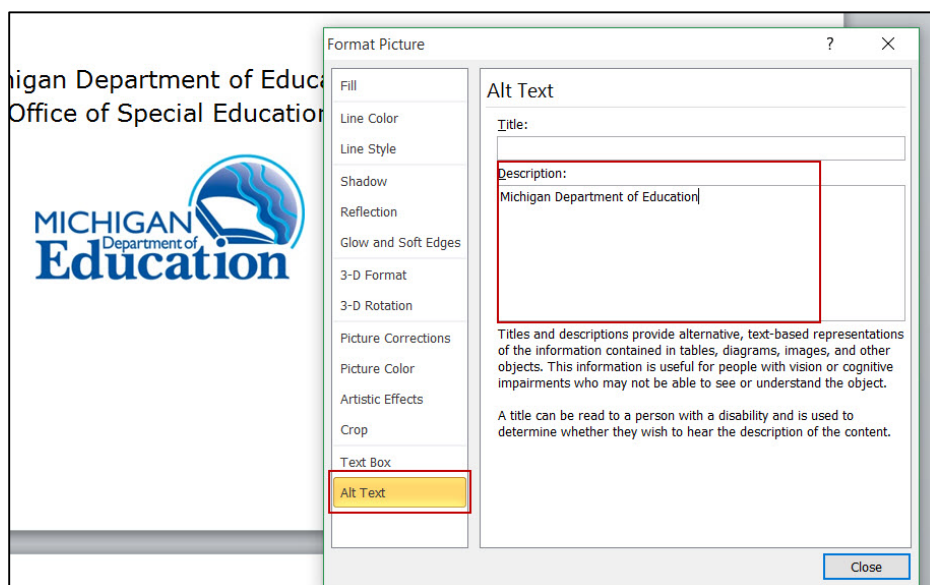


Figure 14. Alternative text description field.

Use and Create Tables Appropriately

Tables should be used only to convey information and not for layout purposes. Tables used for formatting purposes are confusing and often impossible for users of assistive technologies to access.

Tables should be created using the table tool and not drawn. This will provide the proper structure. To maintain structure, avoid:

- Merging cells.
- Splitting cells after data has been entered.
- Using blank cells to format the table.

All tables must have a header row identified and set to repeat at the top of each page regardless of whether the table spans multiple pages. Heading styles should never be used in a table.

The formatting for a table should be controlled using the table properties.

How to Create a Table

To create a simple table, perform the following steps:

1. Select the **Insert** tab from the menu bar.
2. Select the **Table** menu.
3. Select the number of rows and columns (Figure 15) by either, a) using the cursor to select the number of columns and rows from the grid or b) by clicking on the **Insert Table** option and inputting the number of columns and rows in the **Insert Table** dialogue box (Figure 16).

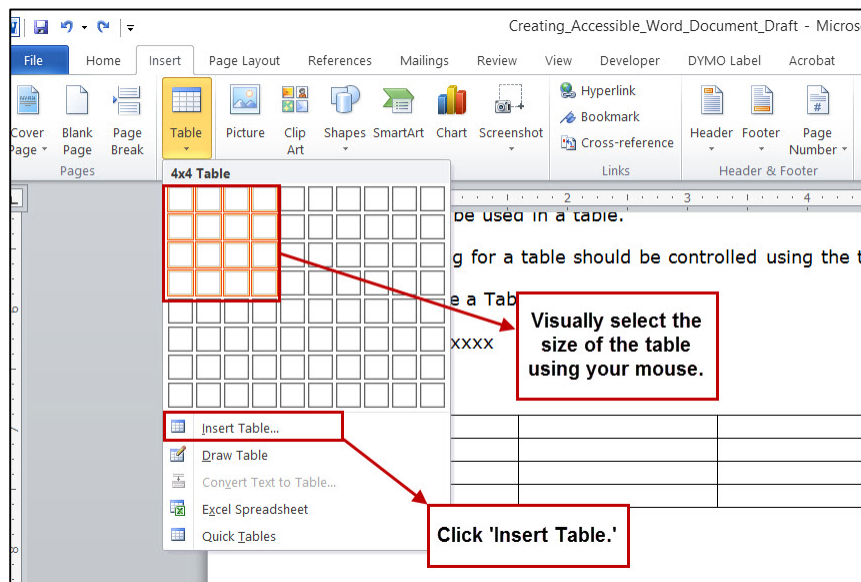


Figure 15. Insert table options.

