Creating Large Print Using Microsoft Word

and

VBA Macros

User Guide Version 3.5b

For Large Print Template
and
VBA Macros Versions 1.7

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Template and Macros by Jerry Whittaker

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Table of Contents

(**Note:** If you are reading this document using a PDF reader, the items in this table of contents are hyperlinked. Click the table of contents item to move directly to the topic. Use Alt+Left-Arrow to return to the table of contents. Alternating Alt+Left-Arrow with Alt+Right-Arrow will move between the two locations.)

About this User Guide 1

Overview and System Requirements 2

System Requirements 2

What is Large Print? 2

What is a Template? 2

What are VBA Macros? 2

Accessibility 3

Downloading for Installation 3

Checking for Updates 4

Configuring Microsoft Word for Large Print Production 4

Image Settings 4

Checking Image Resolution when Saving a File 6

Scanned Images 6

Images and File Conversion Programs 6

Setting Word's Trust Center/Macro Settings 7

Turning off the Windows Multi-Item Clipboard 7

Compatibility Mode 8

Setting Word's Default File Type 8

Setting Word's Quick Access Tool Bar Command Label Display 9

Configuring Word for Use with EquatIO 10

Setting the Look of Equations in Word 12

Fixing Equation Views 12

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Guide to a Sequence of Activities for Creating and Formatting a Large Print Document 13

Attach LP Template & Select Output Media **13**

Clean-Up and Formatting **13**

Guide to the Quick Access Toolbar (QAT) 15

QAT Screen Position **15**

Function of Each of the QAT Icons **15**

Modifying the QAT **18**

Restoring QAT Icons **18**

Guide to the Large Print Template Styles 20

Overview of the Large Print Styles **20**

The Details of the Large Print Styles **22**

Un-Grouped Styles **23**

Clear All 23

1 point (a paragraph style) 23

Normal (a paragraph and character style) 23

Lists (a paragraph style) **23**

Text in Color (a character style) **24**

Headings (paragraph and character styles) **24**

Boxes (a paragraph style) **24**

Box Black 25

Box Blue 25

Box Red 25

Adjacent Boxes 26

Removing Boxes 26

Words with Color Background (a character style) **26**

Paragraph Background Colors (a paragraph style) **27**

Table of Contents (TOC) (a paragraph style) **27**

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Shortcut Keys for Applying Large Print Styles **28**

Alternative Methods for Applying Styles **30**

Selection of Styles from the Home Tab Styles Gallery 31

Adding the Styles Gallery to the QAT 31

Using the Properties Formatting Menu 32

Guide to the Large Print Macros 33

The Large Print Tab Ribbon **33**

Attach Group 33

File Cleanup Group 43

Reference Page Numbers Group 45

Other Formatting Tools Group 46

DAISY, NIMAS and Text Tools Group 55

Help Group 56

Guide to Special Formatting Procedures 57

Formatting and Boxing Automatic Lists **57**

Indention Problems with Large Fonts 57

Boxing Automatic Lists 58

Supplement: Required United States Copyright Law Notification 63

Supplement: Creating Word Files from NIMAS and DAISY Files 64

The Content of the NIMAS File Set 64

The Content of the DAISY File Set 64

Procedures for Extracting Text from NIMAS and DAISY Files 65

Managing Large Documents **67**

Viewing the Structure of a Book 67

Breaking the Book into Manageable Sections. 68

Dealing with Image Size Problems **71**

Image issues for large print on paper 71

Image issues for large print on screen devices 72

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Dealing with Graphic Organizers 72
Making Tables Readable 75
Identifying Table Types 75
Tables Used for Formatting 76
What to Do When Tables Do Not Fit Within the Document Margins 77
Preparing Tables Prior to Conversion by Rotation or List Macros 77
Table Rotation 81
Converting a Table into a List 86
Table Disassembly 90
Reducing the Font Size of Tables for Tablets and Computer Screens 91
Fixing Tables That Break Across Pages 92
Creating Table Columns with Decimal Alignment 94
Converting Tables Used for Column Formatting 96
Creating a New Table in an Existing Large Print Document 98
Page Numbers 99
What is a Page Number in Large Print? 99
Page Numbering Choices 99
Adding Physical Page Numbers to a Large Print Document 100
How to Find, Tag, Validate, and Format Reference Page Numbers 103
Page Breaks: Why and How to Use Them 109
How Do Page Breaks Work? 109
Dealing with Hyperlinks 113
Types of Hyperlinks 113
Anatomy of Hyperlinks 113
Editing the hyperlink 114
Repairing Hidden Hyperlinks and Non-Linked Addresses 115
Fixing DAISY and NIMAS Bulleted Internal Hyperlinked Lists 115
Math 116
Spatial Math vs Linear math 116

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Entering Spatial Math 116
Entering Simple Linear Math 116
Using Word's Equation Editor to Produce Math Equations 117
Using Math Images Are a Problem 117
Using EquatIO to Convert Images of Equations 117
Using MathType to Produce Math Equations 117
Configuring MathType 118
Using MathType to Convert Word's OMML Equations Into MathType Equations 120
Building a Table of Contents Using Word's Automatic Table of Contents Builder 121
Finalizing and Publishing the Document 125
Saving the Large Print Document as a PDF File 125
Transferring PDF Files to Pad Devices 125
Additional Information for Inclusion following the Publisher's Copyright 127
Supplement: A Method for Capturing Mathematical Equations and Chemical Formulas Using Abbyy, Word, EquatIO, and MathType 128
Supplement: What To Do When the Large Print Macros Will Not Run 133
Supplement: Producing Large Print with Fonts Specifically for Low Vision 135
Supplement: Luminosity of Text in the Large Print Template 136
Contrast Ratios of Color Text on White and Black Backgrounds 137
Contrast Ratios of Black Text on Color Backgrounds 137

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Creating Large Print Using Microsoft Word and VBA Macros

About this User Guide

This User Guide contains detailed information about the large print template and macros and how to use them. It is organized into several guides explaining the quick access toolbar (QAT), the large print template, the large print macros, and detailed discussions and examples of procedures for creating quality large print documents.

An PDF of this User Guide can be found in the installation package in the folder labeled "**User Guides**"

Look for the butterfly in this guide. The butterfly indicates that a video is available for viewing and/or a practice file is available for download for this topic.

To access the links to videos and/or practice files, click the butterfly icon in the Help group at the right of the Large Print ribbon. The macro associated with the icon will open an internet PDF which contains all links organized by topic.

External and Internal Hyperlinks

This document contains two distinctively colored types of hyperlinks.

1. Green Links are used for email addresses and internet links They look like this:
   https://en.wikipedia.org/wiki/Main_Page
   or
   https://tinyurl.com/76rm4vf

   Frequently a shortened link is provided which can be typed into a web browser's address bar.

2. Dark blue links are internal to this document. These links allow you to explore more detailed in formation about a subject. They look like this: ***External and Internal Hyperlinks***

Using the External and Internal Hyperlinks

1. The external hyperlinks require connection to the internet. Just click them to view the on-line content. When finished, close the web browser to return to the user guides.

2. The internal hyperlinks are useable only when this document if view within a PDF viewer. No internet connection is required.

Here is how to use the internal hyperlinks

a. Click on the link to move to the link's location.

b. After reading the linked information, use Alt+Left-Arrow to return to link which was clicked

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If you find that any demonstration video or demonstration file links which fail, please notify me. Also please report problems with the template and macros in some detail along with a snippet of the file where the failure occurred, when possible, to **jerry@thewhittakers.org**.

Overview and System Requirements

This document contains information about a Microsoft Word Template and macros designed to produce large print in a variety of font sizes for both paper and electronic media to meet the unique needs of a wide range of low-vision readers. It also describes the use of a set of automation macros to assist the user in producing those documents.

System Requirements

- A PC running Windows version 8 or higher
- Microsoft Word versions, 2013, 2016, 2019, 2021 or 365 (local installation only)
- MathType for producing advanced math or a combination of MathType and EquatIO
- Some operations may require the use of image editing software
- Some operations may require the use of Microsoft Excel

What is Large Print?

Technically speaking, large print means ink (or toner) printed on paper while text shown on a device (computer or pad device) screen is referred to as "electronic text." For the purposes of this document, the term "large print" will refer to both ink on paper and electronic text. Both are created using the same processes with a few variations in formatting.

What is a Template?

Most Microsoft Word users are unaware that every Word document is born with an attached style template which controls how a document looks on a page. Most users use tools on the *Home* tab ribbon to make changes in font sizes, color and placement on the page. Since these users have never turned on the *Styles Pane* or paid much attention to the style selections on the *Home* tab ribbon, they remain unaware of the power of templates and the styles they contain.

Template styles control the size, and spacing of fonts, the font/character attributes (color, bold, italic etc.) and the spacing and configuration of paragraphs. This system uses only a single template but that template is configured by macros to meet the font size and media needs of the user.

What are VBA Macros?

Macros have been an available feature of Microsoft Office applications for many, many, years. Few Word users know about them and even fewer feel comfortable experimenting with them. The macros are written in Visual Basic for Applications (VBA), a built-in macro language in Microsoft Office applications.

VBA macros are powerful tools which enable the automation of frequently used text manipulation techniques. Think of them as little programs which work within Microsoft Word to automate formatting tasks thereby saving time and easing work-loads. Operations which might take many minutes or hours are reduced to seconds by using macros.

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Accessibility

By definition, readers of large print are individuals with useable sight and are able to benefit from reading the enhanced print created by this software. Large print, printed on paper, when produced in the size needed by the reader, will be accessible. In recognition of reader fatigue, where text to speech or other auditory formats might be a desirable feature, paper-based documents provide no resolution for this need.

While this software is capable of producing PDF files for reading on tablets or computer screens, it does not produce truly accessible documents. While the text is readable by screen readers and while Word supports Alt-Text for pictures (images), Word does not support indicators for the structural elements of tables. For fully accessible documents, editing the PDF with Adobe Acrobat Professional or similar tools is recommended.

Paper Vs Screens
Editing a large print document for paper can be difficult, tedious, and time-consuming when there are many pictures, graphs, charts and tables. The size of paper is the constraining factor. Because the text in tables is large, tables will often have cells with wrapped text which break in the middle of words in order to fit inside table cells making them unreadable. Images, too, present problems when they need to be enlarged to be read by readers, or when enlarged, they will no longer fit within the margins.

Macros in the software provide solutions for some table problems but may introduce additional problems for the reader when they have been converted to a list format. Images may require division when enlargement is insufficient and images such as maps may have no suitable solutions.

Screens, on tablets or computers, offer the ability, for the reader to zoom in and pan and scan the image or table… a reader controlled accessibly solution. The document need only be edited so that the table or image will fit on the screen in its non-zoomed state. Editing pictures and tables will require no tedious operations.

Math
Linear mathematics produced by MathType will be readable by screen readers only if the screen reader supports MathML coding. Elementary math (addition, subtraction, multiplication, and division) presented as images will not be readable by screen readers.

Downloading for Installation

To download the installation file package, type the following address into your web browser to access an informational document. **https://bit.ly/2nwx4lS** The document contains web links and instructions for downloading the installation package. You do not need to download the document as the web links it contains will work directly from your web browser.

The installation package contains both a written description and a video to guide you through installation. Installation takes less than 5 minutes.

Installation Changes to the Word Tabs and Quick Access Toolbar
The installation will add new tabs to Word's ribbon menu system. The order of appearance of your current tabs will likely change. This can be remedied by selecting Word's *File/Options/Customize Ribbon* tools. There you can arrange the order of the tabs on the ribbon menu.

The installation will also replace your current *Quick Access Toolbar* (QAT). Many of the icons which appear on the *Quick Access Tool Bar* are part of the available set of controls provided within Word. A number of the icons invoke macros unique to large print operations. (See the QAT images in the next section)

If your current QAT contains selections from Word's ribbon menus or other built-in operators in Word, these will need to be added again. If your current QAT contains links to personal macros which have been added to your

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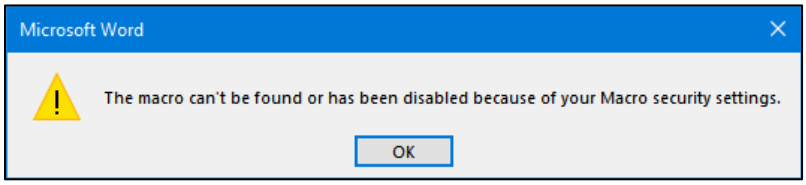
QAT, these too, will need to be added again. Changes to the QAT can be made by clicking menu button on the right end of Quick Access Toolbar or by selecting the *Options* menu of Word's *File* tab.

Known Installation Issues

- Installation on network systems which replace folders when the user logs out may cause the Quick Access Tool bar, Word tabs and ribbons to disappear. Network problems can usually be corrected by the network administrator.
- Occasionally installations of the Large Print and Braille Macros will not run. The condition is often accompanied by the following Word error message.



For further information on correcting this issue see*: **Supplement: What to Do When the Large Print Macros Will Not Run***

Checking for Updates

The version of the Large Print Template and Macros installed on your computer can be viewed by running the ***Version & Updates*** macro in the *Help* group of the *Large Print tab ribbon*. This screen will identify the currently installed version of the large print template and macros. Make note of the version and date for comparison with the currently available on-line version.

Downloading a Newer Version of the Large Print Template and Macros

A button at the bottom of the **Version & Updates** dialog box will connect, via the internet, to a document which will show the most recent version of the macros and template, or use this address in your web browser: **https://bit.ly/2nwx4lS**

The document contains web links and instructions for downloading the installation package. You do not need to download this document as the web links will work directly from your web browser.

The downloaded installation package contains all of the information needed to install the newer version.

Configuring Microsoft Word for Large Print Production

Almost all needed settings for Microsoft Word are handled automatically by the large print macros. There are only a few which need to be manually set.

Image Settings

To reduce file output size, Word, by default, compresses the size of images which also reduces their resolution. The resolution of images is typically measured in dots per inch (dpi) or pixels per inch (ppi).

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This reduction will adversely affect the image quality when images are enlarged to meet reader needs especially on electronic devices where a zoom feature is used to access the image.

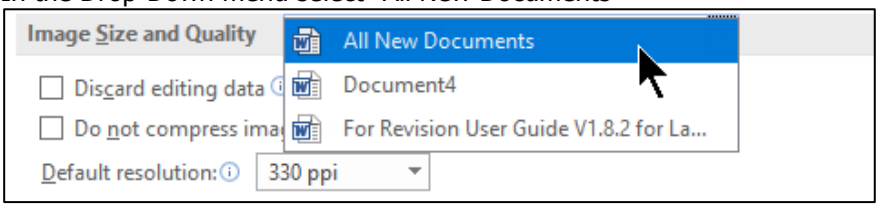
A minimum image resolution of 300 dpi will usually produce satisfactory results when images are enlarged. Both DAISY and NIMAS files provide images with a minimum 300 dpi resolution, however, Word's default settings reduce the image output resolution to 220 dpi or less.

Keep in mind that the resolution of the output image can never be better than that of the original image in the file unless an image up-scaler used. Up-Scaling can be accomplished using GIMP, Adobe Photo Shop or on-line services. See the section **Scanned Images** below.

To change Word's image resolution settings, do the following:

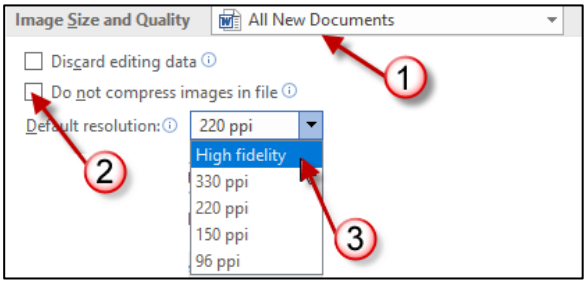
1. Select Word's File Tab
2. Select "Options" from the menu on the left of the screen
3. On the "Word Options" dialog, select "Advanced" from the menu on the left of the dialog.
4. Scroll down to the section called "Image Size and Quality"

In the Drop-Down menu select "All New Documents"



In the drop-down menu labeled "Default resolution", select a resolution larger than 300 dpi (resolution selections may vary depending the version of Word) **or** (preferred) check the box labeled "Do not compress images in file".

When the "Default resolution" is less than the resolution of an image, the output image resolution will be reduced to the "default" resolution setting. When "Do not compress images" is selected, image resolutions will remain unchanged.



Click the OK button to save the settings

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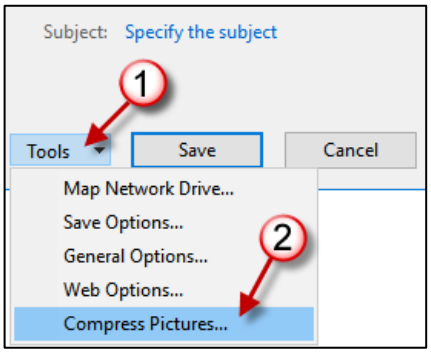
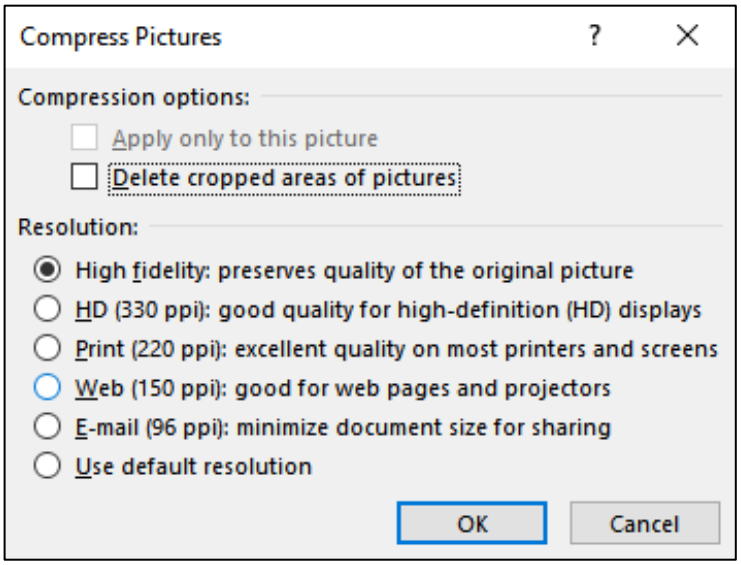
Checking Image Resolution when Saving a File

Word provides a method for specifying or verifying image resolutions when saving a file. In the file save dialog, select "Tools" followed by the "Compress Pictures" option.



The "Compress Pictures" dialog will show the current settings for image resolution and will permit changes in resolution of the images in the saved file. Do **NOT** select "Delete cropped areas of pictures as this may limit re-use of the file or other media or font sizes.



Scanned Images

If pages of text and images are scanned, the minimum setting for the scanner should be 600 dpi. Images from many electronic sources are only available at 300, while this resolution is useable, picture quality may degrade when enlarged.

Images and File Conversion Programs

If you are using a file conversion program such as Dolphin's *Easy File Converter* to convert DAISY or NIMAS files into Word files, be sure that Dolphin's image output is set to a resolution of 300 dpi or higher in order to assure image quality.

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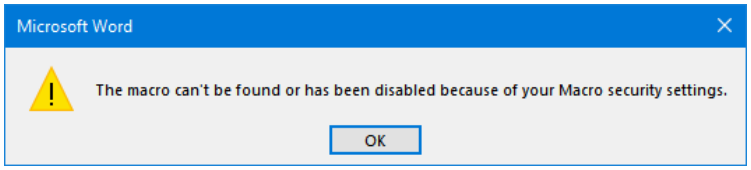
Setting Word's Trust Center/Macro Settings

The Macro Settings (viewable by opening **Options/Trust Center/Trust Center Settings/Macro Settings)** need to be changed to **Disable all macros except digitally signed macros**.

Because the Large Print macros are placed in a "Trusted" location, this setting will work on most installations.

Macros in Word are sometimes prevented from running because of other settings. When that happens, the following message will appear.

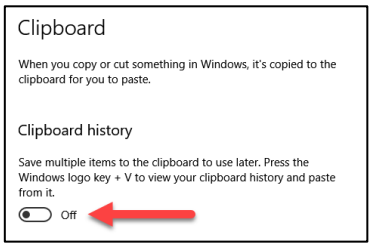


More information about correcting this issue can be found in the section called **Supplement: What to Do When the Large Print Macros Will Not Run**

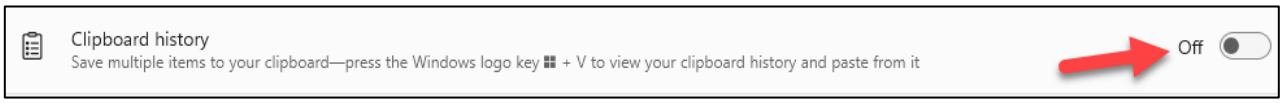
Turning off the Windows Multi-Item Clipboard

Windows 10 introduced the use of a system-wide multi-item clipboard similar to the multi-item clipboard in Microsoft Word. If turned on, the, Windows Clipboard **will** cause certain large print macros to malfunction.

To turn off the Windows Clipboard go to **Settings** and search for **Clipboard Settings.**



Clipboard Settings as shown in Windows 10



Clipboard Settings as shown in Windows 11

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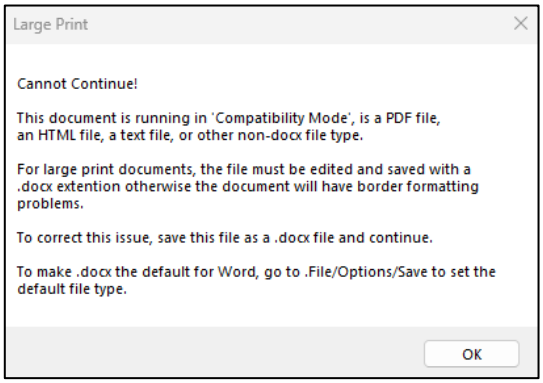
Compatibility Mode

While the recommended file type (extension) for Word is .docx, Word will recognize and open files with the older .doc file extension but will do so in what is known as "compatibility mode". The mode setting is easily recognized by looking at the very top line on Word's window (example below).

My Document.doc [Compatibility Mode] - Word

Compatibility Mode is not compatible with some styles in the large print template. In Compatibility Mode, styles with borders (such as boxes, paragraph colors and tables) will appear with their borders outside of the right and left margins of the page. For this reason**, all large print documents must be produced, edited, and saved using the .docx file format**.

Editing of a large print document opened in Word (in compatibility mode) will be blocked until the document is saved in .docx format. The following message will be displayed.



As the message indicates, simply go to Word's file menu and do a "Save As" while specifying the file type as .docx. To prevent this problem in the future, see the topic "Setting Words Default File Type" below.

Setting Word's Default File Type

To make sure that there are no further problems with compatibility mode, be sure to set Word's default file type to .docx.

To make that setting, go to Word's *File* tab and select *Options*. In the options menu, select *Save* and use the drop-down menu to select .docx as the default file type.