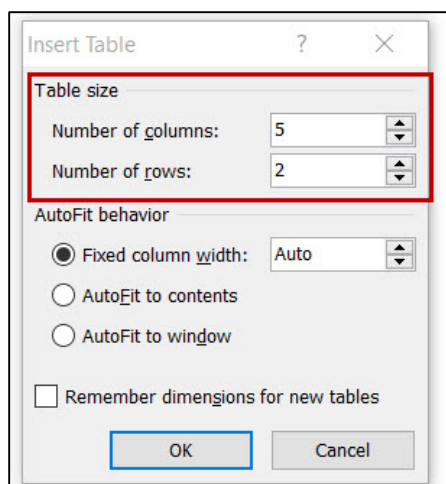


Figure 16. Insert table dialogue box.

After a table has been created and populated with data, identify a **Header Row** to allow the heading text to be distinguished from the data portion of the table. Identifying a header row is also important if a table spans more than one page.

To identify a **Header Row**, perform the following steps:

1. Highlight the top row of the table (Figure 17).
2. Right click to display editing options.
3. Select **Table Properties** from the list.
4. In the **Table Properties** dialogue box (Figure 18), select the **Row** tab.
5. Check the option **Repeat** as header at the top of each page.
6. Click **OK** to finish.

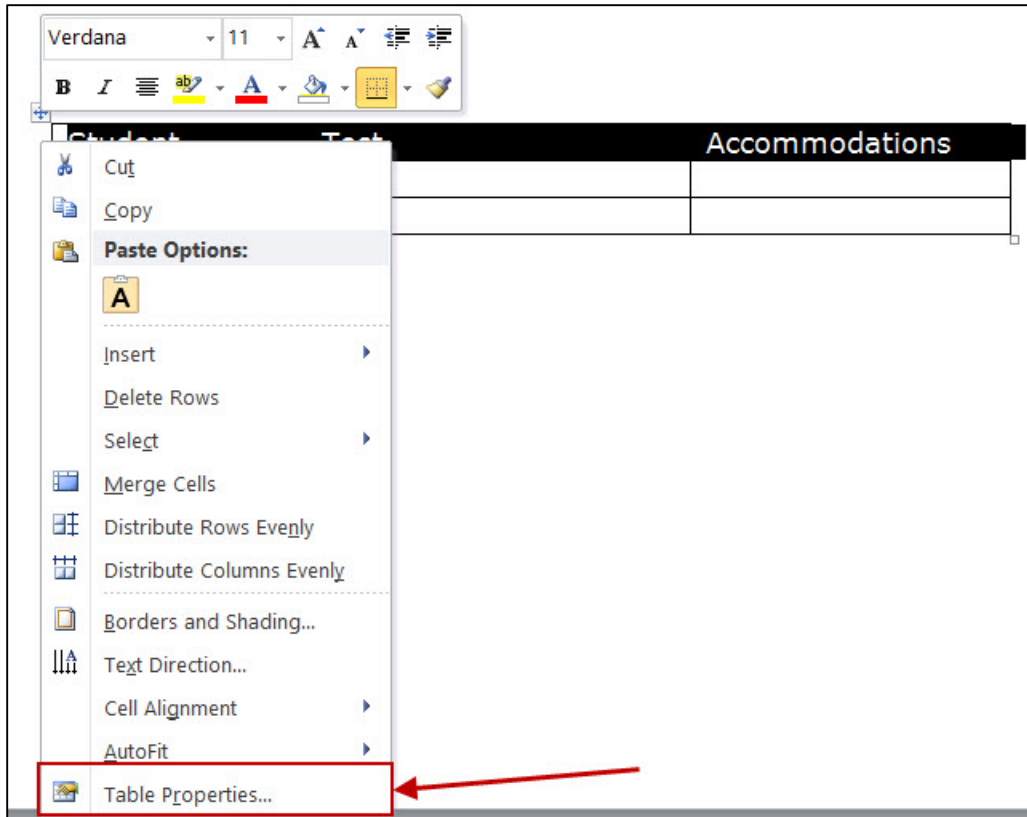


Figure 17. Table properties menu.

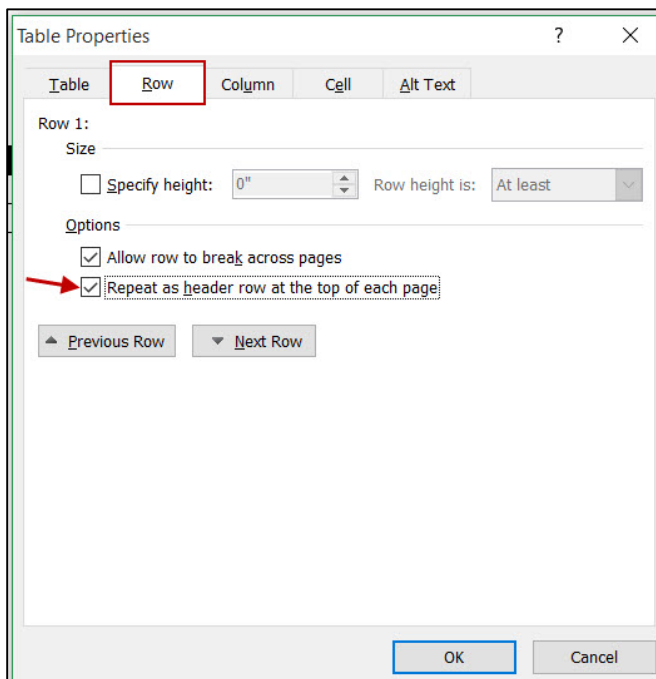


Figure 18. Table properties dialogue box.

Create Meaningful Hyperlinks

Hyperlink text should provide a clear description of the link destination. Users of assistive technology can navigate a document by skipping from hyperlink to hyperlink, or by pulling up a list of all links in a document. Neither method includes any of the surrounding text, meaning the hyperlink text itself must be descriptive to provide sufficient meaning.

A non-descriptive link such as 'Click here' or 'more' does not provide enough meaning. In addition, listing the full URL instead of descriptive text can be tedious for users of screen reader software because the screen reader will read each individual character/word in the hyperlink.

To avoid confusion, it is important that links to the same destination have the same descriptive text.

Example Hyperlinks

- Descriptive hyperlink: [OSE website](#)
- Non-descriptive hyperlink: <http://www.michigan.gov/ose-eis>

<p>Note: The non-descriptive link in the example above will cause this document to generate a warning for unclear hyperlink text when the accessibility checker is run. The non-descriptive hyperlink text is included for demonstration only.</p>

Email Links

Email addresses can be presented as either descriptive or as the actual email address. If the actual email address is used, consider adding a screen tip.

Example Email Links

- Descriptive email link: [Email the OSE helpline](#)
- Non-descriptive email link: Email the OSE helpline at mde-ose@michigan.gov

Digital and Print Documents

When information is intended for use in both digital and print format and contains a hyperlink, the URL or email address should be included after the descriptive hyperlink text.

Use the following format for adding descriptive hyperlink text along with the URL:

- [OSE website](#) (<http://www.michigan.gov/ose-eis>)

Note: If the full URL in the above example is an active link, the accessibility checker will return a warning that unclear hyperlink text is present. To avoid the warning, it is best practice to include the full URL as text and not an active link.

How to Add a Hyperlink

To insert a hyperlink, perform the following steps:

1. Highlight the text that will become the active link or insert your cursor in the location where the hyperlink will be added.
2. Select the **Insert** tab from the menu bar.
3. Select **Hyperlink** from the menu options (Figure 19).
4. Select **Existing File or Web Page** under **Link To**.
5. Confirm the appropriate text is displayed in the **Text to Display** field.
6. Type the full URL in the **Address** field (<http://www.sample.com>).
7. Click **OK** to finish.