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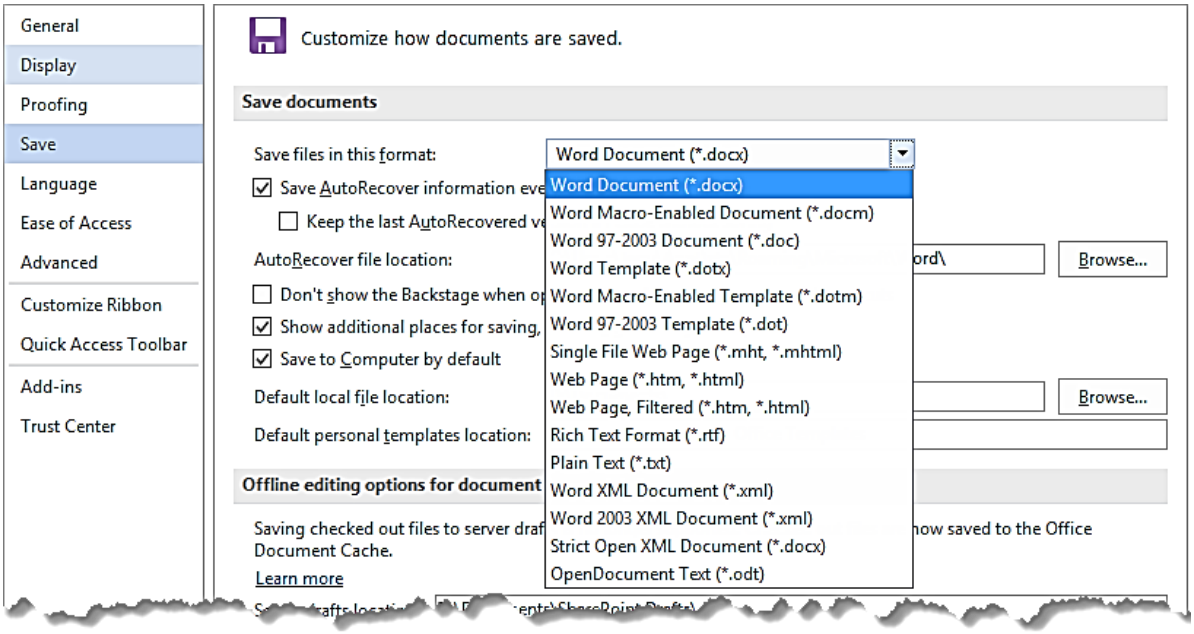
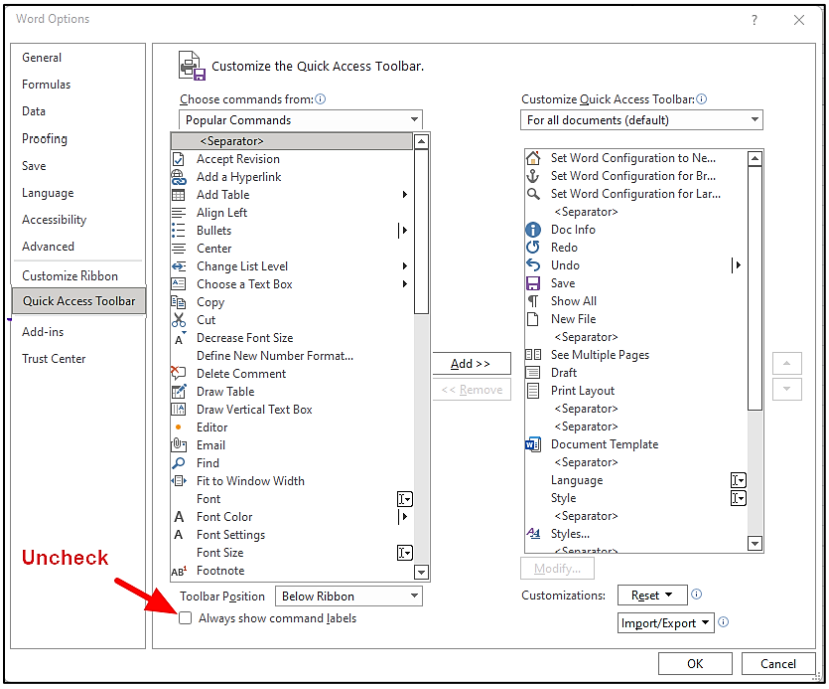


Setting Word's Quick Access Tool Bar Command Label Display

This setting applies to Word 2021 and later.

If icons in the Quick Access Toolbar are each followed by their command label, a setting to turn off this feature should be changed to display icons only. To make that setting, go to Word's *File* tab and select *Options*. In the options menu, select *Quick Assess Toolbar* and uncheck the box labeled *Always show command labels*.



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Configuring Word for Use with EquatIO

EquatIO is an equation OCR program capable for converting image and text-based equations into MathML. EquatIO must be used in conjunction with MathType.

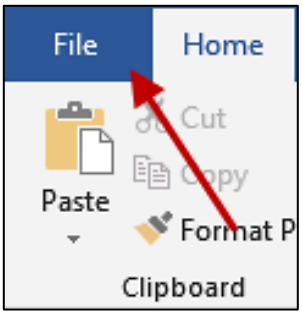
Web link for EquatIO is **https://www.texthelp.com/en-us/**
Web link for MathType is **https://www.dessci.com/en/**

For a detailed instructions on using EquatIO with Abbyy FineReader OCR see: **Supplement: A Method for Capturing Mathematical Equations and Chemical Formulas Using Abbyy, Word, EquatIO, and MathType**

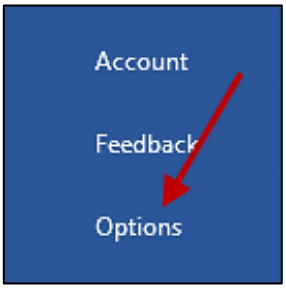
EquatIO produces a scalable image compatible with the large print template. There are two critical settings which are needed to properly view the math equations created by EquatIO.

To make those settings do the following:

1. Select Word's "File" tab.



2. In the file menu, find and select the "Options" button.



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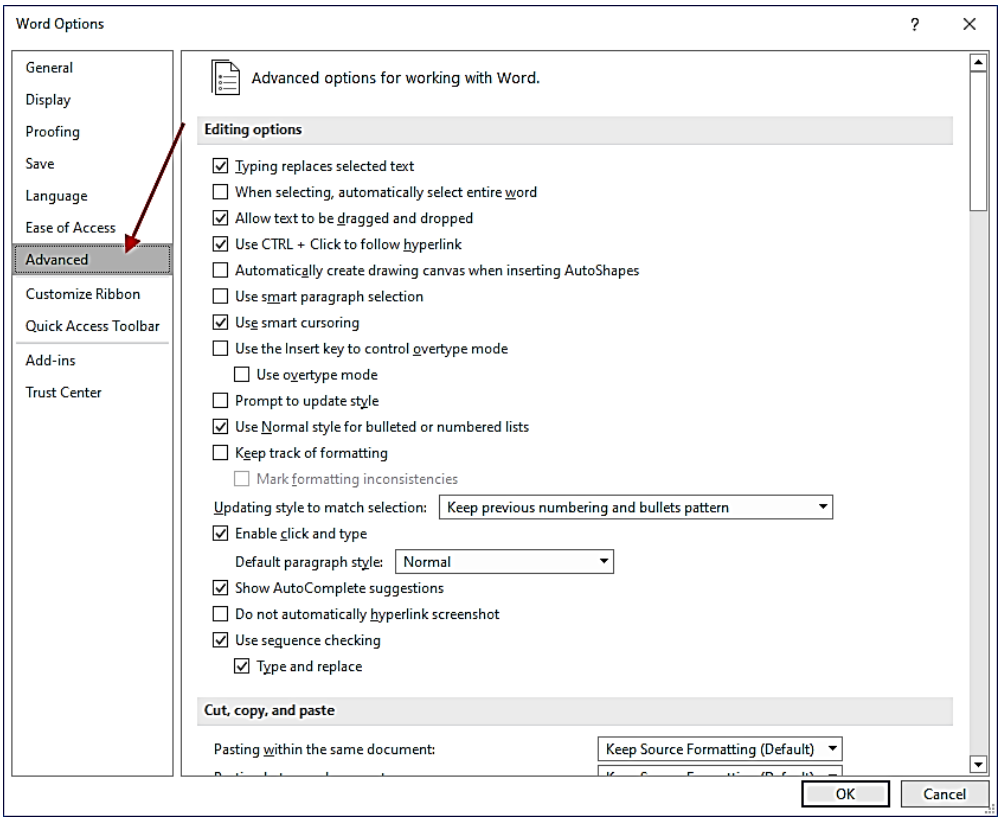
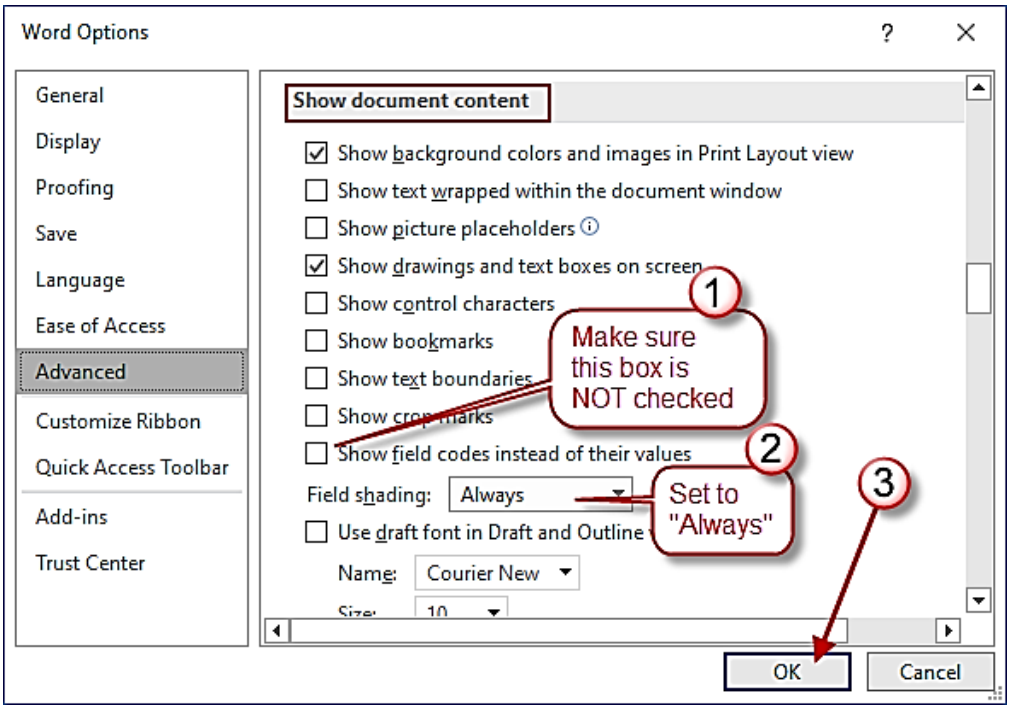
3. In the "Word Options" dialog box menu, select "Advanced"



4. Scroll down in the "Word Options" dialog box to find the area called "Show document content" and follow the steps below.



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Setting the Look of Equations in Word

1. If, after converting the text-based or image-based equation with EquatIO, an equation looks like this…

   { EMBED Equation.DSMT4 }

   instead of looking like this…

   $$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

   then the problem is that the "Show field codes instead of their values" check-box (shown in the settings example above) is checked and you are seeing the "field code" rather than the equation.

2. If you see the MathML equation without a gray background, like this...

   $$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

   Rather than this…

   $$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

   then the problem is that the "Field shading" selection (shown in the settings example above) is not set to "Always".

Fixing Equation Views

1. Equations which do not appear with a gray background are not "fields" and are not encoded with MathML. Showing the gray background is a quick indicator that equation conversion from text-based math or image based-math into MathML has been done.

2. Double clicking the MathML equation will cause it to become cross-hatched like this…

   $$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

   Double clicking the MathML equation will send it to MathType for further editing and the MathType editor should appear on the screen. The cross-hatching will disappear when the equation is replaced in the document by MathType.

3. The view of the MathML equation can be toggled between the "field code" view and the MathML equation view by pressing Alt+F9.

4. The size of the MathML equation can be adjusted by clicking on the equation and dragging the corner handles. While size may not be important in the production of braille, producers of large print will need to take advantage of this feature.

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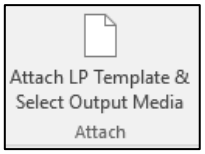
Guide to a Sequence of Activities for Creating and Formatting a Large Print Document

Attach LP Template & Select Output Media

A large print document is created by attaching a large print template to a new blank document or to an existing document from a variety of sources.

Template attachment is done by using the ***Attach LP Template & Select Output Media*** macro at the left side of the Large Print tab ribbon.



For detailed information follow this link: ***Attach LP Template & Select Output Media***
or see ***Guide to the Large Print Macros/The Large Print Tab Ribbon/Attach Group/Attach LP Template & Select Output Media***.

Clean-Up and Formatting

1. Run the ***File Cleanup Sequence*** macro. This is the first step following the large print template attachment to a pre-existing, non-large print file. From the menu, run the **Fix Common File Errors** macro and the Delete Multiple Paragraph Marks. See ***File Cleanup Sequence*** above.

2. Tag and validate the reference page numbers (see details above) followed by the macro for formatting reference page numbers. See ***Format Tagged Pg Numbers***

3. If the document is very large (e.g., a textbook from a DAISY or NIMAS file) split the book into smaller pieces for easier and faster formatting. From this point onward formatting would be done on separate sections of the book. See: ***Managing Large Documents***

4. Convert any tables which do not fit within the margins (to listed format or by using table rotation). See the section called ***Making Tables Readable*** .

5. Make sure that tables which break over page boundaries have repeated column headers. See: ***Fixing Tables That Break Across Pages***

6. Fix the decimal alignment of numeric table columns when needed. See: ***Creating Table Columns with Decimal Alignment***

7. Size and adjust images adding descriptions and/or repeat text contained in the images in large print. See ***Dealing with Image Size Problems***

8. Examine the file for errors which may need correction manually or by using macros in the ***Selected Cleanup*** menu.

9. If the document is targeted for paper, create the physical page numbers. This is an optional activity depending on how you wish to create tables of contents. See ***Page Numbers***

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10. Fix Hyperlinks if needed. See ***Dealing with Hyperlinks***

11. Spellcheck the document. The spellcheck icon can be added to the QAT from Word's **Review** Tab.

12. If the document was initially produced for double sided printing and the needs to turned into a single sided document, replace section breaks for single sided print documents using the ***Replace section breaks*** macro in the **Selected Cleanup** menu in the **File Cleanup** group of the **Large Print tab ribbon**.

13. If using Word's automatic Table of Contents feature, create a table of contents for the document or for volume if the book has been divided into volumes by chapters or units. See: ***Building a Table of Contents Using Word's Automatic Table of Contents Builder***

14. If output is for an electronic device, set page background color, table color, and image color if need by the user. See: ***Document Background***

15. Print the physical document on paper or export the file as a PDF for printing by the end user for or for transfer to a computer or tablet device for reading or. **DO NOT** use Word's file "Save As" to save the PDF file… it may not produce satisfactory results!

See: ***Finalizing and Publishing the Document***

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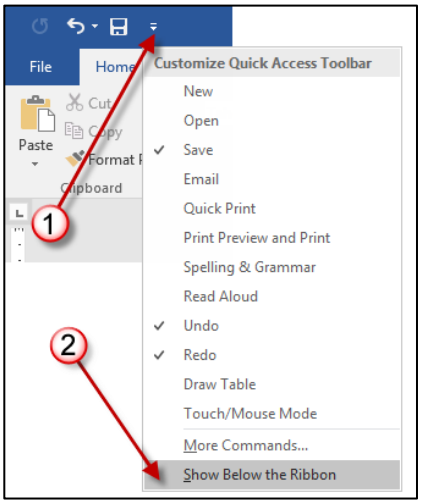
Guide to the Quick Access Toolbar (QAT)

QAT shown below in left and right halves.

Images vary with different versions of Word.

QAT Screen Position



The default position of the QAT is above the ribbon. It is strongly suggested that it be placed below the ribbon for easier and quicker access. Click the menu button at the right of the QAT (circle 1) then click Show Below the Ribbon (circle 2) at the bottom of the pop-up menu.

The image of the QAT shown above is before installation of the Large Print Template and Macros.

After installation of the Large Print Template and Macros, the menu button will still be at the right end of the QAT.

Function of Each of the QAT Icons

Note: The icons shown below will vary with Word versions but will be similar.

Redo Typing (same as typing Ctrl+Y). The icon changes to when redo can be executed. Some versions of Word may show both icons on the QAT

File Save (same as typing Ctrl+S)

House - This icon executes the *Set Word Configuration to New Installation Default* macro. It configures MS Word's settings to those establish when Word is first installed on the computer (the installation default configuration). It is suitable for general text editing but contains

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many settings which may not be desirable for formatting, typing, or editing a Word document for producing large print.

Anchor - This icon executes the *Set Word Configuration for Braille* macro which configures MS Word's settings to those recommended for formatting, typing and editing a Word document for braille.

Magnifying Glass - This icon executes the *Set Word Configuration for Large Print* macro which configures MS Word's settings to those recommended for formatting, typing and editing a large print Word document.

More Information on Use of the House, Anchor, and Magnifying Glass Icons

Users may freely change from one Word configuration to another at any time using the house, anchor, and magnifying glass icons, the three icons on the left of the QAT.

When more than one document is open in Word, each may have a different Word configuration. **Switching from one document to another will NOT change the Word configuration**. The last Word configuration set will remain in effect until changed by the user by selecting the House, Anchor or Magnifying Glass Icons. The current Word configuration and template can be seen by selecting the **Document Settings** icon on the QAT.

Opening a new (blank) document will set the configuration to the to the default Word configuration.

Document Settings – This executes a macro which informs the user of the document's currently attached template, Word configuration, the page size, the page orientation, and the page margin settings. **This macro has been assigned to a shortcut key: Alt+Ctrl+Shift+I**.

New Blank Document (same as typing Ctrl+N) – this also sets the Word configuration to the default Word configuration

Show/Hide non-printing characters (same as typing Ctrl+*). This will toggle between on and off states. In its on state, non-printing characters like spaces, tabs, paragraph marks, non-breaking spaces, optional hyphens, page and column breaks, and more can be seen on the screen. The on state is recommended for editing documents.

Multi Page View - Displays multiple pages on the screen.

Draft View (formerly known as Normal view) - Selecting this icon will place Word's screen into draft view. In draft view the paragraph style of the current location can be seen in a column on the left-hand side of the screen. Headers, footers and images (pictures) cannot be seen in draft view even though they remain part of the document. In addition, the boxed four-headed arrow (select entire table) at the upper left corner of tables cannot be seen or selected.

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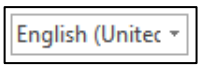
Document View - Selecting this icon will place Word's screen into a view that represents how the document will appear if printed on paper. Images, headers, tables, and footers are viewable in this view mode.

Show/Hide – Shows or hides non-printing characters on the screen. These include spaces, paragraph marks, page breaks and more. To enhance editing, it is recommended that this setting be set to "Show"



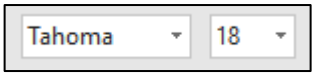
Language - This item displays the language of the character or word at the cursor. It also provides access to select other languages for the selected word or paragraph by using the down-pointed triangle.

Style - This item displays the current paragraph style or character style at the cursor location. Access to additional styles (using the down-pointing triangle) can be used to clarify the style name shown in the display or to change the style of the selected words or paragraphs.

AutoFormat Dialog - This is a built-in feature of Word which gives access to the *AutoFormat* settings. The settings can be changed and executed from the dialog box. The *AutoFormat* settings are configured for Large Print by a macro when the Large Print Template is attached or an existing large print file is opened.

AutoCorrect - This is a built-in feature of Word which gives access to the *AutoCorrect* settings dialog where changes can be made to the automatic corrections and auto correction features of word.

Styles (same as typing Alt+Ctrl+Shift+S) Selecting this icon will show or hide the styles pane. Styles showing in the pane are those of the template currently attached to the document and are used for formatting the document.



Font and Font Size – These are the same settings as found on the Home tab and are placed here for quick visual reference. It shows the current font and font size at the cursor location or can be used to change the selected font or font size of the currently selected text by using the down-pointing triangle.

No Space after this Paragraph (Toggle) This macro is handy for closing the white space between paragraphs. Place the cursor in the paragraph and run the macro. When used, the left margin of the first line of the paragraph will display a small black square. Clicking the icon a second time will reverse the status of the paragraph. It does not work on all paragraphs but will work on most of the large print styles. Before and after examples are shown below.

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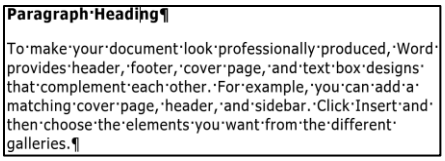

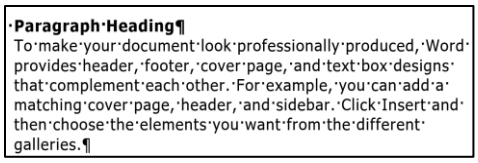

Keep Paragraph With Next Paragraph (Toggle)- This option will pin (glue) the current paragraph to the paragraph which follows it. If any line of the paragraph which follows move to the next page as text flows, the current paragraph will move with it. When used, the left margin of the first line of the paragraph will display a small black square. Clicking the icon a second time will reverse the status of the paragraph.

Move Para to Next Page (Toggle) This macro will force the current paragraph (the paragraph in which the cursor is located) to the top of the next page. It will work on any paragraph, table, or image. When used, the left margin of the first line of the paragraph will display a small black square. Clicking the icon a second time will reverse the status of the paragraph.

Do Not Split Paragraph Across Pages (Toggle) – This tool toggles the status of a paragraph which has broken (has been split) over a page boundary to a paragraph which will be unbroken on a single page. To use this built-in Word function, place the cursor in the target paragraph and click. When used, the left margin of the first line of the paragraph will display a small black square. Clicking the icon a second time will reverse the status of the paragraph.

Convert Paragraph to Title Case – This icon invokes a macro which will change the case of words in a paragraph. Each word in the paragraph will be capitalized except for words like: to, a, and, but, or, at, on, by, and many others. To use the macro, place the cursor in the paragraph and click the icon.

Change to Grayscale or Color – this macro will change color pictures to grayscale. It is especially useful for making color mathematics more readable. Select the picture before invoking the macro. This macro has be assigned the **shortcut key Alt+Ctrl+Shift+P,C**

Customize Quick Access Toolbar -Invokes a menu for editing Word's QAT, Ribbon Tabs and General Word Settings.

Modifying the QAT

Items on any Word Ribbon including custom ribbons like the Large Print Tab Ribbon can be added to the QAT" from a popup menu by right clicking on the item and selecting **Add to the Quick Access Toolbar**.

Restoring QAT Icons

The Quick Access Toolbar (QAT) contains a mixture of built-in Word functions and Large Print Macros. In the event that items on the QAT are removed a "back-up" tab named "LP and BRL QAT Icons" and its ribbon are available to assist in restoring them.

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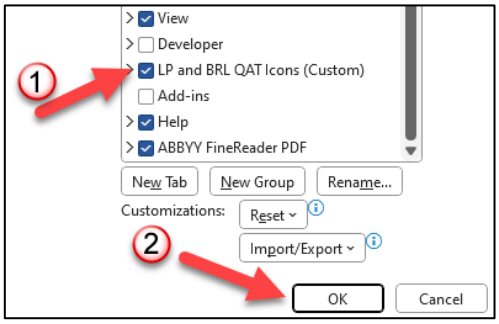
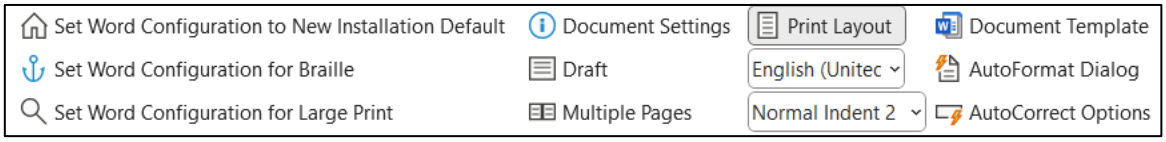
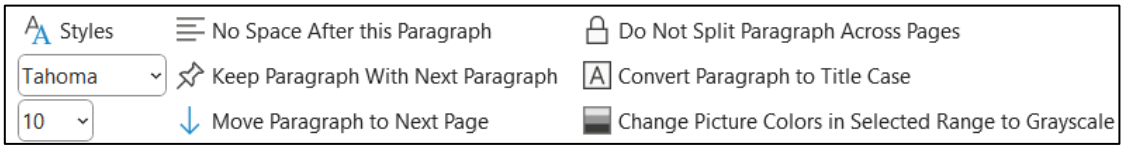
In order to make the LP and BRL QAT Icons tab and ribbon visible, go to **File/Options** and select **Customize Ribbon** on the left side menu. In the right-hand pane, locate the item called "LP and BRL QAT Icons (Custom)" and place a check mark in the box next to it (see picture below). Click the OK button and the tab will be added to the Word tabs.



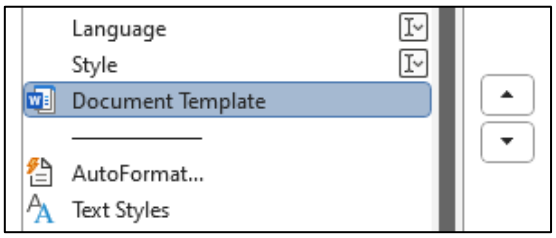
The left and right sides of the LP and BRL QAT Icons tab are shown below.