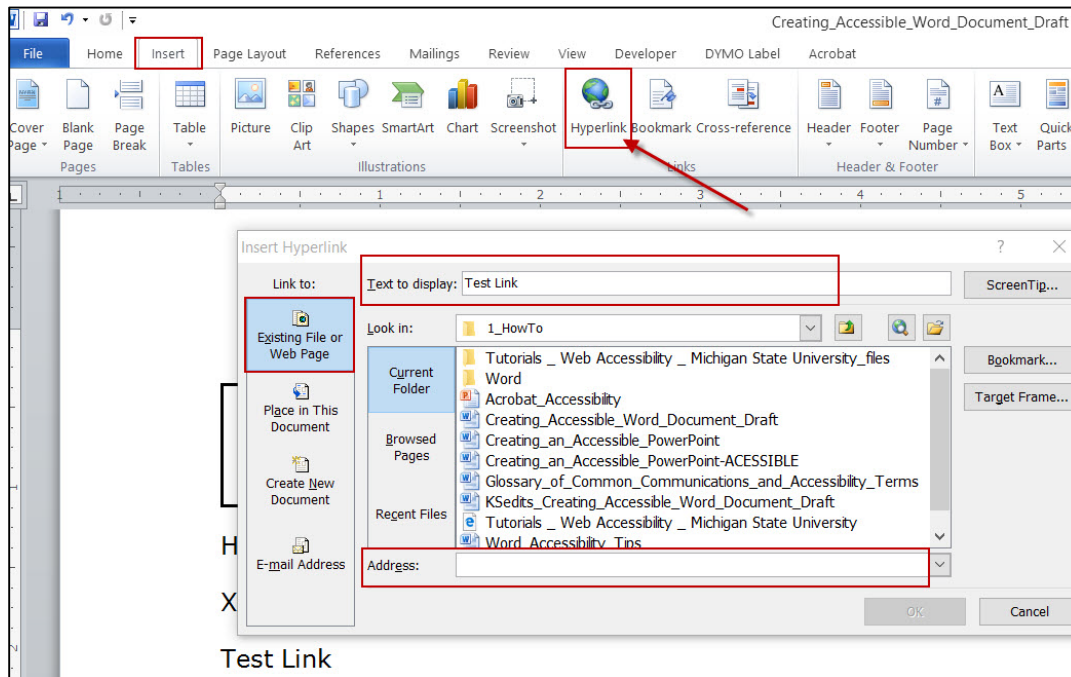


Figure 19. Insert hyperlink menu.

How to Add an Email Link

To insert an email link, perform the following steps:

1. Highlight the text that will become the email link or insert your cursor in the location where the email link will be added.
2. Select the **Insert** tab from the menu bar.
3. Select **Hyperlink** from the menu options (Figure 20).
4. Select **Email Address** under **Link To**.
5. Confirm the appropriate text is displayed in the **Text to Display** field.
6. Type the email address in the **Email Address** field.
7. Click **OK** to finish.