Right clicking on the icon and selecting **Add to the Quick Access Toolbar** from the pop-up menu will add the icon to the right-hand side of the QAT.

The left-right order of the icons on the QAT can be changed by going to **File/Options** and selecting **Quick Access Toolbar** on the left side menu. In the right-hand pane, the order of a selected item can be shifted up or down (moving the icon to the right or left on the QAT) by clicking the up or down buttons on the right of the pane.



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Guide to the Large Print Template Styles

Overview of the Large Print Styles

The Advantages of Using Styles

The large print template provides a consistent look for documents. Without the large print template, each of the styles would need to be created manually every time they were needed and that would be a colossal waste of time and effort, hence the template.

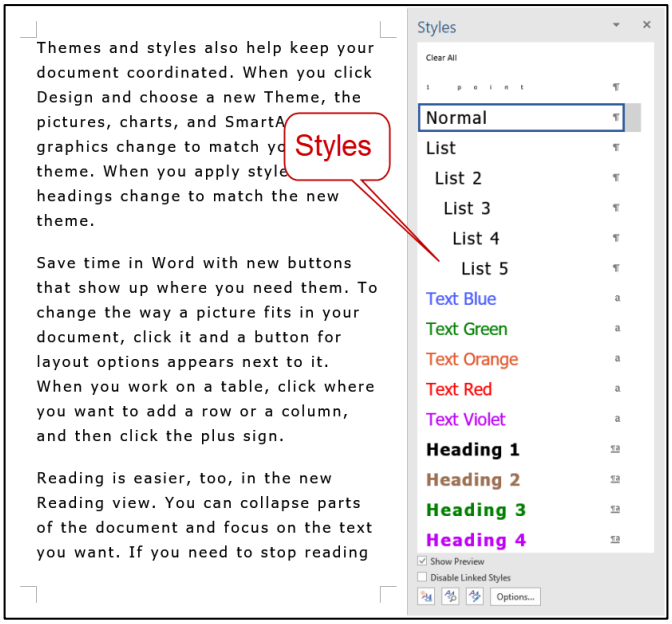
Beginning the Large Print Process

The process begins with an existing document or a new blank document. In either case, the first action is to attach a large print template to the document using the ***Attach LP Template & Select Output Media*** macro.

For video and practice files - See #1 on the *Video and Practice File Links* page.

When a large print template is attached to a document, the font size, paper size, Word configuration, and margins are set for the document. The macro will also turn on the **Styles Pane** (typically at the right side of the screen), it will turn on the page corner crop marks, and the top ruler on the Word screen. Formatting document sections are accomplished from the **Styles Pane,** or by alternate methods, using the mouse or the shortcut keys associated with a style.

The **Styles Pane** can be turned on and off using the icon on the QAT. It can also be turned on and off with Ctrl+Alt+Shift+S keys. Alternately, it can be turned on and off using launch arrow on the right bottom of the Styles group on Word's Home Tab ribbon. A document with a styles pane is shown below:



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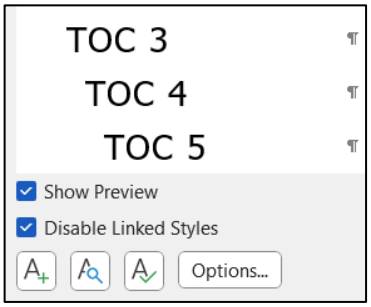
Setting the View on the Styles Pane

The first time the styles pane appears on the screen, it may not look like the one above… colors may be missing, and the indentation of the styles will not be evident.

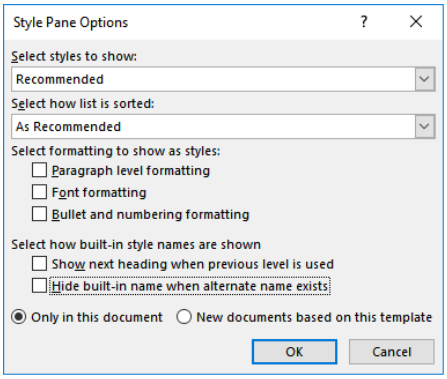
While the large print macros usually handle the appearance of the styles pane, it can be manually configured and can be moved to the left side of the screen if desired and sized to fit from top to bottom and with a width capable of showing the styles.

Check the "Show Preview" box below the styles display.

Check the "Disable Linked Styles" box below the styles display.



Select the "Options..." menu in the lower right-hand corner of the Styles pane and set the items in the "Style Pane Options" dialog box like those pictured below and then click the "OK" button.



Style Colors Are Optomized

The color choices for the template styles have been selected based on contrast values between text and both white and black background colors and have been optimized for both individuals with normal color vision and those with color blindness. For more information see ***Supplement: Luminosity of Color Text in the Large Print Template***.

Cautions Regarding undesirable color combinations

It is possible, using the large print styles, to create color combinations which have poor contrast making it difficult to read. For example: blue, red, or green text on a blue or tan paragraph or similar Word document background color will have such poor color contrast that they will be difficult for individuals, even with normal color vision, to read.

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Using Word's Formatting Tools

Using the large print template does not prevent the use of any of the formatting tools provided within MS Word. Using any of those formatting tools will typically create text which is compatible with the text characteristics of the large print template in use for the document.

Style Shortcut Keys

Each of the large print styles has been assigned a shortcut key, a combination of keystrokes which can be used to apply the style without the use of the mouse. For a table listing the shortcut keys see ***Shortcut Keys for Large Print Styles***

Changing Media and/or Font Sizes

Regardless of the font size, paper size, paper margins, or designated output media (paper, tablet, or computer screen), all large print templates contain the same style names. This means that once a document has been formatted, changing the font size or output media is as simple as re-attaching a Large Print Template with different parameters. Re-attachment of the template will likely require some reformatting to fit images and tables to a different page or screen.

The Details of the Large Print Styles

Each of the entries in the Styles Pane is followed by a symbol indicating what the style affects. Styles can make changes in a paragraph ¶, in characters a or a combination of paragraphs and characters ¶a.

The general rules by which style application is governed are as follows:

From: **https://wordribbon.tips.net/T011623_How_Word_Applies_Styles.html**

1. If characters are selected and you apply a character style, then the attributes of that style are applied to the characters.
2. If characters are selected and you apply a paragraph style, only the character attributes of the selected style are applied to the selected characters. The original style used for the overall paragraph format remains unchanged.
3. If no characters are selected and you apply a character style, then there is no affect on the paragraph. If you immediately start typing, however, the character style determines the appearance of what you type.
4. If no characters are selected and you apply a paragraph style, then the style changes for the entire paragraph and it assumes the attributes of the style you selected. If there were any characters in the paragraph that had individual formatting applied (through styles or through manual formatting), then that formatting remains intact.
5. If an entire paragraph is selected (as characterized by including the paragraph mark in your selection), and you apply a character style, then all the characters in the paragraph assume the attributes of the selected style.
6. If an entire paragraph is selected and you apply a paragraph style, then the formatting for the entire paragraph is changed. If there were any characters in the paragraph that had individual formatting applied, then that formatting remains intact.

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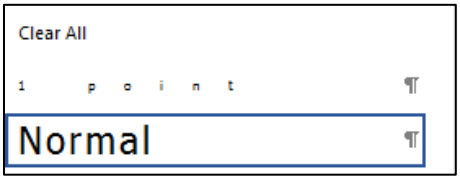
For any style affecting a paragraph or a style affecting both paragraph and characters, the cursor need only be within the paragraph (the entire paragraph does not need to be selected) before the style is applied.

For a style affecting only characters or words, the characters or words should be selected before applying the style.

The styles in the Styles Pane are arranged in groups in order of most frequently used at the top (more or less). The following will describe the groups:

Un-Grouped Styles



While not a formal group, the top two items on the styles pane are handy tools to help with certain issues that occasionally appear.

Clear All

Clear All will remove all style formatting from the paragraph and characters where the cursor is located. It can also be accessed using the Clear All Formatting icon on the Home Tab ribbon or by pressing Ctrl+Space.

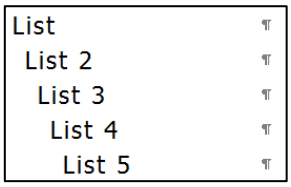
1 point (a paragraph style)

This style is used ONLY on an empty paragraph. It formats the paragraph mark making it one-point high. It is primarily used to separate box elements of the same style when the use of an empty paragraph is too obtrusive. See ***Boxes (a Paragraph Style)*** below for an example of its use.

Normal (a paragraph and character style)

The normal style is the base style in the template. It is the style used for the body text of paragraphs. **No other size font in the document should be smaller than the font size of the normal style.**

Lists (a paragraph style)



Other than the TOC style, list styles are the only other indention style in the large print template. To use them, place the cursor in the paragraph or select multiple paragraphs before applying the style.

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Text in Color (a character style)

Text Blue
Text Green
Text Orange
Text Red
Text Violet

These styles affect only the color of characters. In order to use them, select the text to be colored, then select the style. Color letters can be used with both white and black background colors.

Headings (paragraph and character styles)

Heading 1
Heading 2
Heading 3
Heading 4
Heading 5

Headings in large print are not indented (all appearing at the left margin) and because there is little difference in size from one to the other, the differences are indicated by color as well as size. Each of the heading styles grows by only two-point increments from the point size of the Normal Style. The table below shows the heading sizes for an 18-point template for paper output.

	Normal	**Heading 5**	**Heading 4**	**Heading 3**	**Heading 2**	**Heading 1**
Font Size	18	20	22	24	26	28

Each of the heading styles is pre-configured to stick to the single paragraph which follows it. Inserting text which causes text to flow within the document will never cause a heading style to be separated from the paragraph which follows. For more information about this feature, see the description about the QAT macro called ***Keep Paragraph with Next Paragraph***.

Boxes (a paragraph style)

Box Black
Box Blue
Box Orange
Box Red
Box Violet

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There are several different box styles. These styles draw a color box around a single paragraph or multiple selected paragraphs. To use, place the cursor in the paragraph or select multiple paragraphs and apply the box style.

Black, red, and blue boxes have, over time, been assigned a specific meaning for the reader. While these designations are not fixed, the following box colors and their meaning are described below.

Publishers sometimes use color boxes to identify text of a particular importance. (e.g., "All orange boxes contain information of importance for the unit test.") In such cases, follow the color used by the publisher.

The **designated box colors** and their meaning **should be included in the transcribers notes** so that the reader is informed about the meaning of the color.

Box Black

Box Black is used to indicate boxed or side-bar material as it appears in the original document.

Box Blue

Box Blue is used to surround the text of a message from the large print transcriber to inform the reader of changes from the original text.

For example, when a table has been rotated, then a note to the reader should precede the presentation of the table and its associated title. Language used in the explanation should be appropriate for the reader's age. It should begin the word "**Note**:" in bold. Example below:

Note: The following table has been rotated.

Box Red

Box Red is used for enclosing the caption of an image and is used by the American Printing House for the Blind (APH) for their large print publications. The caption can appear to the right of the image or below the image. Because of the difficulty of placing red box captions to the right of the image, the caption below the image may be preferred.

Image Descriptions

Box Red can also be used for image descriptions (created by the transcriber) as is practiced by the American Printing House for the Blind. Image descriptions can appear within the same box as the image caption or may be placed in a second box below the caption box. The content of the box should begin with the words "**Image Description**:" in bold.

For more information on image descriptions go to the Diagram Center web site:

http://diagramcenter.org/table-of-contents-2.html

https://bit.ly/2jnC5eO

Text Content in Images

Box Red can also be used to present text which appears within an image. The text content can appear within the same box as the image caption or may be placed in a second box below the caption box. The content should begin with the words "**Image Text**:" in bold.

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Adjacent Boxes

Creating two or more boxes of the same color adjacent to one another is possible only if the boxes are separated by an empty paragraph mark set to one point by using the *1 Point* paragraph style. If there is no empty paragraph mark between them, the two boxes will merge into a single box. Type the paragraphs to be boxed separating each with an empty paragraph mark. Box the content of each paragraph then, resize the empty paragraph mark between the boxes using the *1 Point* style.

A 1 Point paragraph mark is here

Ducks are use for sightseeing tours.

Image Description: The Duck looks like a floating bathtub with wheels on the bottom.

Removing Boxes

Box styles can be removed without changing any of the character styles of the enclosed text by placing the cursor in the single paragraph box or by selecting all paragraphs in a multi-paragraph box followed by applying the "Normal" style or by pressing Shift+Ctrl+Alt+N (for Normal Style). Box styles and character styles can be removed by selecting all text within the box followed by **Clear-All** from the home tab/font group or **Clear-All** from the styles pane.

For more information on the use of boxes with automatic lists see*: **Using Box Styles with Automatic Lists***

Words with Color Background (a character style)

Words Aqua a
Words Black a
Words Blue a
Words Green a
Words Pink a
Words Tan a
Words Yellow a

These styles affect only the background color of selected words. To use them, select the text, then apply the style. The black on yellow background is a good style to use as a substitute for bolded glossary words in the original text because the yellow background is more visible than bold but be sure to use a include this change in the transcribers notes to inform the reader of the change.

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Removing Word Background Colors

Word background colors can be removed without changing any other character styles by selecting the word or words followed by pressing Shift+Ctrl+Alt+N (for Normal Style). Words with color background styles can also be removed by selecting the appropriate action from the **Selected Cleanup** menu on the large print ribbon.

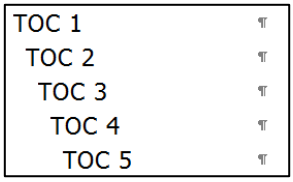
Paragraph Background Colors (a paragraph style)

The paragraph background color styles work exactly as do the box styles. They can be used when a section of text requires distinction for a particular purpose. Adjacent paragraphs formatted with the same background color will merge into a single block unless separated by a paragraph with the 1 Point style. To use them, place the cursor in the paragraph and select the desired color.

Removing Paragraph Background Colors

Paragraph background color styles can be removed without changing any of the character styles of the enclosed text by placing the cursor in the single paragraph color area or by selecting all paragraphs a multi-paragraph color area followed by applying the "Normal" style or by pressing Shift+Ctrl+Alt+N (for Normal Style). Paragraph background color styles can also be removed by selecting the appropriate action from the **Selected Cleanup** menu on the large print ribbon.

Table of Contents (TOC) (a paragraph style)



These styles are used for creating a TOC to match that of the source document, not the physical page numbers in the large print document. Items using the TOC style must have a tab character between the TOC description and the page number for the formatting to work properly. The tab will produce ellipsis which place the page number at the right margin. The tab character can be added before or after the paragraph has been formatted. To use them, place the cursor in the paragraph and select the TOC style.

Note: Use only one tab. More than one tab will cause the page number to disappear off the right edge of the page or to wrap to a second line.

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A sample of TOC1 and TOC2 is shown below.

The·TOC·Style·will·format·with·ellipsis·between·the·
description·and·the·page·number·when·a·tab·is·
placed·at·that·location.....12¶

The·TOC·Style·will·format·with·ellipsis·between·the·
description·and·the·page·number·when·a·tab·is·
placed·at·that·location .....13¶

Note: Creating a table of contents using the large print TOC styles vs creating a table of contents using Word's automatic table of contents builder is an agency decision. Likewise, the decision to make a single table of contents for a book or to also include a table of contents for each volume of the book is also an agency decision. For more information on Word's automatic TOC builder, see: ***Building a Table of Contents Using Word's Automatic Table of Contents Builder***

Shortcut Keys for Applying Large Print Styles

Shortcut keys can be used instead of the mouse to apply styles to text or paragraphs. To use the shortcut keys, place the cursor in the paragraph (for paragraph and paragraph & character styles) or select the text (for character styles) then use the shortcut key.

The shortcut keys are composed of the modifier keys Alt+Ctrl+Shift followed by one or two trigger characters. Hold down the modifier keys (Alt+Ctrl+Shift) and press and release the 1st trigger key. Then release the modifier keys. If there is a second trigger key, press that key to apply the style.

Styles Pane View	**Style Name**	**Style Type**	**Modifier Keys and 1st Trigger Key** **Alternative Key**	**2nd Trigger Key**
Clear All*		Selected Text	Alt+Space	
1 point ¶	1 point	Paragraph	Alt+Ctrl+Shift+O Alt+Ctrl+Shift+1	
Normal ¶	Normal	Paragraph	Alt+Ctrl+Shift+N Ctrl+Shift+N	
List ¶	List	Paragraph	Alt+Ctrl+Shift+L	1
List 2 ¶	List 2	Paragraph	Alt+Ctrl+Shift+L	2
List 3 ¶	List 3	Paragraph	Alt+Ctrl+Shift+L	3
List 4 ¶	List 4	Paragraph	Alt+Ctrl+Shift+L	4
List 5 ¶	List 5	Paragraph	Alt+Ctrl+Shift+L	5
Text Blue	Text Blue	Character	Alt+Ctrl+Shift+T	B

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Styles Pane View	Style Name	Style Type	Modifier Keys and 1st Trigger Key Alternative Key	2nd Trigger Key
Text Green a	Text Green	Character	Alt+Ctrl+Shift+T	G
Text Orange a	Text Orange	Character	Alt+Ctrl+Shift+T	O
Text Red a	Text Red	Character	Alt+Ctrl+Shift+T	R
Text Violet a	Text Violet	Character	Alt+Ctrl+Shift+T	V
Heading 1 ¶a	Heading 1	Paragraph & Char	Alt+Ctrl+Shift+H Alt+Ctrl+1	1
Heading 2 ¶a	Heading 2	Paragraph & Char	Alt+Ctrl+Shift+H Alt+Ctrl+2	2
Heading 3 ¶a	Heading 3	Paragraph & Char	Alt+Ctrl+Shift+H Alt+Ctrl+3	3
Heading 4 ¶a	Heading 4	Paragraph & Char	Alt+Ctrl+Shift+H Alt+Ctrl+4	4
Heading 5 ¶a	Heading 5	Paragraph & Char	Alt+Ctrl+Shift+H Alt+Ctrl+5	5
Box Black ¶	Box Black	Paragraph	Alt+Ctrl+Shift+B	K
Box Blue ¶	Box Blue	Paragraph	Alt+Ctrl+Shift+B	B
Box Orange ¶	Box Orange	Paragraph	Alt+Ctrl+Shift+B	O
Box Red ¶	Box Red	Paragraph	Alt+Ctrl+Shift+B	R
Box Violet ¶	Box Violet	Paragraph	Alt+Ctrl+Shift+B	V
Words Aqua a	Words Aqua	Character	Alt+Ctrl+Shift+W	A
Words Black #	Words Black	Character	Alt+Ctrl+Shift+W	K
Words Blue a	Words Blue	Character	Alt+Ctrl+Shift+W	B
Words Green a	Words Green	Character	Alt+Ctrl+Shift+W	G
Words Pink a	Words Pink	Character	Alt+Ctrl+Shift+W	P

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Styles Pane View	Style Name	Style Type	Modifier Keys and 1st Trigger Key Alternative Key	2nd Trigger Key
Words Tan a	Words Tan	Character	Alt+Ctrl+Shift+W	T
Words Yellow a	Words Yellow	Character	Alt+Ctrl+Shift+W	Y
Para Aqua ¶	Para Aqua	Paragraph	Alt+Ctrl+Shift+P	A
Para Black	Para Black	Paragraph	Alt+Ctrl+Shift+P	K
Para Blue ¶	Para Blue	Paragraph	Alt+Ctrl+Shift+P	B
Para Green ¶	Para Green	Paragraph	Alt+Ctrl+Shift+P	G
Para Tan ¶	Para Tan	Paragraph	Alt+Ctrl+Shift+P	T
Para Yellow ¶	Para Yellow	Paragraph	Alt+Ctrl+Shift+P	Y
TOC 1 ¶	TOC 1	Paragraph	Alt+Ctrl+Shift+T	1
TOC 2 ¶	TOC 2	Paragraph	Alt+Ctrl+Shift+T	2
TOC 3 ¶	TOC 3	Paragraph	Alt+Ctrl+Shift+T	3
TOC 4 ¶	TOC 4	Paragraph	Alt+Ctrl+Shift+T	4
TOC 5 ¶	TOC 5	Paragraph	Alt+Ctrl+Shift+T	5

* Clear all removes all formatting from selected text. It can be invoked by clicking with the mouse or by using Ctrl+Space. Using Ctrl+Space will clear the formatting but will also cause the normally hidden style "Default Paragraph Font" to show below the "Normal" style. The "Default Paragraph Font" style changes only the font (not the style) to the default font.

Word or Windows settings for dark mode will cause this style to appear washed-out or almost white but causes no problem in the final output.

Alternative Methods for Applying Styles

In addition to applying styles using the mouse with the **Styles Pane** and the **Styles Shortcut Keys**, described above, there are three other methods for applying large print styles to text.

Beginning with Word versions 2021 and later, Microsoft changed the styles display size to match the font size of the styles shown in the **Styles Gallery** and in the alternative methods for applying styles described below. This means that the useability of these alternative methods decreases as the font size increases.

Note: These alternate methods will only work after the file has been saved, closed and then reopened.

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For video and practice files - See #2 on the *Video and Practice File Links* page.

Selection of Styles from the Home Tab Styles Gallery

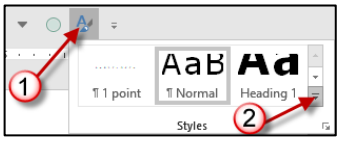
Note: Word versions, after version 16, will display these large print styles in font sizes equal to those shown in the document.

Clicking on the **Home** tab will reveal the **Styles Gallery** at the right of the ribbon. Styles may be applied by selecting them from the gallery. Hovering the mouse over any of the icons will produce a preview of the styled text in your document. This is not a very convenient method as it requires movement to the **Home** tab where additional clicks may be required to reveal styles not shown on the gallery.

Adding the Styles Gallery to the QAT

The **Home** tab **Styles Gallery** can be added to the QAT by right clicking the area near the Styles Gallery group title and selecting the "Add to Quick Access Toolbar" from the pop-up menu.

Selecting the Styles Gallery icon (red circle 1) on the QAT will produce a compact menu.



Clicking the menu button (red circle 2) will produce a panel of icons with all large print styles

Formatting can be chosen from this panel of icons. Hovering the mouse over any of the icons will produce a preview of the styled text in the document.

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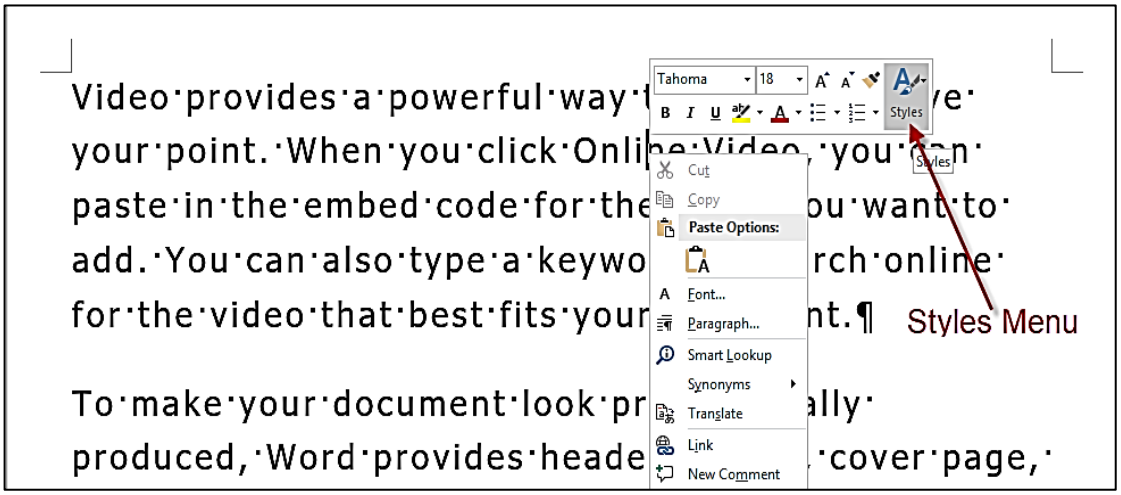
Using the Properties Formatting Menu

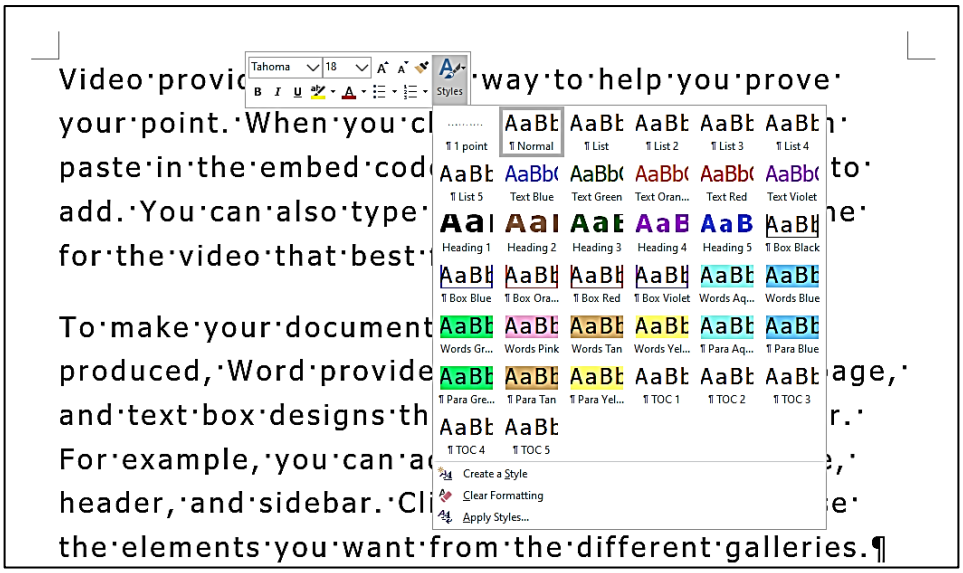
Newer versions of Word may have this style of pop-up menu… older versions are shown in the pictures below.

For paragraph formatting, place the cursor in a paragraph and right click the mouse. A pair of menus will pop-up. Select the styles icon at the right of the upper menu.



The styles panel will appear. Formatting can be chosen from this panel of icons.

Hovering the mouse over any of the icons will produce a preview of the styled text in your document.



For character styles, the text must be selected prior to invoking the properties styling menu.

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Guide to the Large Print Macros

The Large Print Tab Ribbon

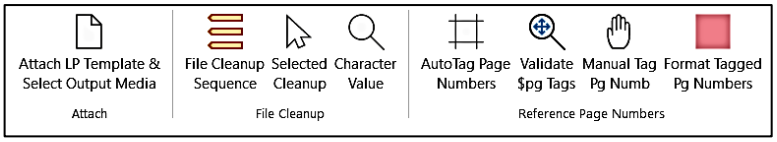
This section provides an explanation of the purpose of each of the macros in the *Large Print* tab ribbon. Additionally, hyperlinks for demonstration videos and downloadable practice files used in the videos are provided for some macros.

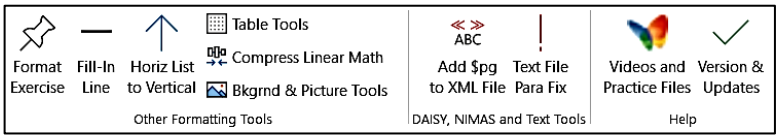
For a better learning experience, download the practice file, then stream the video and use the practice file to get a better understanding of how the macro works. You may want to consider viewing the videos on a separate device or screen while working on the computer.

Note: The appearance of the macro icons on the ***Large Print*** tab ribbon may differ from computer to computer depending on screen width, Word version, and color scheme. The icon images will be similar to those shown below, but the icon labels may not appear on narrow screens. In that case, the labels will appear as a tool-tip when hovering the mouse over the icon. The large print tab ribbon images below are from MS Word 2016.

Note that the large print tab ribbon is divided into groups separated by a vertical bar. The name of each group is centered between the bars at the bottom.

Left and right sides of the Large Print Ribbon:





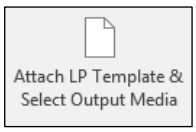
Icons may be vary depending on the version of Word being use but will share the characteristic of the those shown above.

Many of the macros can be used on files which do not have a large print template attached. Those macros which require an attached Large Print Template will produce a message when it is not attached.

Attach Group

Attach LP Template & Select Output Media

For video and practice files - See #1 on the *Video and Practice File Links* page.



Purpose: This macro presents a menu of choices for common media and font sizes from 14 to 42 Points. Attaching the large print template is the first step in creating

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every large print document. The macro also provides settings to customize large print paper documents and screen sizes

A large print template can be attached to:

1. **a blank document** ready for typing, insertion of pictures, and tables.
2. **a non-large print document** to convert its text into large print.
3. **an existing large print document** to create a new large print document for a different media or a different font size.

The following information must be known before attaching the Large Print Template

Note: Care must be taken to know the following information. Errors made at this step may result hours to correct formatting when an unwanted page or screen size, margin setting, or orientation is used.

1. Whether the output media is for paper or screen
2. The size of the paper or screen
3. The orientation (landscape or portrait) of the paper or screen
4. The font size needed by the reader
5. For paper: The size of the margins
6. For paper: Whether the document will be printed on one side of the paper or on both sides (mirrored).
7. For paper: The width of the binding if the document will be bound to produce a book style format.

What changes are made to the document by attaching the template?

Attaching the large print template to a document will: size the paper or screen, set the paper or screen orientation and margins, and will convert the text to the selected point size. It will also turn on **Page View** and configure the **Styles** pane, configure the MS Word options for producing large print, and will turn on the **Show/Hide** feature so that hidden (non-printing) characters such as the paragraph marks, tabs, spaces and other typically hidden characters can be seen.

Additionally, the template will convert tables to an alternating banded color style and will convert all italic characters to non-italic underlined characters.

How are document parameters entered?

The attach template menu form (shown below) provides a way to enter all document creation parameters.

In its most simple form, only a pre-defined media and a font size selection are needed.

The menu form has a frame for "**Output Media**" divided into two sections: One for "**Paper**" and a second for "**Screens**". There are three predefined output media selections for "**Paper**" media and six predefined media selections for "**Screens**".

All of the predefined screen selections are for tablet devices, but "screen" also means computer screens. Tablet and computer screens which do not appear in the menu form

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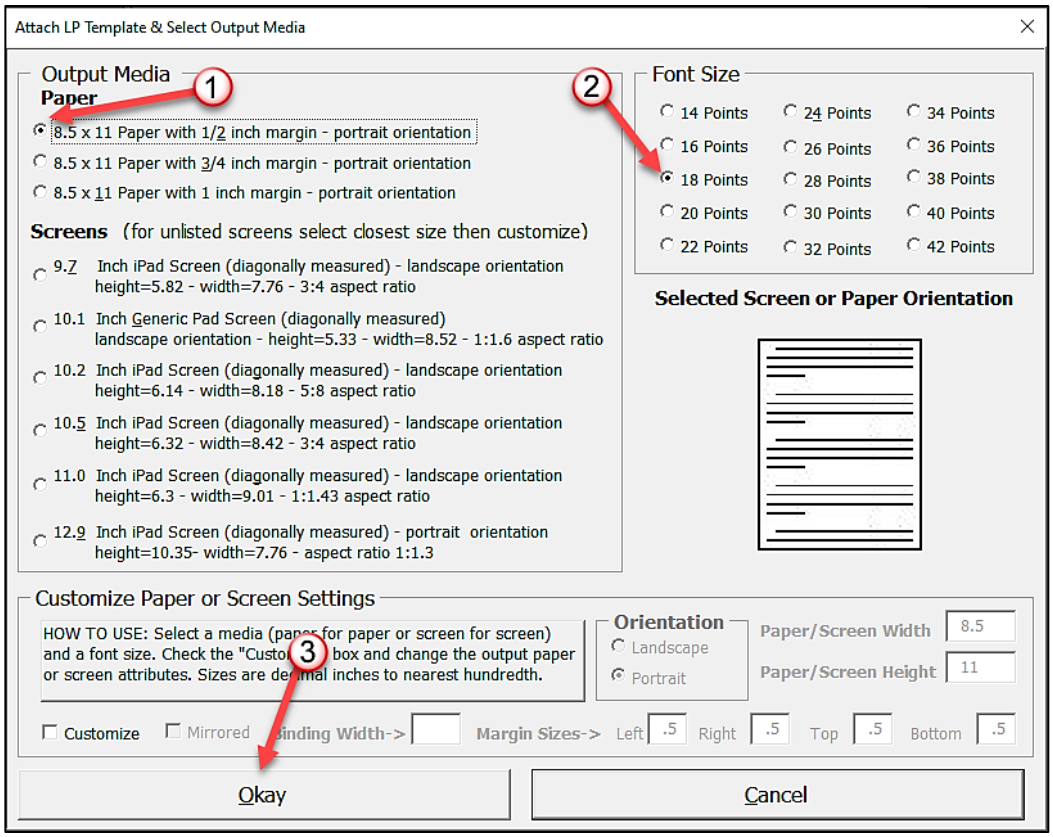
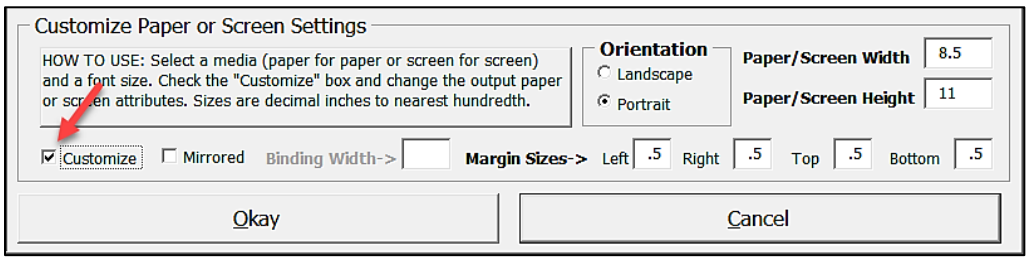
can be created by using the "**Customize Paper or Screen Settings**" (discussed in detail below).



Customizing Paper and Screen Parameters

Changes to any of the paper and screen parameters is accomplished by first selecting either a paper or screen media definition with parameters close to those needed and then, selecting the "**Customize**" button in the "**Customize Paper or Screen Settings**" area of the form.



The "**Customize Paper or Screen Settings**" area can be used to: change the orientation, change to margin sizes, change the size of the paper or screen, and to set a mirroring option for double sided printing of documents which will be bound.

Changing the orientation

The document orientation can be changed by:

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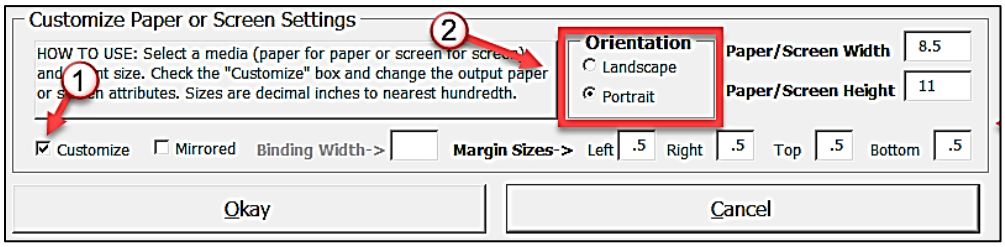
1. Selecting the "**Customize**" checkbox

2. Setting the desired orientation by selecting the "**Landscape**" or "**Portrait**" radio button in the "**Orientation**" frame. The orientation will be reflected in the "**Selected Paper or Screen Preview** image area.



Changing the margins

The size range for each margin is .1 inch to 1 inch. Typical margins for paper are .5, .75. and 1 inch. For screen devices the typical margin size is .2 inches. Larger margin sizes for screen documents is a waste screen space.

Changing the document size for screens which are not included in the predefined listings

Changing the document size for screens (computers or tablets) requires careful measurement of the screen reading area. to fit the screen of a tablet or computer which does not appear in the pre-defined media selection

For screens, first explore the characteristics of the program to be used for reading. It is useful to start the application which will be used for reading.

In the example below, Adobe Reader DC has been activated and configured to work in full screen mode for reading. In that mode, Adobe places a scroll bar on the screen which effectively reduces the viewable width of the screen. Be aware that not all screen readers will have a scroll bar.

With the device in the desired reading orientation, measure the width (excluding the width of a scroll bar if one exists) and the height of the screen to the nearest 1/16 of an inch then convert the sizes to decimals to the nearest 1/100 of an inch. In the "**Customize Paper or Screen Settings**" area, select the orientation an enter the width and heigh measurements.

Below is an example of a small touch screen computer (functions as a tablet) which is not listed in the pre-defined list of screens on the menu. In this example, the device will be used in landscape orientation and will have a .2 inch margin on each side (left, right, top, and bottom).

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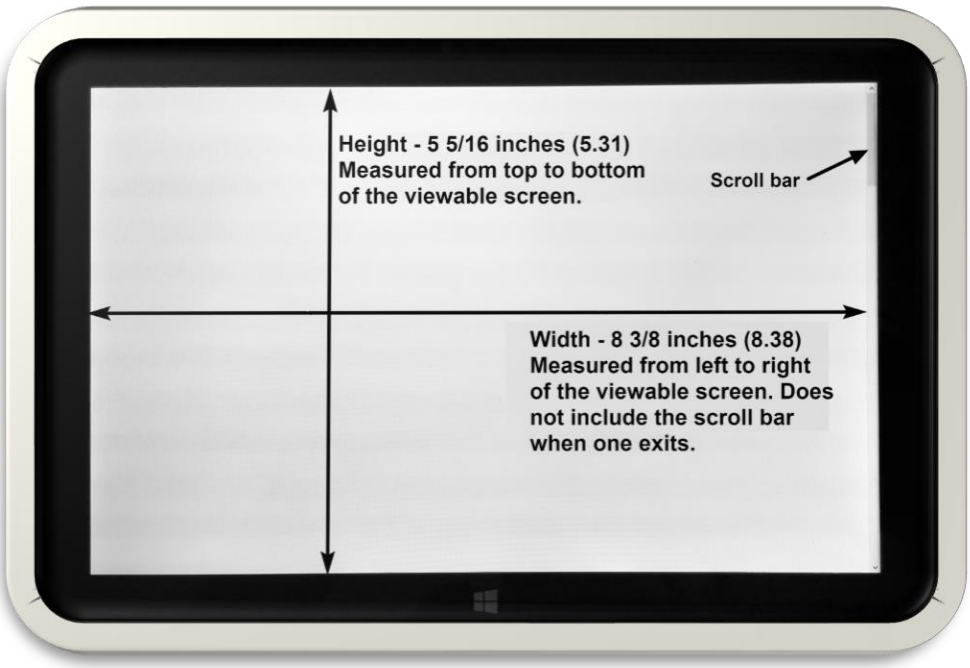

Here are the Steps use to Create a Document for This Screen

1. Select a screen which is close to the size of the measured screen from the list of pre-defined screens. It is important is select a screen and not a paper from the pre-defined list.

2. Select the font size. In this case a 26 point font will be used

3. Select the "**Customize**" check box.

   Note: If the selected pre-defined screen is in landscape orientation, the orientation does not need to be changed in the "**Customize Paper or Screen Settings**" area.

4. Enter the screen width in the "**Paper/Screen Width**" entry field

5. Enter the screen height in the "**Paper/Screen Height**" entry field.

6. Click "**Okay**" to attach the template

Here is how the "**Attach LP Template & Select Output Media**" menu will look for the screen shown above.

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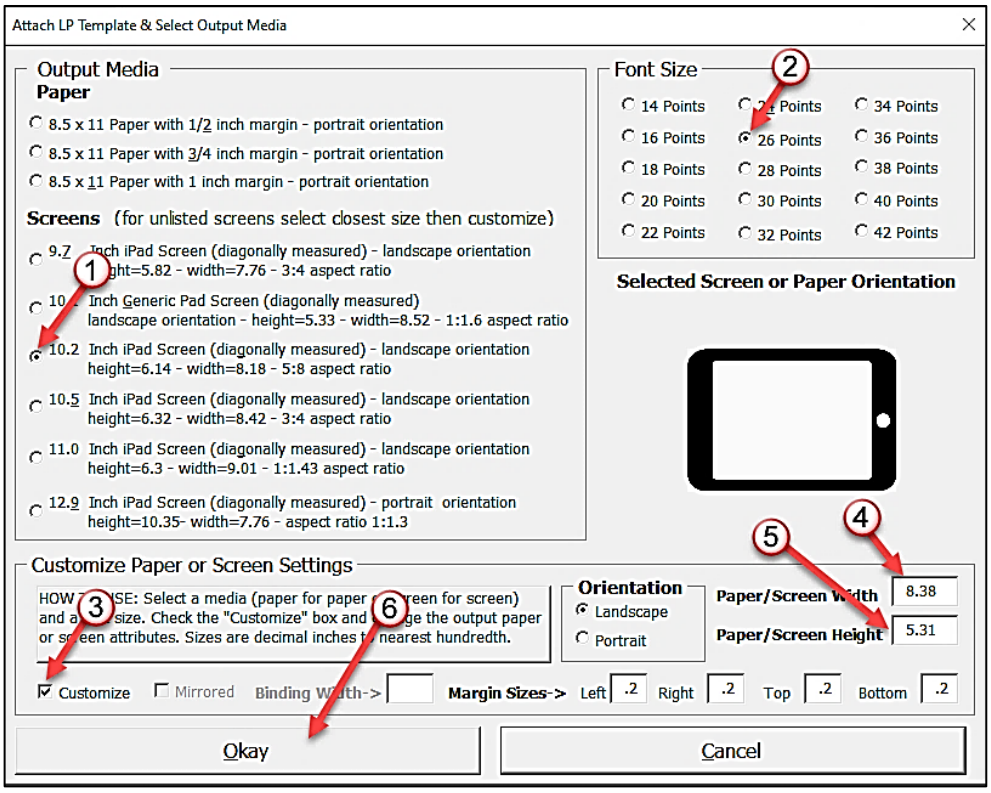

Document sizing for paper documents when no binding is needed

For paper: With the paper in the desired orientation, measure the width and height to the nearest 1/16 of an inch and convert the sizes to decimal format to the nearest 1/100 of an inch. In the "**Customize Paper or Screen Settings**" area select the paper's **Orientation** and enter the **Width** and **Height** measurements. Click the "**OK**" button.

Document sizing for paper documents when binding is needed

Paper documents, books, or book chapters will often require binding. Regardless of the binding type, binding consumes space on the paper resulting decreased margin size.

Below are two page images:
The example on the left shows a page with a 1/2 inch margin, punched and ready for a comb binder. The binder will consume 1/2 inch of the paper. **Note that there is no white space between the binder and the text**.

If document is to be printed single-sided and bound, then the left margin should be increased to accommodate the binding width… in this case the left margin should be one inch and will look like the example on the right. **The "mirrored" customization would NOT be used in this case.**

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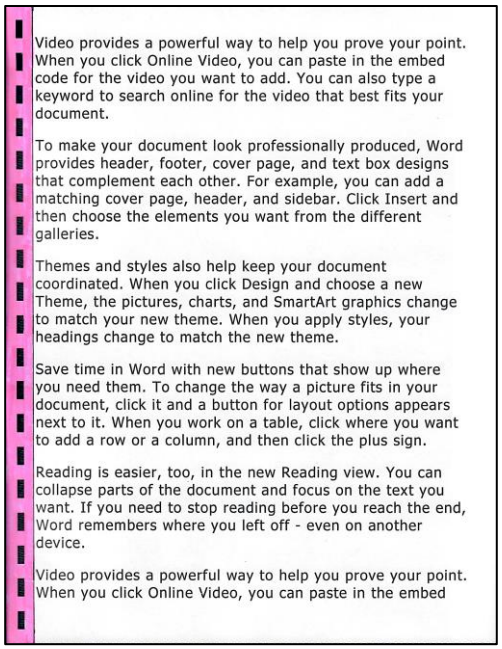


Video provides a powerful way to help you prove your point. When you click Online Video, you can paste in the embed code for the video you want to add. You can also type a keyword to search online for the video that best fits your document.

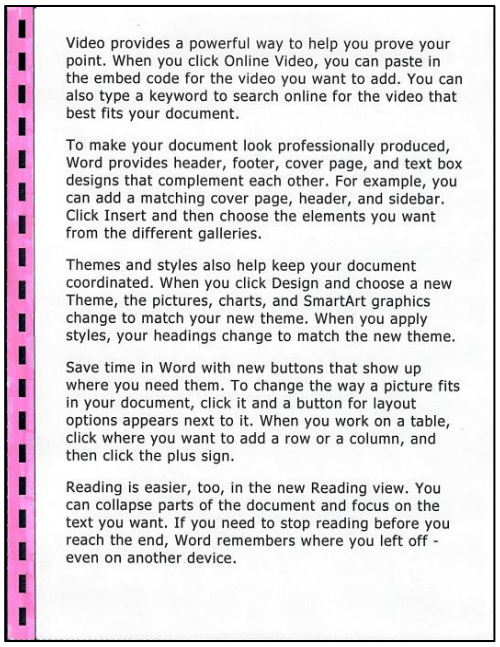
To make your document look professionally produced, Word provides header, footer, cover page, and text box designs that complement each other. For example, you can add a matching cover page, header, and sidebar. Click Insert and then choose the elements you want from the different galleries.

Themes and styles also help keep your document coordinated. When you click Design and choose a new Theme, the pictures, charts, and SmartArt graphics change to match your new theme. When you apply styles, your headings change to match the new theme.

Save time in Word with new buttons that show up where you need them. To change the way a picture fits in your document, click it and a button for layout options appears next to it. When you work on a table, click where you want to add a row or a column, and then click the plus sign.

Reading is easier, too, in the new Reading view. You can collapse parts of the document and focus on the text you want. If you need to stop reading before you reach the end, Word remembers where you left off - even on another device.

Video provides a powerful way to help you prove your point. When you click Online Video, you can paste in the embed



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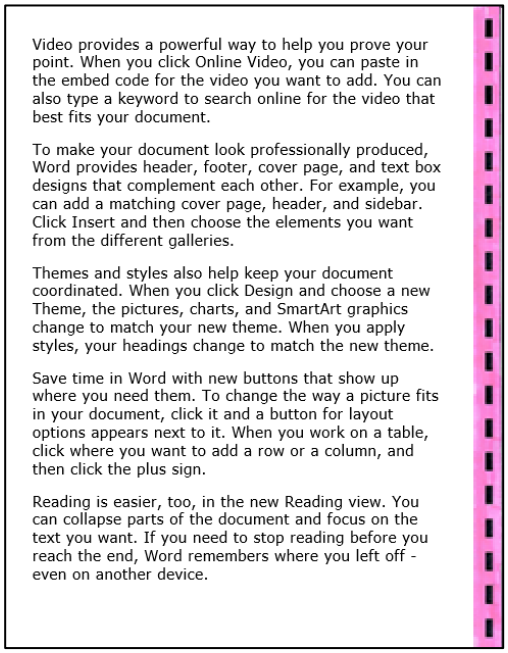
Reading is easier, too, in the new Reading view. You can collapse parts of the document and focus on the text you want. If you need to stop reading before you reach the end, Word remembers where you left off - even on another device.

If the document is to be printed double-sided and bound then the "mirrored" customization is required. The images below show pages with 1/2 inch margins punched and ready for a comb binder which consumes 1/2 inch of the paper. The customized settings include a setting of .5 inches for the **Binding Width**. There is 1/2 inch of margin of white space between the binding and the text on both sides of the paper. **Mirroring is used for double sided printing only.**



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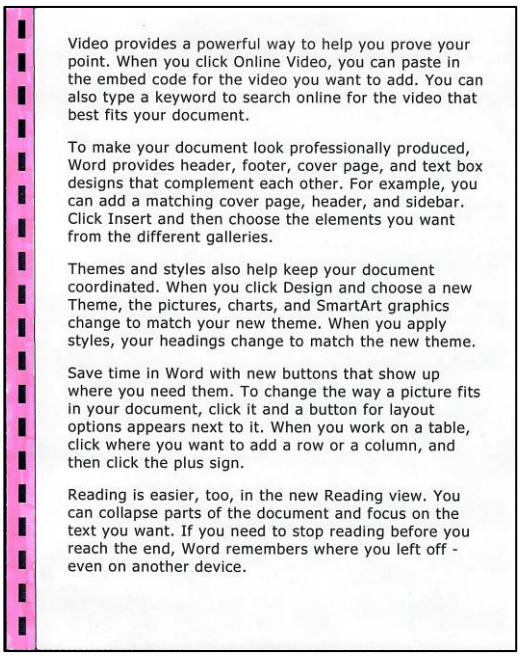

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Themes and styles also help keep your document coordinated. When you click Design and choose a new Theme, the pictures, charts, and SmartArt graphics change to match your new theme. When you apply styles, your headings change to match the new theme.