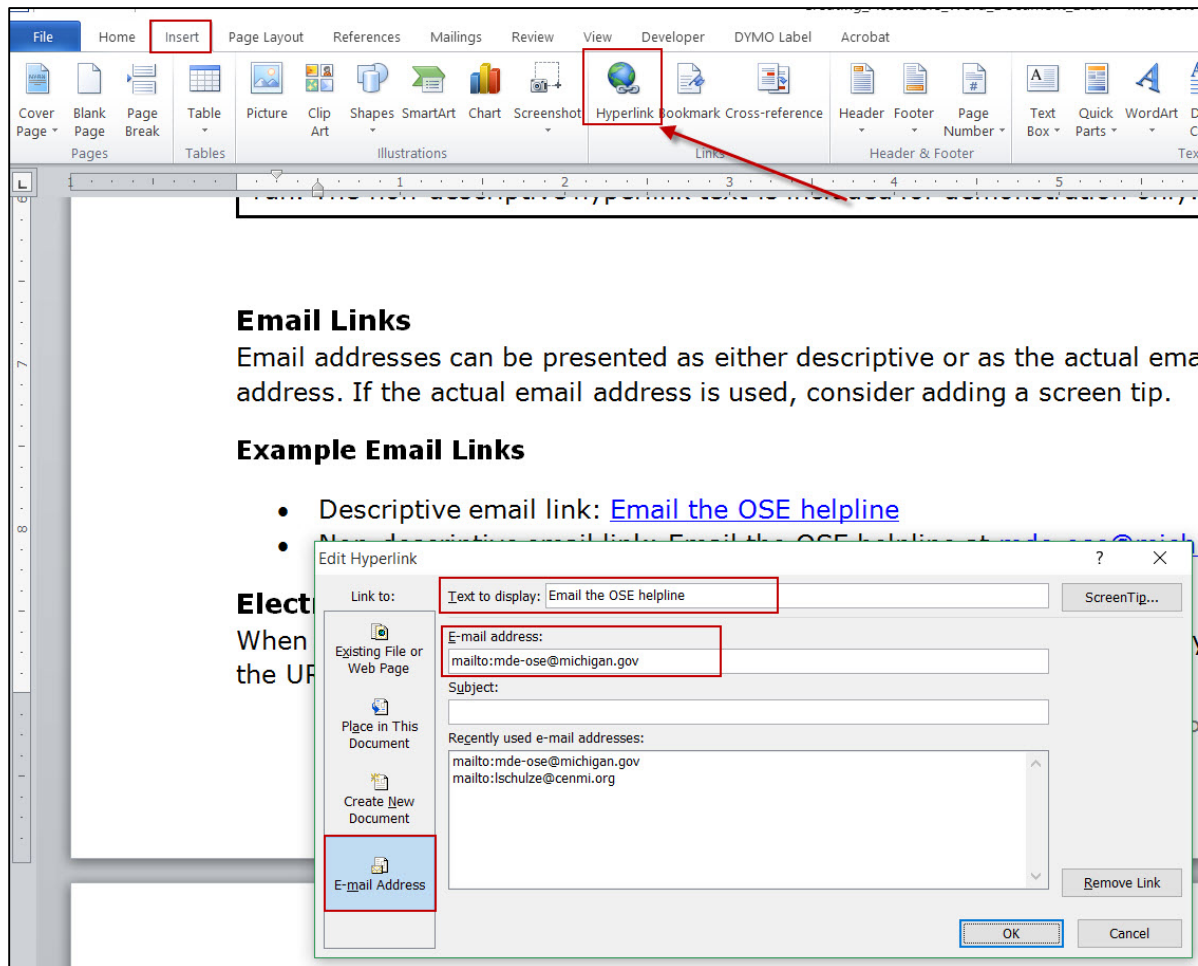


Figure 20. Insert email address menu.

Use Appropriate Fonts, Colors, & Contrast

Using an appropriate font and ensuring good color contrast are important when developing a document.

Sans serif fonts are generally recommended for their readability, ability for users to discern, and ability to be clearly magnified. Popular sans serif fonts include Arial, Calibri, Geneva, Helvetica, Tahoma, and Verdana.

Users with low vision and color blindness may have difficulty reading documents that do not present sufficient contrast and color difference between the background and foreground elements. Dark colors on a white background work best. Test color contrast by printing or viewing the document in grayscale. There are also a number of online tools for checking document contrast.

Use color only as an enhancement and not as the sole means of conveying information. If you want to use color to emphasize the importance of certain text, also use an alternative method; do not use color alone.

OSE Standard

The Michigan Department of Education standard font and size is Verdana, 11 point.

Check the Accessibility of the Document

Microsoft Word 2010 and later has a built-in accessibility checker. The checker provides information on issues within the document that should be reviewed and addressed. Prior to distributing a document or converting it to a PDF, run the accessibility checker to ensure the document does not have any errors or warnings.

The accessibility checker will not flag all issues, so it is important to understand the appropriate way to create a document. For example, the checker will not provide an alert if character formatting was used to create bold text instead of applying the character style of strong ([see character styles on page 10](#)).