Save time in Word with new buttons that show up where you need them. To change the way a picture fits in your document, click it and a button for layout options appears next to it. When you work on a table, click where you want to add a row or a column, and then click the plus sign.

Reading is easier, too, in the new Reading view. You can collapse parts of the document and focus on the text you want. If you need to stop reading before you reach the end, Word remembers where you left off - even on another device.

To accomplish the mirroring, first, choose a paper document from one of the pre-defined paper sizes.

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Next: Check the "**Customize**" checkbox and the "**Mirrored**" checkbox. The "**Binding Width**" value will automatically populate with one-half of the value of the size of the left margin. **This dimension will likely need to be changed.**

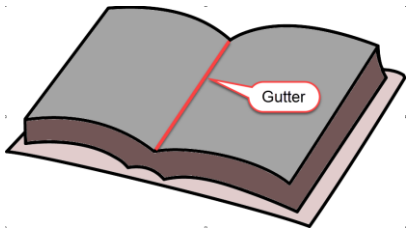
Different binding methods will consume different amounts of paper. Entering how much additional space is needed for the binding (**Binding Width**) will increase the size of the gutter while preserving the left margin size.

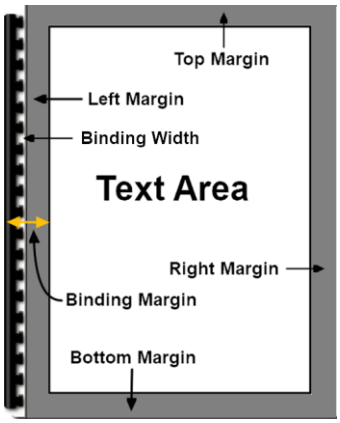
The total binding margin size is the sum of the Binding Width and the Left Margin Size. Both the left margin size and the Binding Width can be changed to achieve the desired binding margin size.

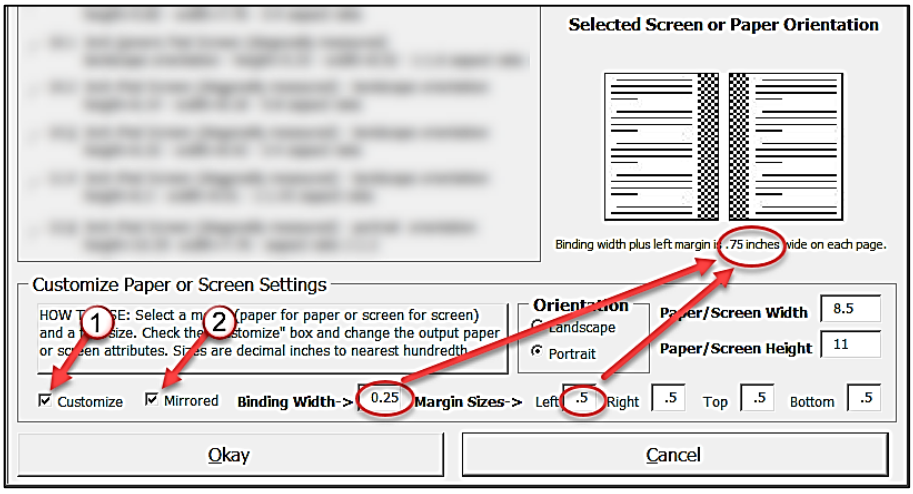
After entering the **Binding Width**, a line of text will appear in the space below the image representing the mirrored document. The text will show the total amount of space that will be allocated for the binding margin on each page (the sum of the Binding Width and left margin). The binding type will be reflected in the "**Selected Paper or Screen Preview** image area.

Lastly: Set the paper size and orientation needed for the document.

The margin and the binding width will form the gutter of the book when it is bound.







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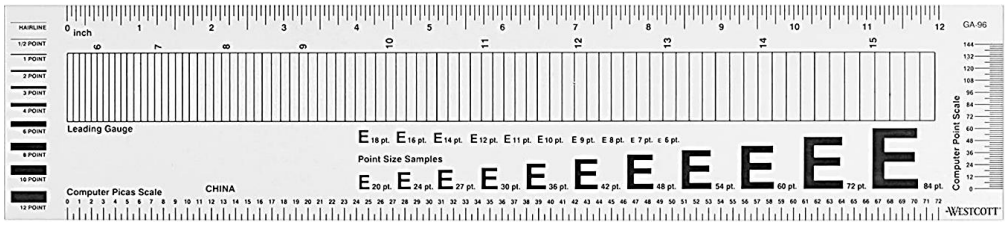
Validating screen or paper size, margin sizes and font sizes

Before formatting begins on the document, it would be prudent to check the custom screen, margin and font size settings by producing a small test document. **Remember that you must specify double-sided printing when a mirrored document is sent to a printer.**

Screen size
The screen should be filled with a single document page. There should be no page division bars showing on any edge of the page (typically are black). Documents which shown on screens which are larger or smaller than those specified on the form settings will have font sizes which are larger or smaller than the font sizes requested on the form.

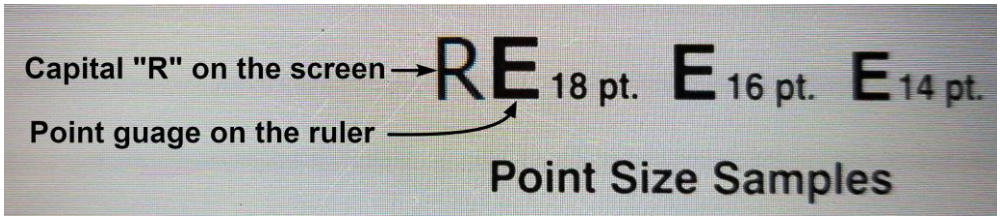
Measuring the Font Size
The output font size, whether on paper or screen, can be measured using a font ruler. For documents to be read on a screen, keep in mind that font measurements must be made on the device. **Measuring font sizes on the computer screen used to edit the large print document will produce inaccurate results**.

Choose a font size ruler made of clear plastic. To measure the height using a capital letter which reaches from the top of the ascender to the base line. Measure an upper case "I" or an upper case character with a straight left edge (e.g., "R" or "F").



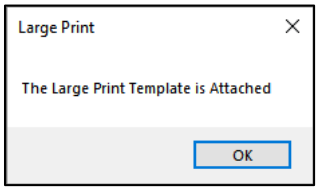
Above: a Westcott GA-96 font ruler (Amazon - less than eight dollars)

Below: Measuring an 18 point font on a tablet or computer screen.



Attaching the LP Template to a Non-LP Document

After the LP template is attached to a document, a message indicating the operation is complete will appear.



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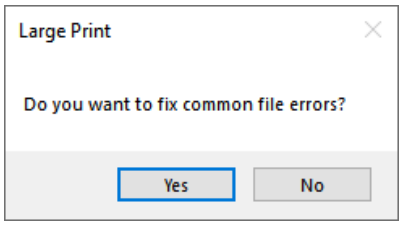
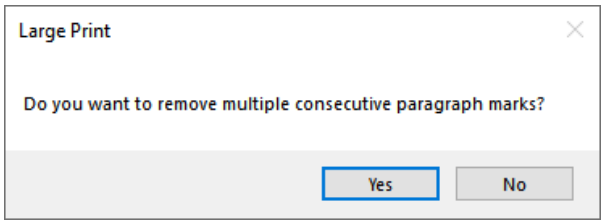
When the LP Template is attached to a document which was not previously an LP document, more messages displayed. These are in the form of a yes/no questions.





It is standard procedure to run these two processes from the **File Cleanup Sequence** icon on the ribbon after attaching the LP template to a non-LP document, but this is often forgotten by users. **It is strongly suggested that both be answered with "Yes".** These two messages do not appear when the template is attached to an existing large print document or to a blank document.

Attaching the LP Template to an Existing Large Print Document to Change the Output Parameters

If an existing large print document is in need of changing to a larger or smaller font or for reading on a different target media such as converting a paper document into a document for screen viewing, a large print template can be attached (with different settings) using the "**Attach LP Template & Select Output Media**" macro on the large print tab ribbon.

Because the large print template shares a common set of style names with those in the document, reattaching the large print template to an existing large print document can convert the old document to one with a new font size, a new page size and new page orientation and new margin sizes. Adjustments in the text flow across pages will be needed and pictures and tables may need adjusting, but this process is easier than beginning from scratch.

For more information on page breaks see the following internet article below:

How to User Breaks in Microsoft Word to Better Format Your Documents

https://bit.ly/2J26WMA

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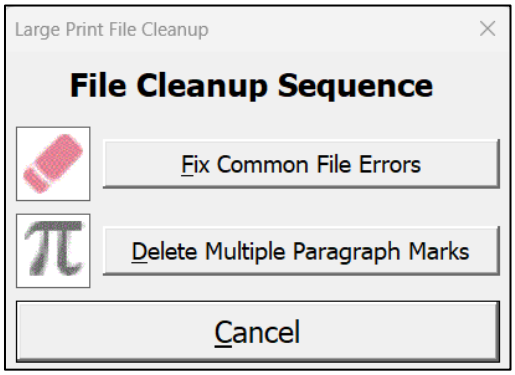
File Cleanup Group

File Cleanup Sequence

Purpose: This icon presents a menu of file cleanup macros; explained below.



Fix Common File Errors

Purpose: This macro finds and replaces many of the common errors which are found in files. The macro works on the entire document. The macro can be run at any time without causing damage to the formatting of the document. It is the first macro that should be run after a template has been attached to a document.

This macro can be executed on any file even if a large print template is not attached.

The macro:

- Fixes styles produced by Abbyy Fine Reader when the file has been sent to Word using Abbyy's "formatted text" option.
- Removes all spaces before and after punctuation marks.
- Replaces multiple spaces with a single space.
- Replaces multiple hyphens with a single hyphen.
- Removes spaces before and after hyphens.
- Replaces multiple "en" dashes with a single "en" dash.
- Removes spaces before and after "en" dashes.
- Replaces multiple "em" dashes with a single "em" dash.
- Removes spaces before and after "em" dashes.
- Removes optional hyphens.
- Changes italics to non-italic underline.
- Replaces variations of normal styles with large print normal style.
- Removes text boxes and frames while preserving the content.
- Assures that each $pg print page tag is at the beginning of a paragraph and turns the $pg red.
- Replaces small caps with all caps.
- Converts drop caps to normal text.
- Removes tabs before and after paragraph marks.

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Note: It is recommended that this macro be executed immediately after attaching a Large Print Template to a new file.

Delete Multiple Paragraph Marks

Purpose: This macro replaces multiple Paragraph marks with a single paragraph mark. It is recommended that this macro be executed immediately after attaching a Large Print Template to a file to clear multiple paragraph marks.

The scope of the macro can be limited by selecting a text range where multiple paragraph marks are to be removed.

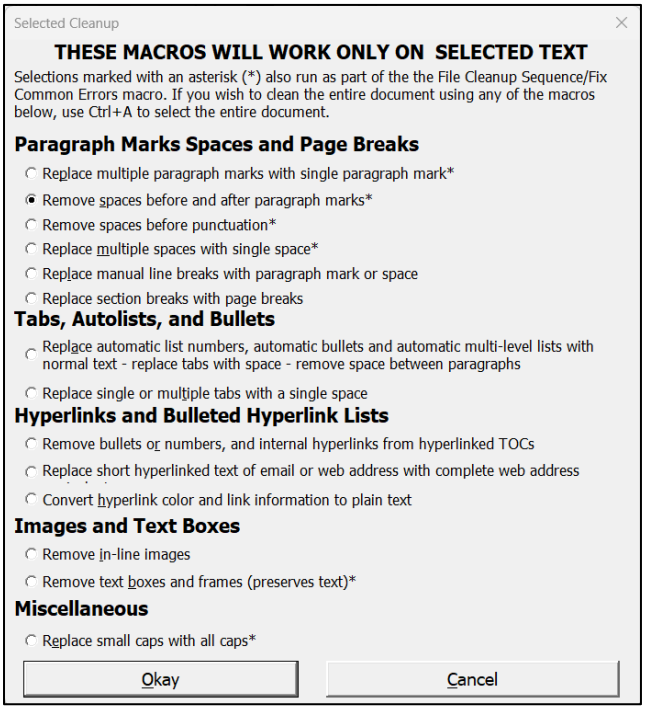
This macro can be executed on any file even if a large print template is not attached.

Selected Cleanup

Purpose: This macro presents a large menu of macros which will affect only a selected portion of the document. Many are duplicates of the macros which execute when the Fix Common File Errors (in the File Cleanup Sequence menu) macro is executed. Others are unique to this menu and respond to a variety of common file problems which may need fixing.

While the whole document can be selected using Ctrl+A, use this feature with caution as it may create unwanted changes to text in other parts of the document.

If any of these macros require an attached large print template, the user will be notified.



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Character Value

Purpose: This macro is a tool to assist the user in performing *find and replace* operations in Word. It shows the ANSI decimal and Unicode values of the single character to the right of the cursor. Additionally, the macro provides tips about using the values to use in Word's *find and replace* dialog.

For more information about using Word's find and replace:

Download this free article from **Editorium.com** called

Advanced Find and Replace in Microsoft Word

https://tinyurl.com/4jat355r

Purchase the book, *Wildcard Cookbook for Microsoft Word* by Jack Lyon

(**Amazon.com** $9.95)

Sometimes free: *Wildcard Cookbook for Microsoft Word* by Jack Lyon as PDF file.

http://www.intelligentediting.com/resources/free-ebook-wildcard-cookbook-for-ms-word/

https://bit.ly/2sx8Knq

Purchase the e-book, *Word Find and Replace, Second Edition,* from

http://store.tips.net/T009914_Word_Find_and_Replace.html?awt_l=OeeRM&awt_m=JEJVRJSp9Qn74X ($27.99)

https://bit.ly/2J074Mq

Reference Page Numbers Group

For video and practice files - See #3 on the *Video and Practice File Links* page.

For detailed instructions on using all of the macros within the **Reference Page Numbers** Group see: ***How to Find, Tag, Validate, and Format Reference Page Numbers***

Auto Tag Page Numbers

Purpose: This macro attempts to locate reference page numbers (page numbers in the original print document). When found, the tag, "$pg" (without the quotes), is placed in front of the number. e.g., the page number "12" would appear as "$pg12".

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This macro can be executed on any file even if a large print template is not attached.

In order to be found, the reference page numbers must appear in a paragraph of their own, not embedded within or at the end of a paragraph or following or preceding an image.

Validate $pg Tags

Purpose: This macro leads to a menu of selections which allows the user to validate the reference page numbers found by Auto Tag Pg Numbs macro. Validation basically means to assure that the found page numbers a correct and that none are missing.

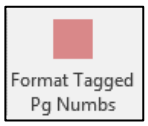
Manual Tag Page Numbers

Purpose: This macro can be used to manually tag any reference page numbers with "$pg". This would include any not found by the ***Auto Tag Page Numbers*** macro or reference page numbers which are added by hand. Place the cursor in the paragraph with the reference number before running the macro.

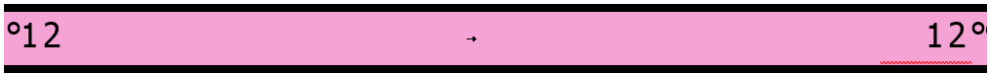
This macro can be executed on any file even if a large print template is not attached.

This macro has been assigned a shortcut key: Alt+Ctrl+Shift +M

Format Tagged Pg Numbers



Purpose: This macro finds paragraphs beginning with the "$pg" tag and formats those paragraphs with a distinctive visual style with the reference page number at both the right and left-hand side of the paragraph. With **Show/Hide** turned on the reference page bar will show a non-breaking space on the left and right edges and a tab in the middle.



This macro requires an attached large print template.

Other Formatting Tools Group

Format Exercise

For video and practice files - See #4 on the *Video and Practice File Links* page.

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Purpose: This macro assists in formatting exercises (quizzes). To use it, select the questions and any multiple-choice answers.

This macro requires an attached large print template.

In order for the macro to determine which lines are questions, the questions must begin with a number followed by a period and space or a period or space. Questions need not be multiple choice.

Select the exercise(s) before executing the macro. The selection must include only questions and answers… intervening styles (such as a reference page number) must not be included in the selection. The selection should include the first number in the exercise and must include the last paragraph mark in the exercise.

The macro will format the questions with the "List" style, and the choices (if multiple choice) with the "List 2" style.

Some OCR programs will insert an underlined tab in place of the fill-in lines in the scanned document. To accommodate this "feature", the macro will substitute a "large print" fill-in line (eight underlined underscores) for each tab or single underscore within the exercise. If two or more tabs are found without any intervening characters, then "large print" fill-ins separated by a comma will replace the tabs. The same is true when underscores are included in the exercise text.

If typing an exercise, type a tab or a single underscore for each fill-in line before running this macro.

Large print fill-in lines can be extended by using the **Fill-In Line** macro

Type Fill-In Line

Purpose: This macro presents a menu with options for fill-in lines for use by the reader when the document is a consumable (such as a workbook).

This macro requires an attached large print template.

This macro has been assigned a shortcut key: Alt+Ctrl+Shift +_

Note: Exercise formatting must be completed before adding fill-in lines.

This macro presents two options. Fixed length fill-in-lines (selected by one of 21 buttons) or a single fill-in-line to the right margin. A margin fill-in option can also produce as many additional fill-in-lines as needed.

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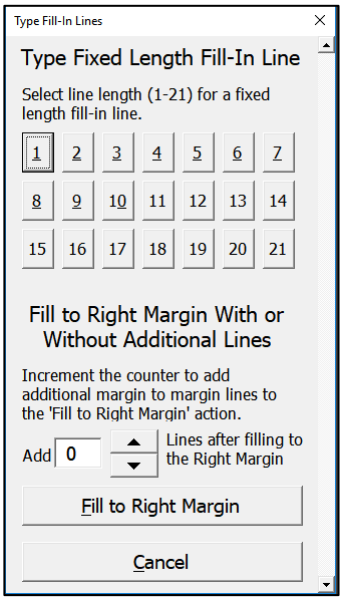

The fixed length menu section has twenty-one buttons for line lengths from 1 to 21. The length of fill-in lines required will need to be determined by the user by trial and error. Each of the fill-in lines begins with a space.

Note that the buttons 1 through 10 have shortcut keys… use the Alt key plus the underlined number to activate the button.

If multiple fill-in lines are needed, produce the size line wanted, type a comma, then produce the next fill-in line.

```
1.·List·the·three·inner·planets·__________,·
      __________,·__________.¶
```

Note: The fill-in lines are created with underlined underscores. On computer screens (depending on resolution) the user may see a bit of the underscores, but these will not be seen in the PDF output product on screens or paper.

A single fill-in line ending at the right margin can be produced by clicking the "Fill to Right Margin" button. The line will begin with a space unless the cursor is at the left margin.

If required, additional fill-in lines extending from the left to the right margin can be specified by incrementing the spin-box before clicking the "Fill to Right Margin…" button. Here is a question with a spin-box value of 1 used with the "Fill to Right Margin" button.

```
1.·Name·the·possible·characters·who·might·have·
      killed·Cock·Robin·_____↵
      _____¶
```

The additional line(s) will follow the indentation setting of the current style.

With the cursor at the left margin with the "Normal" style in effect, any number of margin-to-margin lines can be produced. Keep in mind that the actual number of lines will be one more than the number in the spin-box. e.g., if the spin box is set to 3, four lines will be produced. Keep in mind the fill-in lines will follow the current style.

Here are four margin-to-margin fill-in lines (spinbox setting of 3) using the "Normal" style.

```
1.·Write·a·paragraph·describing·your·house.¶
_____
_____
_____
_____¶
```

Increasing the line spacing

If the large print will be written-on by the user, additional space may be needed to accommodate the writing. To accomplish this, select the section of the document where

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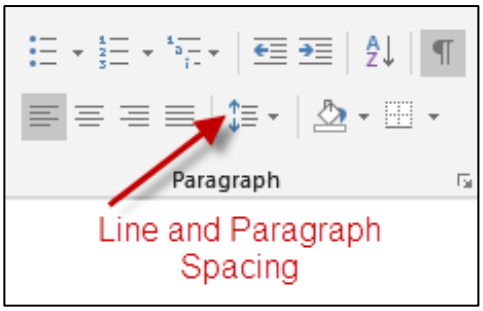
increased spacing is needed, then, on the **Home** tab, select the **Line and Paragraph Spacing** icon from the **Paragraph** group and set the desired line spacing.

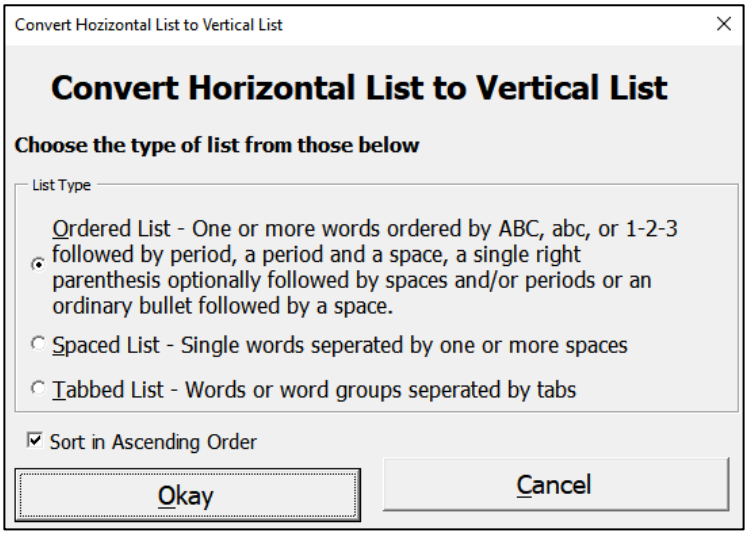


Horizontal List to Vertical

For video and practice files - See #5 on the *Video and Practice File Links* page.

Purpose: This handy tool simplifies the problem of manually reformatting a horizontal list which would be better in vertical format; something often seen in workbooks where possible answers to exercise questions are placed horizontally to conserve paper. The macro will work on any document… the large print template does not need to be attached.

This menu has been assigned to a shortcut key: Alt+Ctrl+Shift+Z



The macro will work with a variety of horizontally configured formats but does not work well with mathematics containing multiple decimal points (periods).

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This macro can be executed on any file even if a large print template is not attached.

As an example, a question with a horizontal answer selection might look like this:
1. Who killed Cock Robin?
a. the Sparrow b. the Fly c. the Fish d. the Beetle

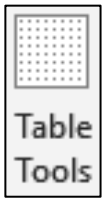
After running this macro on the example line above, the answers would look like this:
a. the Sparrow
b. the Fly
c. the Fish
d. the Beetle

If the possible answers are in a single paragraph, place the cursor in the paragraph (no need to manually select the paragraph) and execute the macro. The macro will select the paragraph. Choose the type of list to be converted.

If the possible answers are in two or more paragraphs or in a paragraph with manual line breaks, select all paragraph(s) (including the ending paragraph mark) then click the macro icon and choose the type of list to be converted.

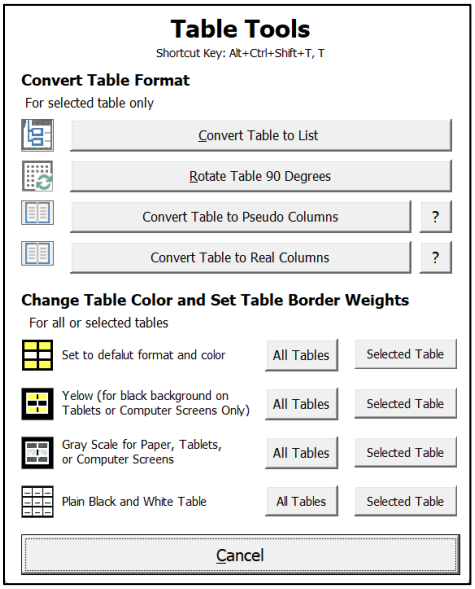
By default, all lists are sorted in ascending order unless the ***Sort in Ascending Order*** checkbox is unchecked.

Table Tools



Purpose: this icon presents a menu of tools for working with tables including table layout conversion and table colors.

This menu has been assigned to a shortcut key: Alt+Ctrl+Shift+T+T



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Convert Table Format (Group)

There are four choices in this group

Convert Table to list **Rotate Table 90 Degrees**

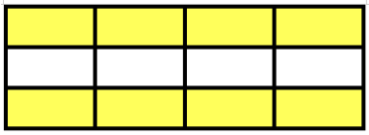
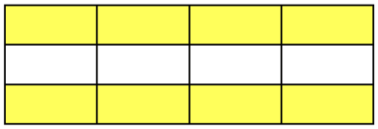
Convert Table to Pseudo Columns **Convert Table to Real Columns**

These macros are used when tables do not fit within the margins causing text within table cells to wrap. With some adjustment, these tables can be read on computer or tablet screens by using the device's zoom function, however, for paper documents these tables will need reformatting to be readable using one of these tools. For detailed information on the process, see ***Making Tables Readable***.

Set Table Border Weights to Match Font Size

All large print documents are created with a single template. That template is set for 18 point fonts and is coverted to the font size reqested during the **Attach LP Template & Select Output Media** operation and all existing tables will have the correct table weight (thickness).

When a new table is created using the **Table creation tool** on the **InsertTab** it will have a border weight (thickness) used for 14, 16, and 18 point fonts. Any newly created table for font sizes greater than 18 will require ajustments to the border weigth using one of the **Set Table Border Weights to Match Font Size** macro buttons. It suggested that the **Selected Table** button be used immediately after creating the table.

In the first picture above, a table for 42 point font is shown. The second table was created using table insertion tool on the Insert Tab. Note that the border weight is incorrect for a 42 point font.

Change Table Color and Set Table Border Weights (Group)

Tables should be displayed in alternating bands of color to enhance readability. These choices change the color settings of all the tables in the document to one of three.

Default Color for White Paper
A yellow and white table with black borders and cell dividers for paper documents (the default table colors).

Yellow (for black background on Tablets or Computer Screens Only
A yellow and black banded table with white borders and cell dividers for electronic text on a black screen color.

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Gray Scale for Paper, Tablets or Computer Screens
A grayscale table with both white and black cell separators for paper or electronic text (when the reader needs this accommodation).

Plain Black and White Table
This selection will convert any color table to a plain black and white table

Toggling from a white background to a black background (for screen devices) will automatically change the table colors from the yellow and white table to the yellow and black table. Grayscale tables will be converted to yellow and white when a black background is changed to a white background.

Compress Linear Math

Purpose: This macro makes linear math more readable in large print. It removes all normal spaces the math then places very thin (hair spaces) between the math and symbols of comparison

The macro is useable only on linear math which is in text form. It is not useable with linear math produced using MathType or on math in image format. This macro has been assigned **Alt+Ctrl+Shift+C** as a shortcut key.

If the math is contained in a paragraph of its own, place the cursor in the paragraph before running the macro. The macro will select the entire paragraph and ask for confirmation.

If the math is in a paragraph with other non-math text, select the math text and run the macro. Confirm that only the math text is selected.

The macro will recognize the following symbols of comparison:

= equal
≈ approximately equal
<> not equal
≠ not equal
> greater than
< less than
≥greater than or equal
≤ less than or equal
≤ less than or equal

$y \cdot = \cdot 2x \cdot + \cdot 1$ equation with normal spaces (small dots are spaces)

$y = 2x+1$ equation after the compression

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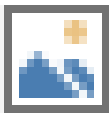
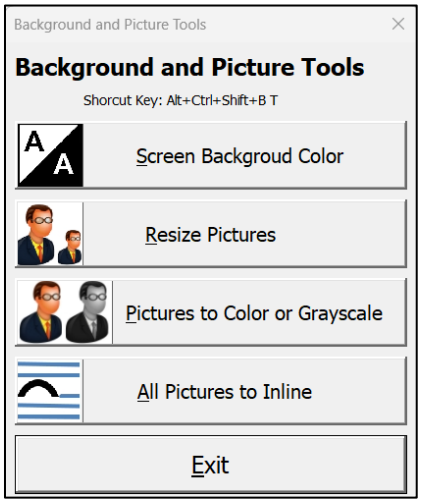
Background and Picture Tools



This icon presents a menu showing tools for modifying pictures and changing the background color from white to black and from black to white.

This menu has been assigned to a shortcut key: Alt+Ctrl+Shift+B+P.



The following are the actions accomplished by the items within the menu.

Screen Background Color

Purpose: This macro will change the document or screen background color from white (default) to black. This macro works only with documents for tablet or screen devices and is typically used for low-vision readers who dislike white backgrounds but can tolerate white text on a black background. The action is reversible by executing the macro a second time.

This macro requires an attached large print template.

Other page colors can be set by selecting the Word's *Design* tab and using the color selector presented by the *Page Color* icon. **Be cautious** in selecting colors to be sure that there is adequate contrast with existing color items such as boxes and text in the document.

For more information on measuring contrast between an object or text and the background color see the section entitled **Supplement: Luminosity of Text in the Large Print Template**

Page colors should not be used with printed documents as they would use large quantities of toner or ink and will produce unsatisfactory results. Use color paper instead.

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Resize Pictures

Practice File Link: **Resize Images**

https://bit.ly/2JpABhQ

Purpose: This macro can be used to resize all images in the document, individual images, images contained within a selected range of text or images in a selected table to a percentage of their original size. The macro will affect only in-line images.

Files imported as part of DAISY or NIMAS files will often contain images which are larger than the viewable page area. When this happens, this macro can be used to resize all images to a smaller size to fit them to the print area of the page where manual resizing with the corner handles can be easily accomplished.

Unfortunately, Word does not allow the selection of multiple images using the control key in combination with the mouse, however, multiple images can be included in the selection of a range of text.

To limit the scope of images to be resized, select an individual image or a range of images before executing the macro. The range may include table(s). Images in the tables of a selected text range will also be resized. The macro has no effect on text within the selection range.

To reduce the number of mouse clicks for repeat operations, the macro will remember the size settings last used… just select the image, activate the macro, and press the enter key.

For Further Reading on Resizing Images see:

How to Resize Images and Photos in Windows

https://bit.ly/2MgPbXI

Pictures Color/Grayscale

Purpose: This macro will change all images (pictures) from color to grayscale and grayscale to color. Grayscale images are typically not used unless there it is a need by the reader.

Grayscale images should not be used when the image colors are needed to understand the image content. This might include graphs, bar charts, pie charts and other color dependent content.

The color setting of a single image can be changed back to color by doing the following:

1. Select the image (sizing handles will be visible around the image).

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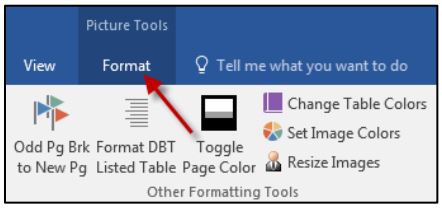
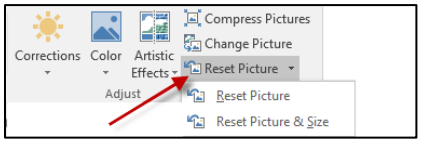
2. On the Word ribbon, locate the Picture Tools pop-up menu and select Format.



3. Near the left side of the ribbon, in the Adjust group, open the Reset Picture menu and select Reset Picture.



All Pictures to Inline

Purpose: This macro will convert all images in the document to Inline images.

Inline images are anchored to the text within the document. This means that as the text moves within the document the image stays in the same location relative to the text.

Most images in large print will be used as inline images. If images seem to float around in the text, then converting them to inline images will fix the problem.

DAISY, NIMAS and Text Tools Group

These macros are installed as part of the large print template and macros. The macros contained in this group are useful for extracting text from DAISY, NIMAS and text files. These macros will work on any file… a large print template does not need to be attached for these macros to work.

Add $pg to XML File

Purpose: DAISY and NIMAS files contain reference page numbers within a special markup. This macro locates the reference page numbers in DAISY or NIMAS XML files and tags them with a "$pg" so that conversion of the page numbers into a style for large print can happen quickly using the ***Format Tagged Pg Numbers*** macro.

For information on extracting text from DAISY and NIMAS files see ***Creating Word Files from NIMAS and DAISY File Sets***

Sample File Link: **Huck Finn-Raw for Text File Para Fix**

https://bit.ly/2TEZfN0

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Purpose: Some text files contain paragraph marks at the end of each line of text and use a single empty paragraph mark to create a white space between paragraphs. These files are not suitable for large print formatting until the paragraph marks are removed in a way which preserves the real paragraphs and permits the re-flow of text. Here is an example of how that type of text looks (with hidden marks turned on).

```
"Oh,·that's·all·very·fine·to·SAY,·Tom·Sawyer,·but·how·in·the·nation·are¶
these·fellows·going·to·be·ransomed·if·we·don't·know·how·to·do·it·to·them?¶
--that's·the·thing·I·want·to·get·at.·Now,·what·do·you·reckon·it·is?"¶
¶
"Well,·I·don't·know.··But·per'aps·if·we·keep·them·till·they're·ransomed,¶
it·means·that·we·keep·them·till·they're·dead."¶
¶
"Now,·that's·something·LIKE.·That'll·answer.·Why·couldn't·you·said·that¶
before?·We'll·keep·them·till·they're·ransomed·to·death;·and·a·bothersome¶
Lot·they'll·be,·too--eating·up·everything,·and·always·trying·to·get·loose."¶
```

This macro removes all end-of-line paragraph marks while preserving a single paragraph mark at the end of the legitimate paragraphs. It operates on the whole document.

Help Group

Video Links and Practice Files

Purpose: This macro will open an internet PDF file containing links to videos and downloadable practice files. The links can be directly activated from the open PDF file or, if desired, the file can be down loaded for direct access on your computer. Keep in mind that the downloaded file may quickly become obsolete as the document may be updated at any time.

Version & Updates

Purpose: The version of the Large Print Template and Macros installed on your computer can be viewed by running this macro in the Help group of the Large Print tab ribbon.

A button at the bottom of the dialog box will connect, via the internet, to a document which will show the most recent version of the macros and template. The document contains links for downloading the most recent version of the installation package.

If you have not installed the template and macros but want to do so, use the following links:

Information on the Latest Version of the Large Print Templates and Macros

https://tinyurl.com/wbpr6pq

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Guide to Special Formatting Procedures

Formatting and Boxing Automatic Lists

Indention Problems with Large Fonts

Word offers three types of automatic list styles: lists with bullets, lists with numbers, and multilevel lists with a wide variety of types. Automatic lists are created by selecting the list style from the Paragraph group on the Home tab.

Automatic list styles are easily recognizable. When the show/hide setting (CTRL+Shift+*) is turned on, each letter or bullet is followed by a tab character (➔). When the text is selected, the numbers, bullets and tabs will not be included in the selection. Below is an automatic list which has been selected. Note that the tabs and numbers are not selected.

```
1.→List·item·1¶
2.→List·item·2¶

•→Bullet·item·1¶
•→Bullet·item·2¶

1.→Multilevel·item·1¶
        a.→Multilevel·item·1·–·sub·entry·a¶
        b.→Multilevel·item·1·–·sub·entry·b¶
2.→Multilevel·item·2·¶
```

Automatic lists in this form can be edited: New items added to the lists will automatically continue the numbers, bullets and entries and sub entries on multi-level lists.

Automatic lists will typically print without problems, however, especially in larger font sizes, the tab character appears not to work correctly causing indention problems or insufficient space before list items as though no tab existed (although it is still there).

```
1.→Item¶
2.→Item¶
  a.→Item¶
  b.→Item¶
   i.→Item¶
  ii.→Item¶
  c.→Item¶
3.→Item¶
```

Indention problems with large fonts (shown in reduced size).

While this problem can be corrected line by line using Word's paragraph settings, the process is tedious and time-consuming. If no further editing of the list is needed, the proper spacing and indentation can be accomplished by converting the list to text and thereby causing it loosing its automatic properties.

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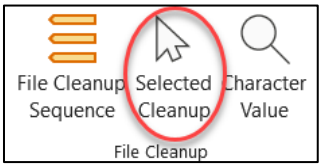
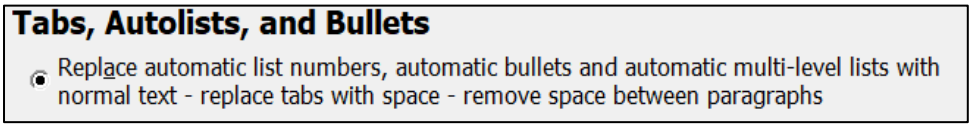
```
1.·Item¶
2.·Item¶
    a.·Item¶
    b.·Item¶
        i.·Item¶
        ii.·Item¶
    c.·Item¶
3.·Item¶
```

List after conversion to text (shown in reduced size).

Automatic lists can be converted to Normal text by using a macro located in the Selected Cleanup menu in the File Cleanup group of the Large Print ribbon. To use the macro, select the list to be change, then click the Selected Cleanup icon from the Large Print tab ribbon…



then on the menu, in the Tabs, Automatic Lists, and Bullets section, select the item shown below. The revised list will be in Normal style and will retain all indention characteristics, will be set at the left margin and all tabs will be converted to spaces but will have lost their automatic character.



Boxing Automatic Lists

Caution: The following describes a method of placing an automatic list into a box in a large print document (like the box styles). This should be done only when absolutely necessary. Once created the box will be destroyed, with the text preserved, whenever a large print template is attached or when the "Fix Common File Errors" macro is executed.

The large print styles, **Box Black**, **Box Blue**, **Box Red etc. do not play happily with automatic lists** nor do they play happily with automatic lists converted to text. When a box style is applied, lists will be replaced with **Normal**, left justified text with no indentation structure or bullets and their indentions. **Additionally, there is no way to manually use Word's Border tools to produce a boxed automatic list.**

If there is essential need to box a list, the list, either in its automatic form or in text form can be placed inside a text box. **The downside to using a text box for a list is that it cannot be used with a screen reader.** A text box is essentially a picture which contains editable text. It resides on a different plane than standard text and screen readers, like pictures, will ignore it. The text box works well for large print for paper or screens

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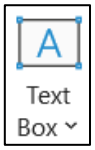
Here is how to use a text box border around the automatic or text version of the automatic list.

1. Make sure that there is an empty paragraph following the list.

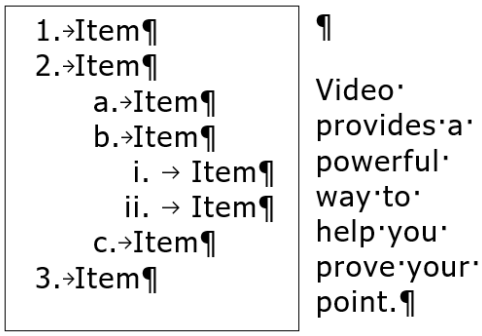
2. Select the entire automatic list or an automatic list which has been converted to text including the last paragraph mark in the list.

3. Select Word's "Insert" tab and on the ribbon, click the "Text Box" icon. click the menu launcher (v).

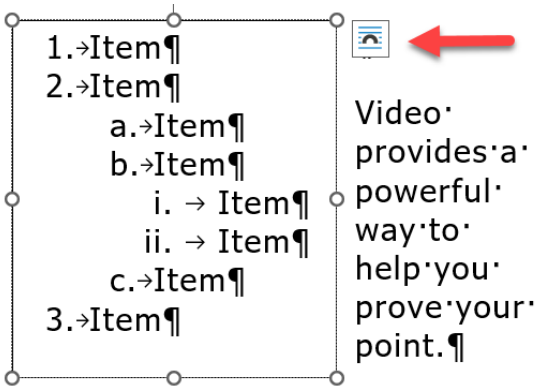


4. On the "Text Box" menu, select the "Draw Text Box" icon (from the bottom.

5. Text boxes are often created with a setting which will cause paragraphs which follow the list to be seen to the right of the text box.



Selecting the text box will make a button appear near the upper right of box.



Click the button.

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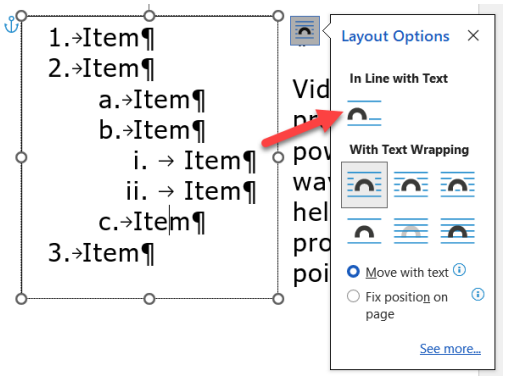
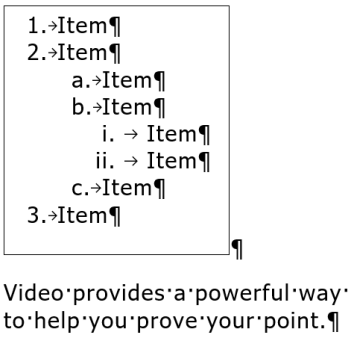
6. On the Layout Options pop-up menu, select the "Inline with Text" button.



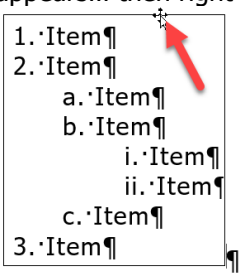
The list after the text box procedure.



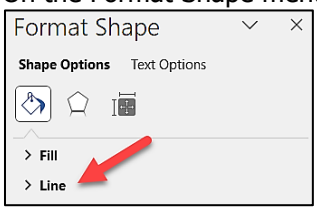
Setting the Border Weight and Color for the Text Box

The color of the box around the list should conform to the purpose of the box and the weight (thickness) of the box should match the border weights of tables and boxes in the document. Both the color and border weight can be controlled by doing the following:

1. Move the mouse pointer to any edge of the text box until the four-headed arrow set appears… then right-click.



2. On the Format Shape menu, select "Line"



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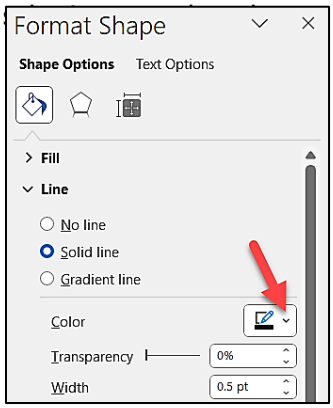
3. On the Format Shape menu, when other than black is needed, select the color



Set the color values for the text box using the "More Colors" option of the color selector. Select the "Custom" tab and enter the values in the table below.

The RGB (Red-Green-Blue) Color Values to use are:

Box Color	Red RGB Value	Green RGB Value	Blue RGB Value
Black	0	0	0
Blue	74	93	255
Orange	28	90	45
Red	255	0	0
Violet	192	0	249

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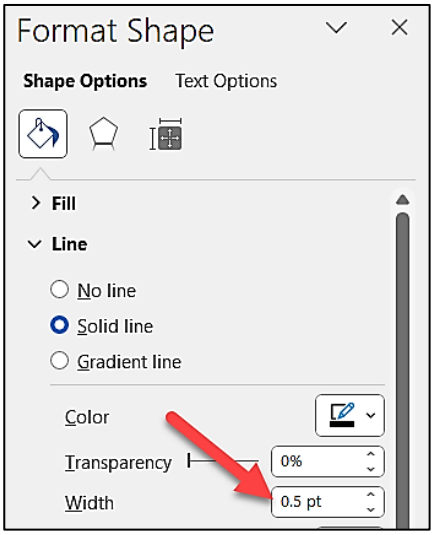
4. On the Format Shape menu, select the Width setting and use the values in the table below based on the point value of the Normal style of the document.



Normal Style Font Size Range	Border Weight Point Size (Width)
14-18	2.25
20-28	3
30-36	4.5
38-42	6

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Supplement: Required United States Copyright Law Notification

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Supplement: Creating Word Files from NIMAS and DAISY Files

For video and practice files - See #6 on the *Video and Practice File Links* page.

Note: Seeing the extension type of files (e.g. .doc, .docx, .pdf, .xml) can be very useful. If you cannot see the file extensions, go the **Control Panel**, select either the **File Explorer Options** or the **Folder Options**. Open the **View Tab** and uncheck the **Hide extensions for known file types** option and click the **OK** button.

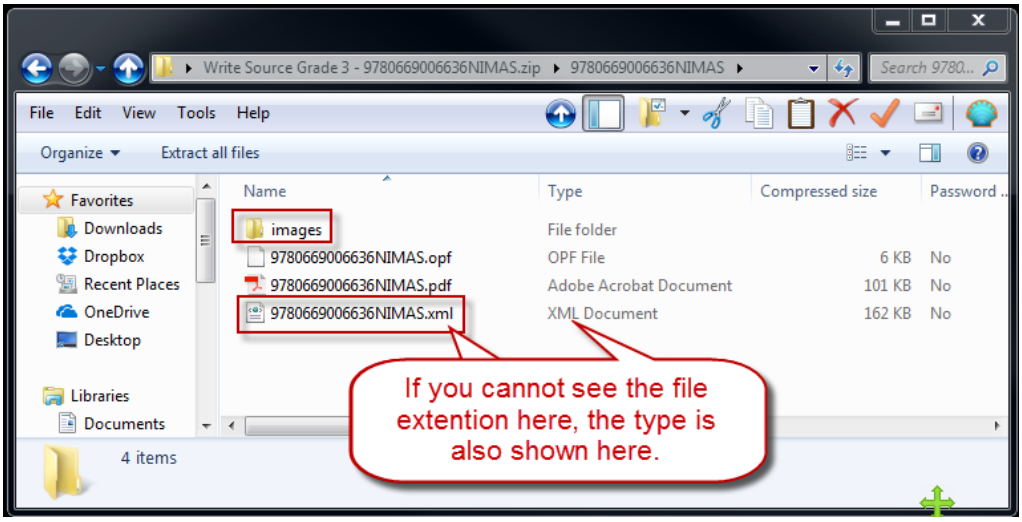
The Content of the NIMAS File Set

The NIMAS file set consists of three file types:

1. OPF file – a file that contains meta-data about the file set.
2. PDF file – a file containing a picture of the title page and copyright page
3. XML File – a file which contains the text of the book in a mark-up format. The XML file is, in reality, a plain text file which can be opened with the Windows Notepad application.

In addition, the file set will include a folder which is usually labeled "images". This folder may contain subfolders with names matching the structural organization of the book. Every image in the book will be contained somewhere in this file.

When the NIMAS file set folder is opened, the file set looks like this.



Most NIMAS file sets are named with the ISBN number of the book.

The Content of the DAISY File Set

The content of a DAISY file set will vary greatly depending on the class of DAISY file (text only, text and audio, etc.). At the very least there will be an .XML file which contains the text of the book in a mark-up format.