The checker provides three levels of alerts:

1. **Errors** – Content that makes a document difficult or impossible for people with disabilities to understand. Errors **MUST** be corrected.
2. **Warnings** – Content, that in most, but not all, cases makes a document difficult for people with disabilities to understand. Warnings should be looked at and addressed, if possible.
3. **Tips** – Content that people with disabilities can understand, but that might be better organized or presented in a way that would improve their

experience. Tips should be reviewed to determine if the information can be presented in another manner.

Note: It is best practice to make the source document as accessible as possible before converting it to another format, such as Adobe Acrobat PDF.

How to Run the Accessibility Checker

To run the accessibility checker, perform the following steps:

1. Select the **File** tab from the menu bar.
2. Select **Check for Issues** under the **Prepare for Sharing** heading and choose, **Check Accessibility** (Figure 21).

The results of the accessibility checker will display in a new pane on the right side of the screen (Figure 22).

Selecting any of the errors, warnings, or tips will take you to the location in the document where the issue exists. After fixing an issue it will disappear from the list of results. Selecting an issue from the accessibility checker pane will also display additional information about why the issue should be fixed and how to fix it.

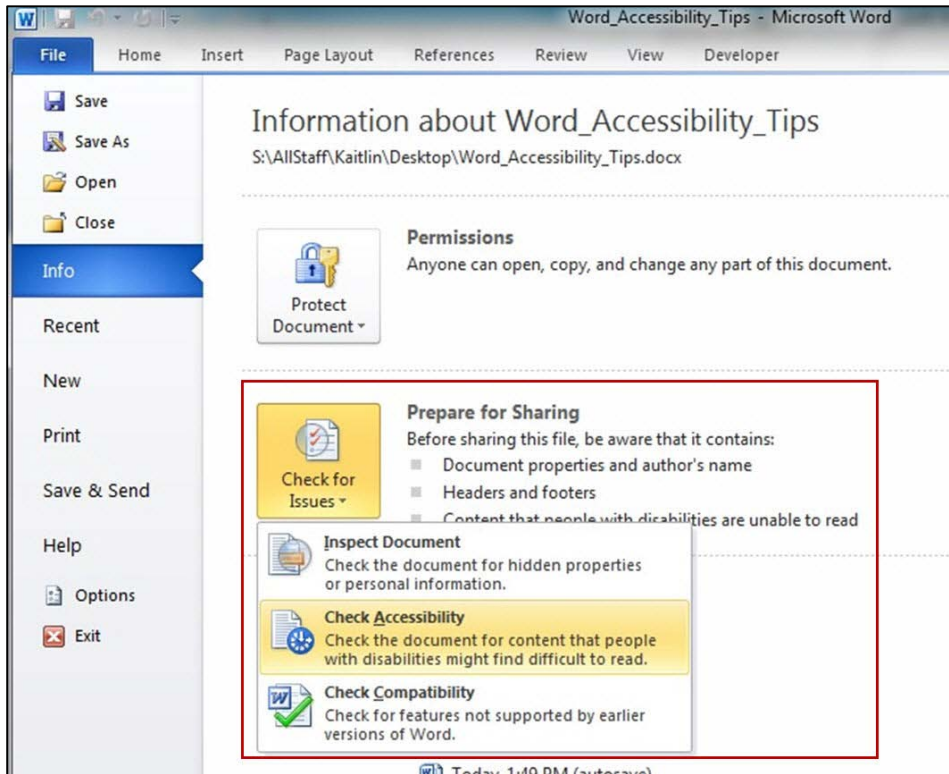


Figure 21. Check accessibility menu.