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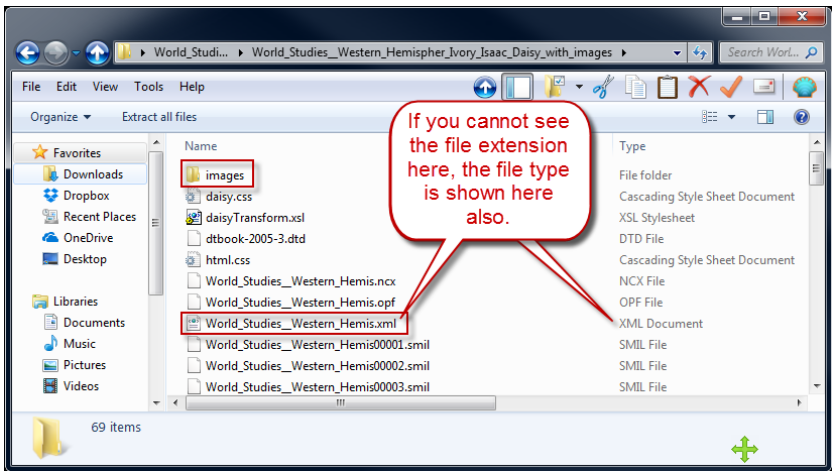
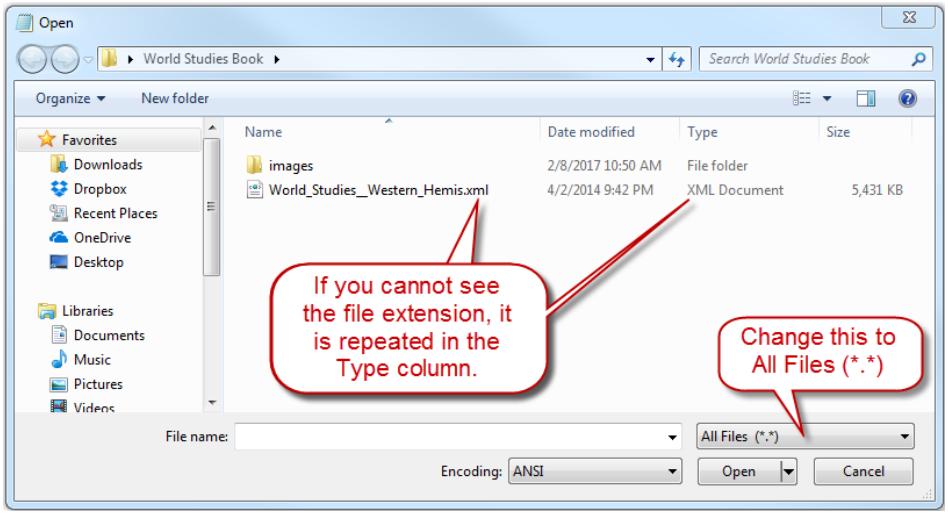
In addition, the file set will include a folder which is usually labeled "images". This folder may contain subfolders with names matching the structural organization of the book. Every image in the book will be contained somewhere in this file.



Procedures for Extracting Text from NIMAS and DAISY Files

Whether working with a DAISY file set or a NIMAS file set, the only items needed for this procedure are the images folder and the .XML file.

1. Create a new folder and name it something that reflects the name of the book.
2. Extract all files from the DAISY or NIMAS zip folder.
3. Copy the .XML file and the Images folder from the extracted zip folder to the new folder.
4. In the new folder, open the .XML in Notepad. If you cannot see the .XML file extension, make sure that "All Files (*)" is selected (see the image below).



5. In Notepad, select and delete all text before the entry which begins with "<dtbook". This line is usually three or four lines from the top of the document. It may not appear at the beginning of a line.

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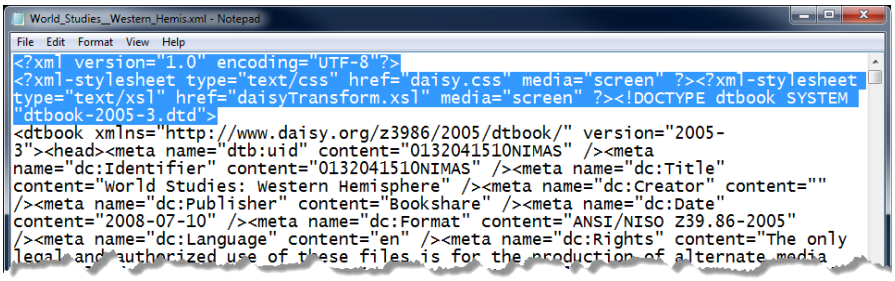
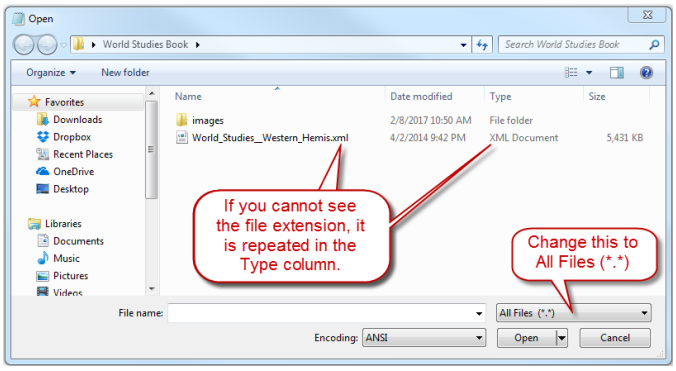


At this point you can add $pg (reference page number) tags to the .XML file. This will make it extremely easy to format the reference page numbers after the book is opened in Word and the large print template has been attached. To do this:

6. Press Ctrl+A to select all text in the Notepad file.
7. Press Ctrl+C to copy the entire file to the clipboard.
8. Start MS Word with a blank document. Do not attach any large print template at this point.
9. In Word, press Ctrl+V to paste the copied text into the Word document.
10. Select the Large Print tab on the Word ribbon and run the macro called ***Add $pg to XML File*** located in the DAISY, NIMAS and Text Tools group toward the right of the ribbon. Indicate whether it is a DAISY or NIMAS file.
11. When the macro has ended, press Ctrl+A to select all the text in the Word document
12. Press Ctrl+C to copy the entire file to the clipboard.
13. Task switch (Alt+Tab) back to the notepad file and press Ctrl+V. The text from clipboard will replace the selected text in Notepad.
14. In Notepad, save the .XML file (Ctrl+S) and then close Notepad Then…
15. Return to MS Word. If the .XML file is still open, close it without saving.
16. In Word's file menu, open the .XML file that was just saved from notepad. If you cannot see the .XML file extension, make sure that "All Files (*)" is selected (see the image below)



The entire book will open and both the text and the images will be visible.

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17. Immediately save the file as a .DOCX file (do a Save As).

    Make sure that the save location for the .DOCX file is the location where the image folder is located. If the .DOCX file and the image folder are in different folders, the Word document will show image placeholders (image frames) instead of the images.

    The entire book is now in a useable Word file complete with pictures.

18. After running some file cleanup macros and perhaps tagging and formatting the reference page numbers, the next step for the book file may be to break it into sections for easier editing. See ***Managing Large Documents***

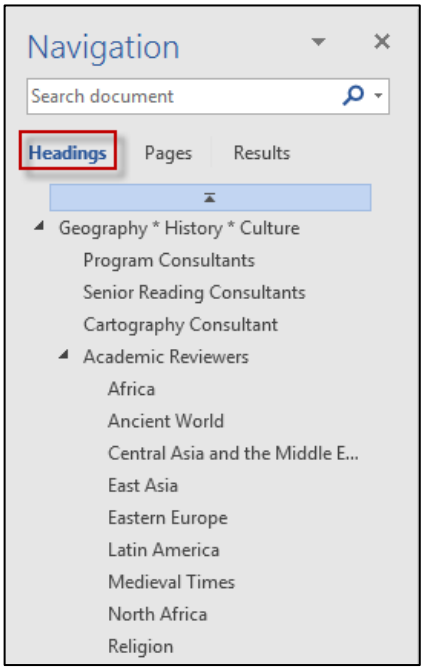
Managing Large Documents

Large books with many images and tables (like books extracted from DAISY or NIMAS files) in Word can easily contain over a thousand pages. Books may then be divided into smaller segments by chapters or units; however, it is strongly suggested the ***File Cleanup Sequence*** macros and the reference page numbers should be formatted on the entire book before splitting the book. This will eliminate the need to run these procedures on each of the book segments.

Viewing the Structure of a Book

The outline structure of a book is established by its heading levels. This outline structure can be viewed in the navigation pane. Press Ctrl+F to invoke the navigation pane.

When the navigation pane appears, click the word "Headings" under the search box. The outline structure of the book will appear.



Each heading level which contains sub-heading levels is marked by a small slanted triangle. Clicking the triangle will collapse or expand that section of the book in the Navigation Pane.

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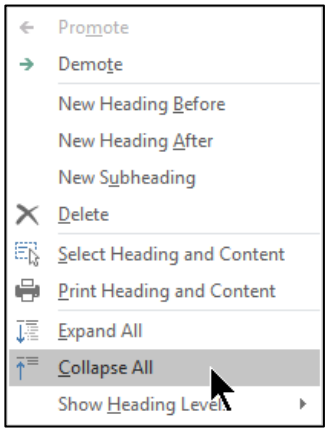
In the example above, the "Geography * History * Culture" is Heading 1 level. The items beneath it are Heading 2 levels. In this example, there are no Heading 3 levels following any of these Heading 2 levels.

The Heading 2 item "Academic Reviewers" contains many Heading 3 items but none of the Heading 3 items contain any Heading 4 items.

Clicking on any of the items in the listing will immediately move the cursor to that location in the document. This is extremely useful in breaking the book down into units or chapters.

Right-clicking on the headings list will bring up a pop-up menu which will allow the presentation of only those heading levels desired. Selecting "Collapse All" will show only heading level 1 items.



Breaking the Book into Manageable Sections.

It is often easier to work on a book in smaller pieces than to deal with a document that is computer-overwhelming.

Breaking a book into manageable sections is a matter of transcriber choice but keep in mind that the sections should make sense to the reader.

Many transcribers will extract the front matter into a file of its own. The front matter may contain items such as lists and pictures of reviewers, tables of contents etc.

Likewise, the rear matter of the book might be extracted into a file of its own. The rear matter may contain items such as glossaries, indexes, photo credits, skill assessments, and other reference items.

If the body of the book is organized by units (which contain chapters) then it may make sense to divide the book into units which contain both the unit introduction and the chapters. But keep in mind that there is nothing wrong with extracting the unit introduction and its chapters into individual files.

If the book is simply organized only by chapters, then breaking the book into chapters would seem logical.

In any case, each of the sections of the book should become a separate Word document with a prefixing number used as a file organizing feature. For example, a book with front matter, six chapters, and rear matter might be given files named like this.

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01 Introduction - Credits and Table of Contents
02 Chapter 1 - Name of the Chapter
03 Chapter 2 - Name of the Chapter
04 Chapter 3 - Name of the Chapter
05 Chapter 4 - Name of the Chapter
06 Chapter 5 - Name of the Chapter
07 Chapter 6 - Name of the Chapter
08 Glossary and Index

In this example, the numbers (01 through 08) keep the structural order of the book intact not only for the transcriber but also for the reader when the book is delivered in electronic such as a PDF file.

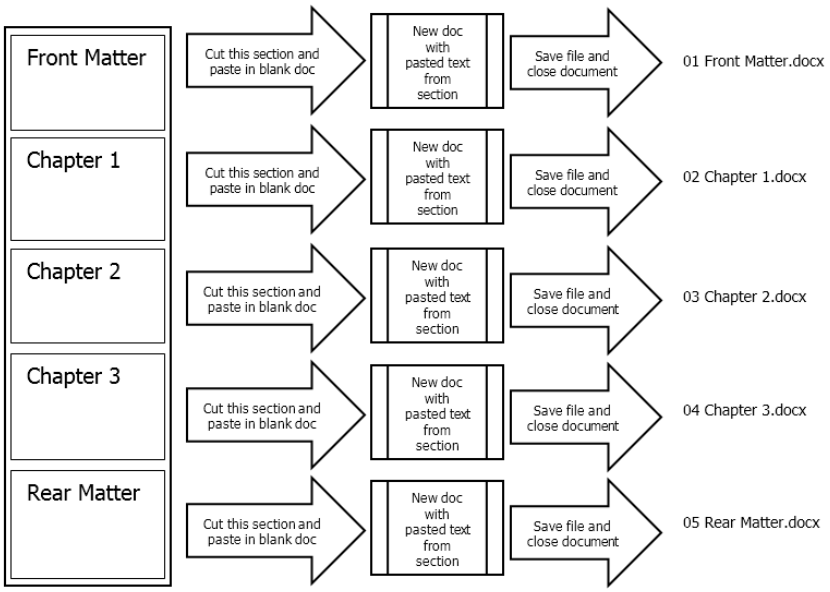
Extracting Sections of the Book

Use caution when performing this action on a file which holds the content of the entire book. Do NOT use this file for this process… make a copy of the file and use the copy for the process described below. At the end of this process, the copied file will have been destroyed.

Using the Navigation Pane (CTRL+F with the "Headings" item selected to show the book's structure), the process begins at the top of the file. The section of the book that is to be placed into a separate file is cut from the file and is pasted into a new blank document.

Hint: To select a section of the book, use the Navigation Pane to move to the heading level below the section to be extracted. Then press Ctrl+Shift+Home. This will select all text from the cursor to the top of the document. User Ctrl+X to cut it from the document, then paste it into a new document as described above.

The new file is then saved using the naming conventions suggested above. The new file is given an appropriate name, is saved and then closed. The focus then returns to the whole book document which now is one section shorter. This process is repeated until the content of the whole book file has been consumed and each section of the book is now a separate Word file.



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Dealing with Image Size Problems

Images are typically one of two types. Images that are "eye candy", interesting and sometimes useful for identifying content type but containing little or no subject content, and images filled with important written and/or graphic content.

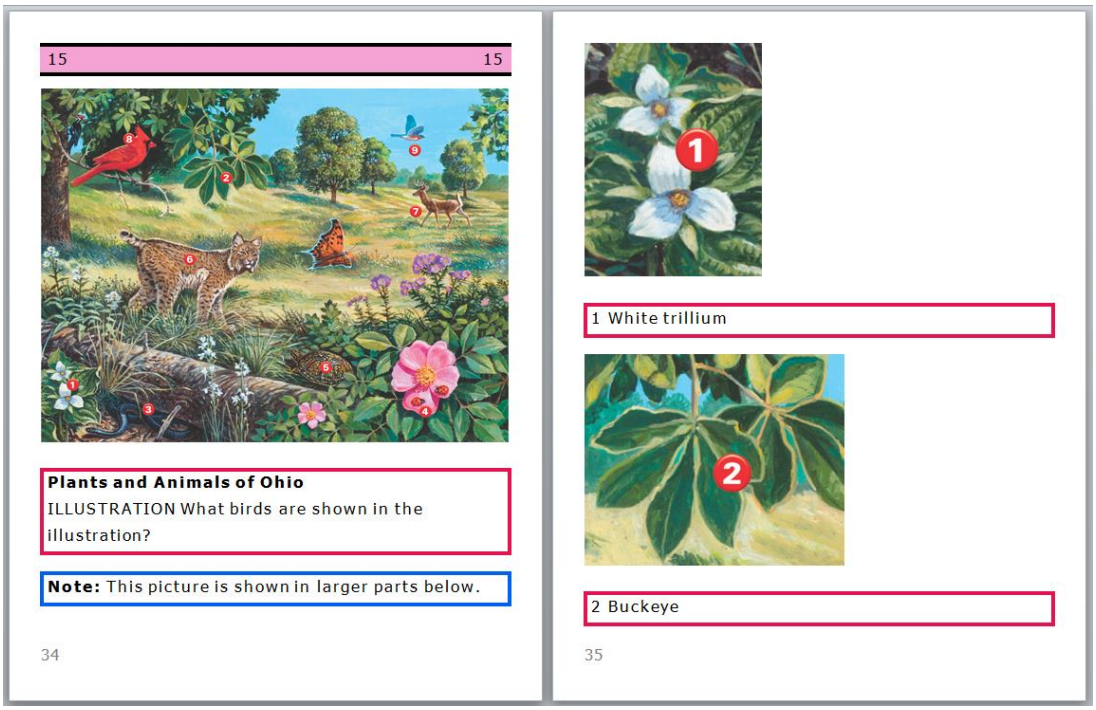
It is strongly suggested that all images be reviewed page by page before any image work begins in order to identify images which exceed the margin size or are distorted in some form. If there are many images which exceed the margin boundaries, then use the ***Resize Images*** macro in the from the menu presented by **Background and Picture tools** on the **Large Print tab ribbon** to reduce the size of all images by a percentage which will make them fit within the margins. This will reduce the amount of work required to manually resize those images using the resizing handles. It is easier to enlarge images when all sizing handles are visible.

Image issues for large print on paper

Content rich images present a major problem for large print on paper because paper has a finite size. In an ideal world images would be large enough for the reader to see and understand. But image enlargement may not fulfill that ideal. Images enlarged to meet the margins (the maximum size) may still be too small for the user to read.

There are a variety of software tools (many free) which can be used to manipulate images to make them more accessible. Image manipulations may include, but are not limited to:

Segmentation and enlargement (cutting the picture into pieces which are then enlarged) is shown below. Display the full image first then the parts of the image afterword. Notice the transcriber note in the blue box.



Above from Harcourt Social Studies Ohio Edition ISBN 9780153485800

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Large print repetition of the text presented in the picture when appropriate and/or in combination with an image description. Use a separate ***Box Red*** style for in-picture text and picture descriptions.

Keep in mind that the text inside of pictures are simply images of text… they are not electronic text which is needed for text to speech reading programs.

Some readers may prefer to both visually read and to listen to the text being read to them. The implication for images is that the text from the images, and image descriptions can serve two purposes.

Image issues for large print on screen devices

On tablets and computer screens, the image size problem is less problematic because the user can zoom (enlarge) the picture to explore the detail. The pictures, however, should be reasonably resized to fit on the page.

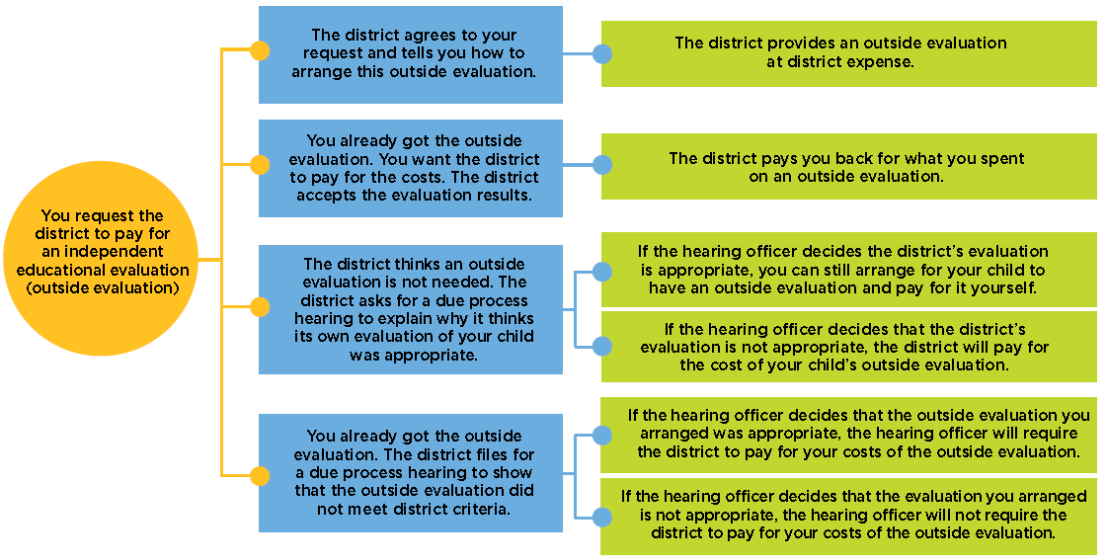
For tablets and computer screens, image sizes can be adjusted to either enlarge them (within the margins) or to reduce them to a size which fits within the margins. Images can then be read by using the tablet or computer's screen zooming features.

Dealing with Graphic Organizers

Graphic organizers can often be treated the same as images. But some organizers are basically text and may need to be reorganized as text. Dealing with these structures can be a challenge and may require some ingenuity.

Here is an example of a graphic organizer which has been placed in red boxes so that it could be read. Note that the blue box transcriber note proceeds the original image of the chart.
(From: *A Guide to Parent Rights in Special Education* -Ohio Department of Education)

Note: The following chart has been rearranged into large print and appears in the four red boxes below the graphic.



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You·request·the·district·to·pay·for·an·independent·educational·evaluation·(outside·evaluation)¶

The·district·agrees·to·your·request·and·tells·you·how·to·arrange·this·outside·evaluation.¶

•·The·district·provides·an·outside·evaluation·at·district·expense.¶

You·request·the·district·to·pay·for·an·independent·educational·evaluation·(outside·evaluation)¶

You·already·got·the·outside·evaluation.·You·want·the·district·to·pay·for·the·costs.·The·district·accepts·the·evaluation·results.¶

•·The·district·pays·you·back·for·what·you·spent·on·an·outside·evaluation.¶

You·request·the·district·to·pay·for·an·independent·educational·evaluation·(outside·evaluation)¶

The·district·thinks·an·outside·evaluation·is·not·needed.·The·district·asks·for·a·due·process·hearing·to·explain·why·it·thinks·its·own·evaluation·of·your·child·was·appropriate.¶

•·If·the·hearing·officer·decides·the·district's·evaluation·is·appropriate,·you·can·still·arrange·for·your·child·to·have·an·outside·evaluation·and·pay·for·it·yourself.¶

•·If·the·hearing·officer·decides·that·the·district's·evaluation·is·not·appropriate,·the·district·will·pay·for·the·cost·of·your·child's·outside·evaluation.¶

You·request·the·district·to·pay·for·an·independent·educational·evaluation·(outside·evaluation)·You·already·got·the·outside·evaluation.·¶

The·district·files·for·a·due·process·hearing·to·show·that·the·outside·evaluation·did·not·meet·district·criteria.¶

•·If·the·hearing·officer·decides·that·the·outside·evaluation·you·arranged·was·appropriate,·the·hearing·officer·will·require·the·district·to·pay·for·your·costs·of·the·outside·evaluation.¶

•·If·the·hearing·officer·decides·that·the·evaluation·you·arranged·is·not·appropriate,·the·hearing·officer·will·not·require·the·district·to·pay·for·your·costs·of·the·outside·evaluation.¶

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Making Tables Readable

For video and practice files - See #7 on the *Video and Practice File Links* page.

Identifying Table Types

Tables with column headers and row headers
This type of table is common

Column Header	Column Header	Column Header	Column Header	Column Header
Row Header	Data	Data	Data	Data
Row Header	Data	Data	Data	Data
Row Header	Data	Data	Data	Data

Tables with row headers but without column headers
This type of table is less common but occasionally seen.

Row Header	Data	Data	Data	Data
Row Header	Data	Data	Data	Data
Row Header	Data	Data	Data	Data
Row Header	Data	Data	Data	Data

Tables with column headers but without row readers

This type of table is rarely seen probably because it forces reading from top to bottom rather than left to right.

Column Header	Column Header	Column Header	Column Header	Column Header
Data	Data	Data	Data	Data
Data	Data	Data	Data	Data
Data	Data	Data	Data	Data

Variations on common tables
The following table has some common variations found in tables.

1. A table title in the top row in merged cells (shown with green text)
2. The addition of explanatory paragraphs in a cell (shown in blue below)
3. Cells which are empty (shown in oval)

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Title in Table with Column and Row Headers				
Column Header	Column Header	Column Header	Column Header	Column Header
Row Header	Data Paragraph within cell.	Data	Data	Data
Row Header	Data	Data		Data
Row Header	Data	Data	Data	Data

Tables Used for Formatting

This type of table is not a real table… that is to say that there is no relationship between rows and columns or from cell to cell. This table has been used as a formatting tool to make text appear in columns. These tables are often used for items such as word-banks.

If you receive a document in electronic form, these tables may not appear as tables because the table borders are not visible until a large print template is attached to the document. If you click in in this type of word grouping table, then, Word's table tools menu will appear above Word's ribbon and then cell ending marks will appear in the table.

A table with hidden borders as it appears when the Show/Hide non-printing characters is turned off:

you	need	to	stop
reading	before	you	reach
the	end	Word	remembers
where	you	left	off

The same table after a large print a template is attached:

you	need	to	stop
reading	before	you	reach
the	end	Word	remembers
where	you	left	off

See: ***Converting Tables Used for Formatting Into Columns*** for method of converting the table to actual columns.

Complex tables
This type of table is typically a row column table with multiple levels of column headers and often in merged cells. The best approach for dealing with these tables it to disassemble them into several tables which, after disassembly, may need to be presented in optional ways such as lists. Word's Table Tools contain all of the tools needed to accomplish the disassembly. See ***Table Disassembly*** for an example.

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What to Do When Tables Do Not Fit Within the Document Margins

The finite size of paper often means that some tables will not fit within the page when displayed in large print. It is strongly suggested that all tables be reviewed to determine if the large print font has caused the text within column headers and/or data cells to wrap, resulting in unreadable entries.

Do not reduce the font size in tables. Reducing the font size within a table to make it fit within the page margins of a paper documents would violate the guideline that no text should be presented smaller than the size of the **Normal** font style unless the output media is for a screen where zoom operations can be used. see ***Reducing the font size of tables for tablets and computer screens***

These methods can be used to make the tables readable.