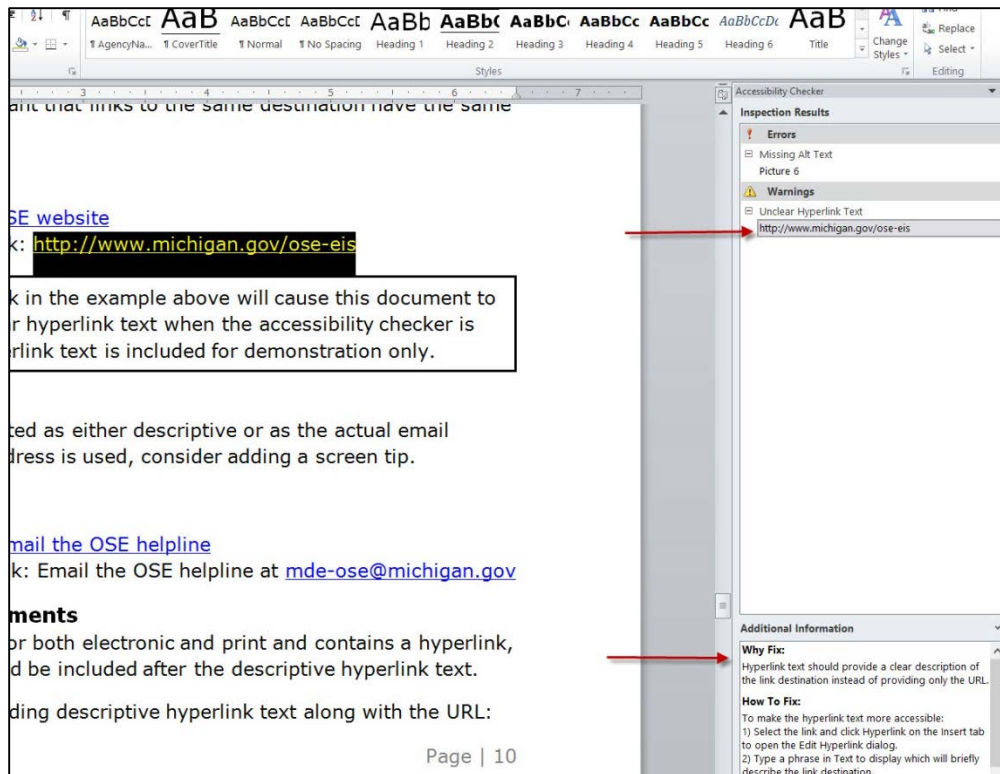


Figure 22. Accessibility checker inspection results.

Create a PDF

There is more than one way to create a PDF from a Word document, but setting the appropriate options is essential to achieving the best result. An accessible PDF document is often called a **Tagged PDF** because it includes **Tags** that encode structural information required for accessibility.

How to Create a PDF

If you have the full version of Adobe Acrobat installed on your computer, an Acrobat tab (Figure 23) will be visible on the menu ribbon. This Adobe Acrobat add-in produces a better tagged and accessible PDF.

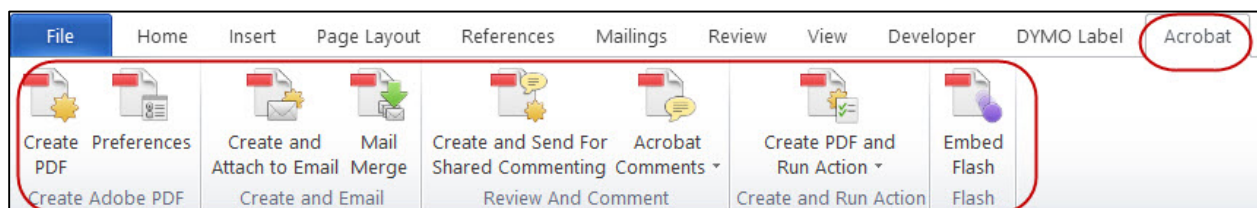


Figure 23. Acrobat menu tab.

To create a PDF from the Acrobat add-in, perform the following steps:

1. Select the **Acrobat** tab from the menu bar.
2. Select the **Preferences** option.
3. Review the **Application Settings** in the **Acrobat PDF Maker** dialogue box (Figure 24) and make sure there is a check mark next to the following options:
4. Create bookmarks
5. Add links
6. Enable accessibility and reflow with tagged Adobe PDF
7. Click **OK**.
8. From the **Acrobat** tab, select **Create PDF**.
9. Choose the location where the file should be saved.
10. Click **Save** to finish.

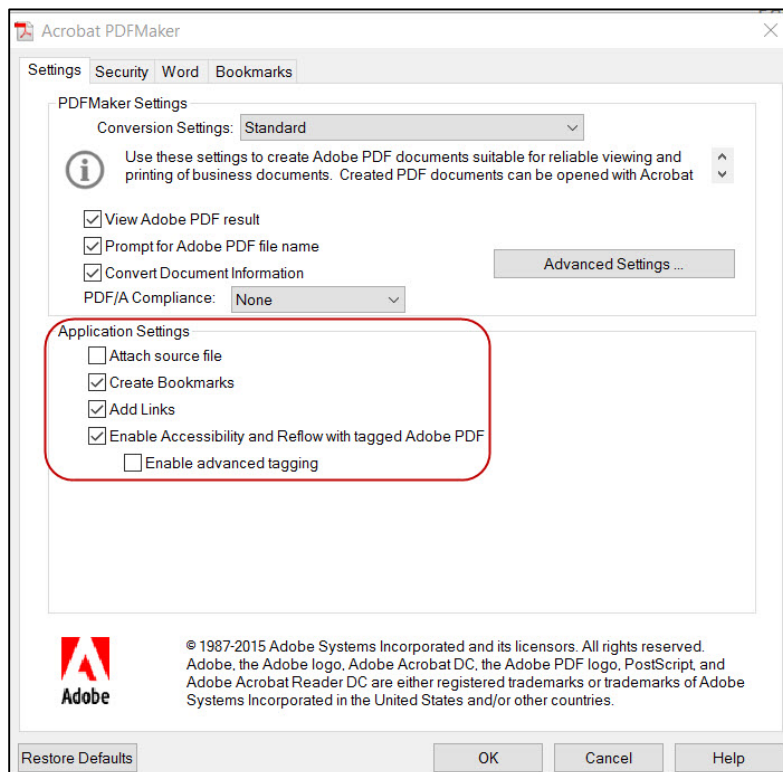


Figure 24. Acrobat PDF Maker dialogue box.

To create a PDF from the Word add-in, perform the following steps:

1. Select the **File** tab from the menu bar.
2. Select **Save As**.
3. Choose the location where the file should be saved.
4. Click the drop-down arrow for the **Save as Type** and select **PDF**.
5. Click the **Options** button.
6. Check **Create bookmarks using** and select the radio button next to **Headings** (Figure 25). **NOTE:** This option will be grayed out if no headings are present in the document.
7. Check **Document structure tags for accessibility**
8. Click **OK**.
9. Click **Save** to finish.

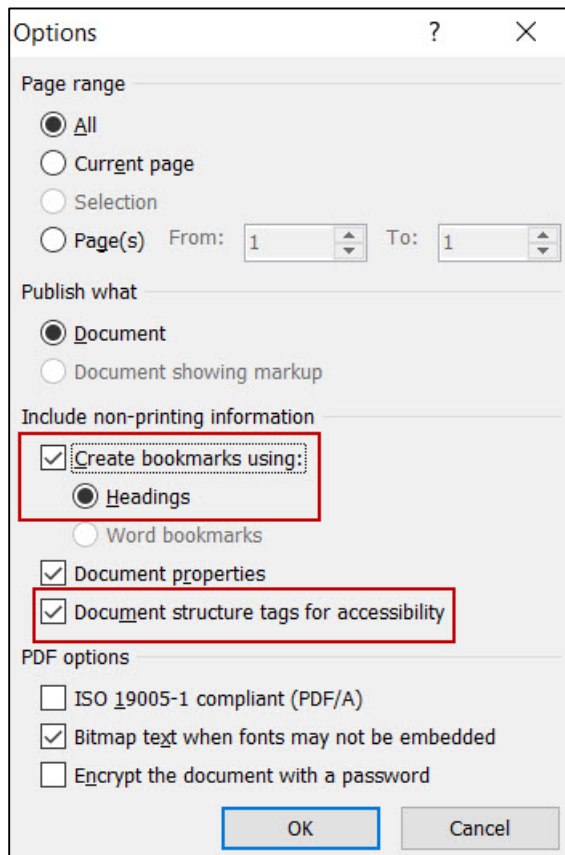


Figure 25. Acrobat PDF options.

Note: 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.