Table Rotation: Table rotation reverses the table's X-Y axis. Tables with columns which are too wide but and few rows can be rotated to make them fit within the page margins.

Tables which are too large to fit the page, even after rotation, should either be converted to a listed/labeled style or broken into multiple smaller tables.

Conversion to a List: Converts a table to an indented list with row and column labels preceding the table data.

For Pad or Computer Screens: The font size in a table may be reduced so that the table fits within the margins of the paper. see: ***Reducing the font size of tables for tablets and computer screens.***

Table Disassembly Tables which are not suitable for rotation or for converting to a list can be broken into multiple, smaller tables.

Preparing Tables Prior to Conversion by Rotation or List Macros

Dealing with Merged Cells
The table rotation and the table to list macros will not work when there are merged cells within the table.

In this table, the cells in the row above the column headers have been merged in order to create a single cell for a title within the table (shown in green in the example below).

Table Title			
Column Header	Column Header	Column Header	Column Header
Row Header			
Row Header			

To prepare this table for rotation or conversion to a list, the title must be separated from the table:

Place the cursor in the row below the title row. Word's ***Table Tools*** menu will appear above the ribbon.

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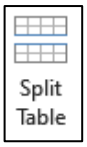
Select ***Layout*** on the ***Table Tools*** menu and use the ***Split Table*** tool to separate the table title from the body of the table.



Example after splitting (creates two tables)

Table·Title¤

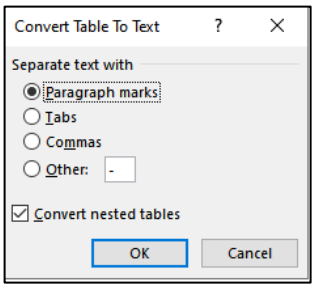
Column·Header¤	Column·Header¤	Column·Header¤	Column·Header¤
Row·Header¤	¤	¤	¤
Row·Header¤	¤	¤	¤

Converting the title table to text:
Select the table with the title. (Word's ***Table Tools*** menu will appear above the ribbon)

On the ***Table Tools***, select *Layout*

Click on the ***Convert to Text*** icon (on the right side of the ribbon in the ***Data*** group)

In the Convert Table to Text dialog box, select the Separate Text with Paragraph Marks



The title and table will appear like this and can now be rotated or converted into a list.

Table·Title¶

Column·Header¤	Column·Header¤	Column·Header¤	Column·Header¤
Row·Header¤	¤	¤	¤
Row·Header¤	¤	¤	¤

Dealing with Embedded Tables When Table Rotation is Needed

The table rotation macro will produce unsatisfactory results when a table is embedded within a table cell. Example embedded table shown in green below:

The easiest method for accomplishing this task is to use Excel's Transposition feature
See: ***Using Excel to Rotate a Table***

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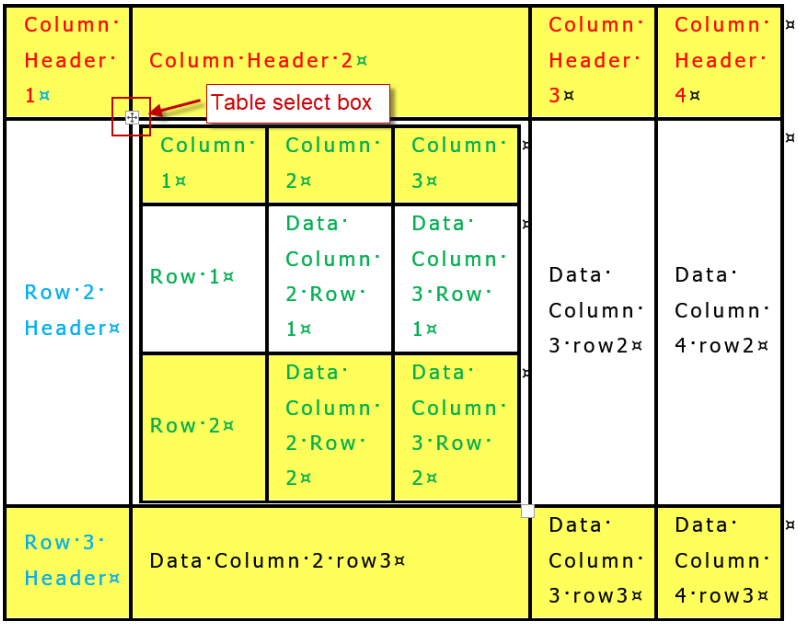
Dealing with Embedded Tables When Table List is Needed

Example of an embedded table with green text below:

Column Header 1	Column Header 2			Column Header 3	Column Header 4
Row 2 Header	Column 1	Column 2	Column 3	Data Column 3 row2	Data Column 4 row2
	Row 1	Data Column 2 Row 1	Data Column 3 Row 1		
	Row 2	Data Column 2 Row 2	Data Column 3 Row 2		
Row 3 Header	Data Column 2 row3			Data Column 3 row3	Data Column 4 row3

To remove the embedded table, do the following:
Click in the embedded table (the select table box will appear in upper left of embedded table)



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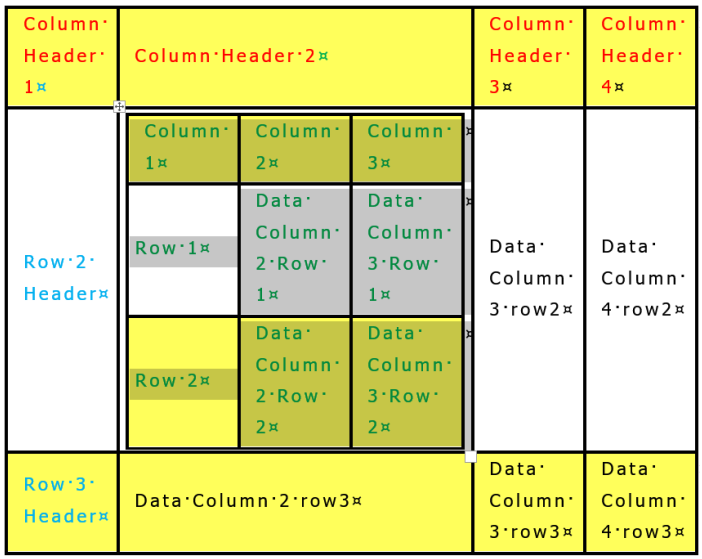
1. Click the select table box (the embedded table is selected)



2. Delete the embedded table using Ctrl+X. Open a new document paste the table into the new document and attach the same large print template as the one in the original document. Keep track of the location of the embedded table in the original document.

3. Repeat as necessary to remove all embedded tables.

4. With the original table, convert the table to a list. It will look like the list below. Note that the location of the embedded table is marked with "N/A".

Note: The original table has been converted to a list. Empty table cells are shown as "N/A".

Column header 1: **Row 2 Header**
Column Header 2: N/A
Column Header 3: Data Column 3 row2
Column Header 4: Data Column 4 row2

Column header 1: **Row 3 Header**
Column Header 2: Data Column 2 row3
Column Header 3: Data Column 3 row3
Column Header 4: Data Column 4 row3

5. Using the embedded table, convert it to a list. It will look like this (transcriber note not included):

Column 1: **Row 1**
Column 2: Data Column 2 Row 1
Column 3: Data Column 3 Row 1

Column 1: **Row 2**
Column 2: Data Column 2 Row 2
Column 3: Data Column 3 Row 2

6. Format the embedded table list using the styles pane. All text will turn black.

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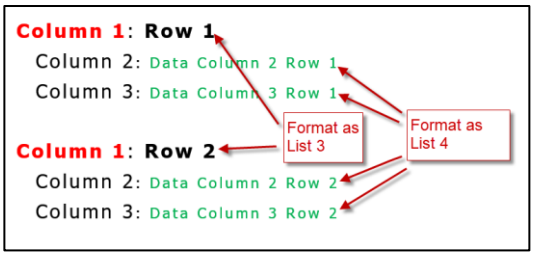

7. After formatting the list will look like this:

```
Column 1: Row 1
  Column 2: Data Column 2 Row 1
  Column 3: Data Column 3 Row 1

Column 1: Row 2
  Column 2: Data Column 2 Row 2
  Column 3: Data Column 3 Row 2
```

   You can add colors to match the rest of the list, if desired

8. Copy the formatted list from the embedded table and paste it into the list from the main table below the item with the "N/A" (then delete the "N/A"). The final list will look like this:

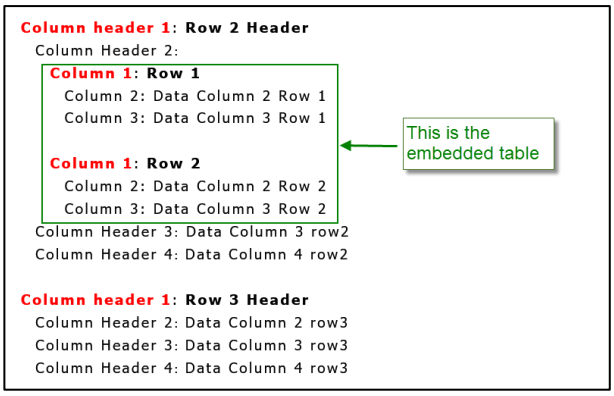

Table Rotation

Limitations of the macro: The table rotation macro will complete successfully as long as the table is square or rectangular, has the same number of cells in each row, and has the same number cells in each column. Split cells or merged cells will cause the macro to fail. Cells which contain an embedded table will produce unsatisfactory results.

Complete rotation of a table which do not meet the specifications listed above can be accomplished by using Microsoft Excel's transposition feature. Merged cells at the top of a table which are used for a table title should be split from the table for using Excel's transposition feature.

For more information on using Excel's transposition feature, see: ***Using Excel to Rotate a Table***

Table rotation is accomplished using the Rotate Table macro in the Table Tools macro menu located in the Other Formatting Tools group of the Large Print ribbon.

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The Rotate Table macro will retain any paragraphs in the data cells and will retain font characteristics such as bold, italic, and underline and font colors as well as words with color shading.

This table (before a large print template has been attached) is quite readable.

COUNTRY	1900	1910	1920	1930	1940	1950	1960	1970
DENMARK	13.9	16.2	37.0	33.8	44.3	544	64.3	72.1
SWEDEN	8.7	12.2	32.4	41.7	64.3	75.2	83.4	89.6
GERMANY	5.7	13.8	45.2	25.8		35.8	39.8	40.4
FRANCE		11.0	38.0	9.5	45.0	23.0	17.3	31.0

Here is the same table after a large print template has been attached (shown in reduced size) The table was too wide to fit within the page margins resulting in table row and column headings (and often the data) to wrap within the cells.

COUNTRY	1900	1910	1920	1930	1940	1950	1960	1970
DENMARK	13.9	16.2	37.0	33.8	44.3	544	64.3	72.1
SWEDEN	8.7	12.2	32.4	41.7	64.3	75.2	83.4	89.6
GERMANY	5.7	13.8	45.2	25.8		35.8	39.8	40.4
FRANCE		11.0	38.0	9.5	45.0	23.0	17.3	31.0

After rotation, the same table (shown below in reduced size) will easily fit within the margins of the page. The blue-boxed transcriber note is automatically added by the table rotation macro.

Note: The original table has been rotated. Empty table cells are shown as "N/A".

Country	Denmark	Sweden	Germany	France
1900	13.9	8.7	5.7	N/A
1910	16.2	12.2	13.8	11.0
1920	37.0	32.4	45.2	38.0
1930	33.8	41.7	25.8	9.5
1940	44.3	64.3	N/A	45.0
1950	544	75.2	35.8	23.0
1960	64.3	83.4	39.8	17.3
1970	72.1	89.6	40.4	31.0

Note: In the table above, rotation caused a problem with the label in row 1 column 1 (the word "Country"). Because column labels should only identify what is below, the label would be better if changed from "County" to "Year".

As the result of a user choice made in the rotation macro menu, the N/A symbols were placed in empty table cells and in the transcriber note by the macro. A user choice also converted the upper-case row labels (in the original table) into title-case (each word, with exception of the "small" words is capitalized.

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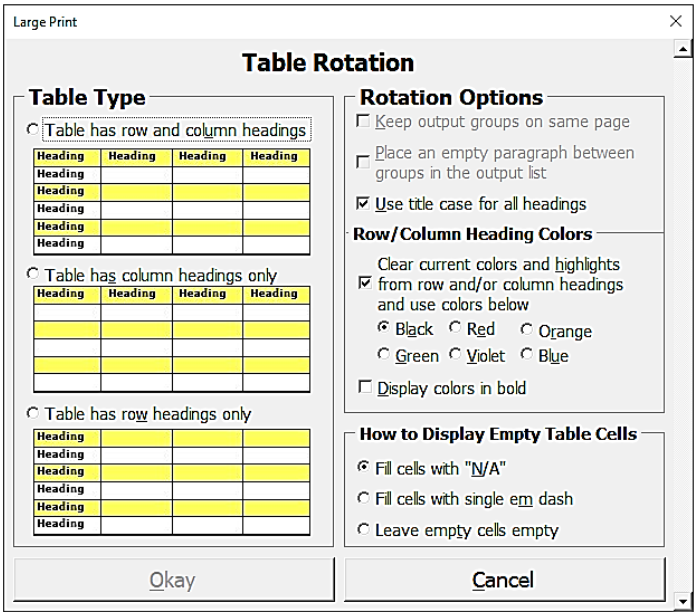
Using the Table Rotation Macro

Be sure that the table is square or rectangular and that there are no merged or split cells within the table. See: ***Preparing Tables for Conversion by Rotation or List Macros*** ***for suggestions on how to fix these problems.***

Place the cursor within the table to be rotated.

Click the ***Table Tools*** icon on the large print tab ribbon and select the ***Rotate Table 90 Degrees*** button.

On the ***Table Rotation*** user options menu, select the table type in the left pane (the Okay button with turn on).



Change any of the default settings in the ***Rotation Options*** pane as needed.

The default settings in the ***Rotation Options*** pane are shown above, however in some cases choices may need to be changed. Here are the choices:

Use title case for all headings – When checked, this will convert headings to title-case otherwise it will leave the case unchanged. Italics and underlined text will be retained only if this selection is unchecked

Clear current colors and highlights from row and/or column headings – Color row and column heading should only be used if they signify something to the reader. When checked, the existing colors will be replaced with the color selected in the ***Row/Column Heading Colors*** frame otherwise row and column headers will retain their original colors.

Display colors in bold – If checked, the headings will be in bold in the color specified. Keep in mind that bold takes more space than not in bold and choosing bold may, in some cases, cause the rotated table to not fit within the margins.

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How to Display Empty Table Cells – There are three choices, "N/A", em dash, or leave empty. Empty cells may cause confusion with readers thus the default choice of "N/A". If either "N/A" or em dash is chosen and empty cells were filled during the rotation, the transcriber note (in the blue box) will indicate their use to the reader.

Click the Okay button and enjoy the show.

Note: The rotation does not change any font characteristics of data cells. If changes in the data need to be made, make them before rotation.

If rotation is not satisfactory (either not fitting in the margins of the paper or the rotation options need to be changed), the table can be reverted to its original format by pressing Ctrl+Z (undo) three times.

Using Excel to Rotate a Table

For video and practice files - See #8 on the *Video and Practice File Links* page.

Microsoft Excel can be used to rotate tables. In Excel the term for rotate is "transpose".

Be sure to remove a table title, often in a merged cell, at the top of table before using Excel to rotate the table.

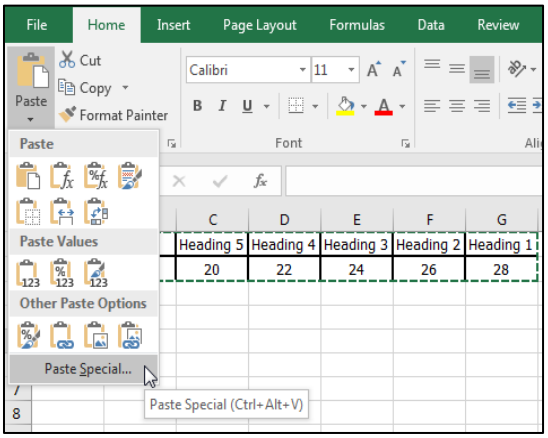
Here is how to rotate a table using Excel

With Word set in Print Layout View, place the cursor in the upper left corner cell, then select the entire table by clicking on the four-headed arrow in the box in the upper left corner. This will select the whole table. Press Ctrl+C to copy the table to the clipboard. Word need not be closed for the next steps.

Start Excel and open a blank workbook. Select a cell in Excel and press Ctrl+V to paste the table there. Immediately press Ctrl+C to copy the table to the clipboard… it has already selected during the paste procedure.

Open a new workbook in excel.

On the Home tab select the Paste icon's menu button (the little down-point arrow below the paste icon). Then, on the pop-up menu, select paste special.



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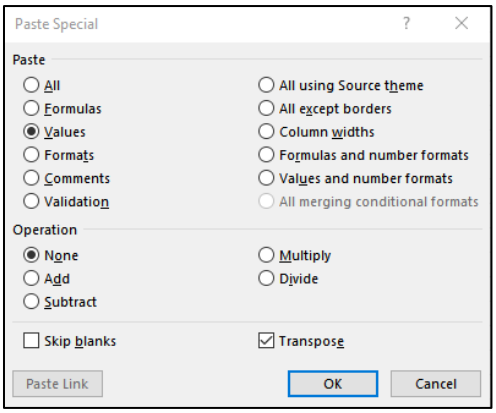
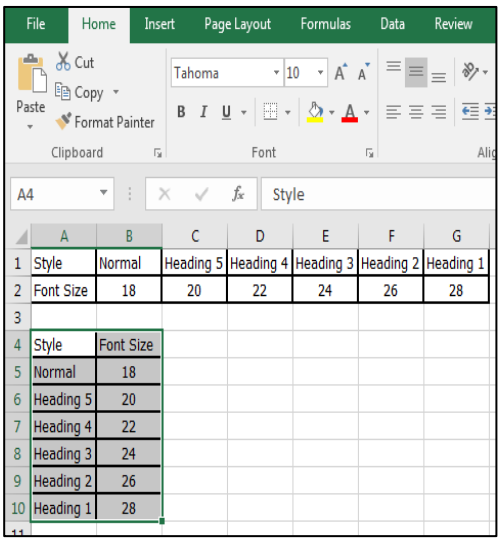
1. On the **Paste Special** dialog, check Values and the **Transpose** box, then, click the OK button.



2. The transposed table will paste at the chosen cell location and will already be selected. Press Ctrl+C to copy the table (it has been selected during the paste procedure).



Return to Word (Alt+Tab) and paste (Ctrl+V) the transposed table into the document below or above the original table (make sure the tables are separated by an empty paragraph).

1. Place the cursor in the new table.
2. On the **Large Print** tab, select **Table Tools** from the ribbon.
3. On the table tools dialog box select **Set Table to Default Format**.

The original table can be deleted (in the **print layout** view) by selecting the move handle (in the upper left corner) and pressing the **backspace** key.

Adjustments to the table color and font size may be needed. Use the ***Set Tables to Default Format*** in the macro ***Table Tools*** menu fix table font and style issues.

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Converting a Table into a List

Limitations of the macro: The table to list macro will complete successfully as long as the table is square or rectangular, has the same number of cells in each row, and has the same number cells in each column. Split cells or merged cells will cause the macro to fail. Cells which contain an embedded table will produce unsatisfactory results.

For more information on table preparation prior to converting to a list, see: ***Preparing Tables for Conversion by Rotation or List Macros***

Tables which cannot be successfully rotated can be reformatted into a list with column headings becoming the group title and with row labels preceding the table data. This is accomplished by using the ***Convert Table to List*** option of the ***Table Tools*** menu located on the large print tab ribbon.

The **Convert Table to List** macro will retain any paragraphs in the data cells and will retain font characteristics such as bold, italic, and underline and font colors as well as words with color shading.

This table (before a large print template has been attached) is quite readable.

COUNTRY	TOTAL MOBILIZED FORCES	WOUNDED	MISSING IN ACTION	TOTAL CASUALTIES
Russia (Soviet Union)	12,000,000	4,950,000	18,278	9,150,000
British Empire	8,904,467	2,090,212	865	3,190,235
France	8,410,000	4,266,000	987	6,160,800
Italy	5,615,000	947,000	434	2,197,000
United States	4,355,000	204,002	283	323,018
Japan	800,000	907	685	1,210
Serbia	707,343	133,148	2,398	331,106
Germany	11,000,000	4,216,058	2,765	7,142,558

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The same table, shown above, after a large print template has been attached. Note that the text within the column and row headers and data cells are wrapped. (Table below is shown in reduced scale).

COUNTRY	TOTAL MOBILIZED FORCES	WOUNDED	MISSING IN ACTION	TOTAL CASUALTIES
Russia (Soviet Union)	12,000,000	4,950,000	18,278	9,150,000
British Empire	8,904,467	2,090,212	865	3,190,235
France	8,410,000	4,266,000	987	6,160,800
Italy	5,615,000	947,000	434	2,197,000
United States	4,355,000	204,002	283	323,018
Japan	800,000	907	685	1,210
Serbia	707,343	133,148	2,398	331,106
Germany	11,000,000	4,216,058	2,765	7,142,558

The table, shown above could, not be successfully rotated because there are too many rows. Here are the first two rows after an attempted rotation (shown in reduced size).

COUNTRY¤	Russia·(Soviet·Union)¤	British·Empire¤	France¤	Italy¤	United·States¤	Japan¤	Serbia¤	Germany¤
TOTAL·MOBILIZED·FO	12,000,000¤	8,904,467¤	8,410,000¤	5,615,000¤	4,355,000¤	800,000¤	707,343¤	11,000,000¤

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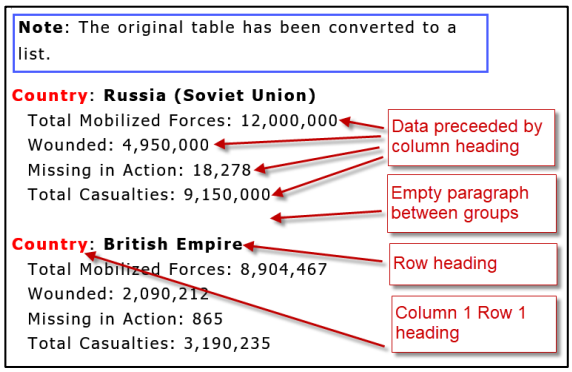
Examples after Conversion to a List

Each table row produces a group with column headings preceding the data. Shown here are the first two table rows (shown as a group separated by a blank line) of the listed table with color and bold enhancements (the default settings for the macro). Each group is followed by a blank line. The blue-boxed transcriber note is produced automatically by the macro.

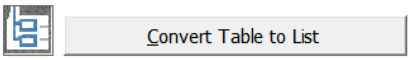


Using the Table to List Conversion Macro

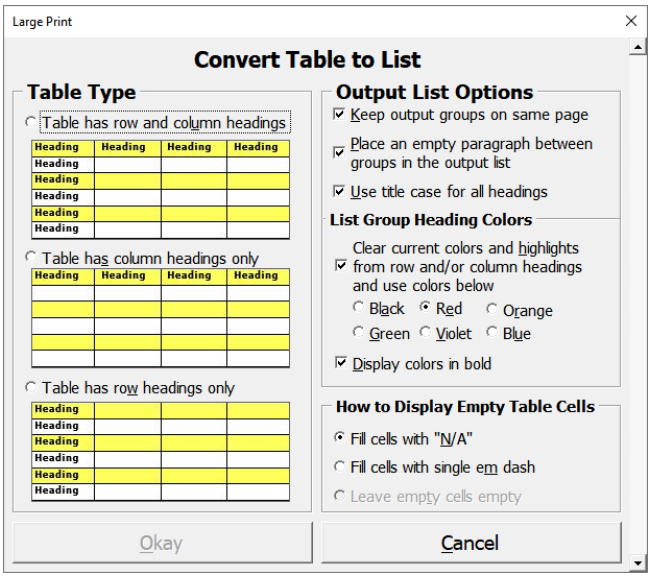
1. Be sure that the table is square or rectangular and that there are no merged or split cells within the table. See: ***Preparing Tables Prior to Conversion by Rotation or List Macros*** for suggestions on how to fix these problems.

2. Place the cursor within the table to be rotated.

3. Click the ***Table Tools*** icon on the large print tab ribbon and select the ***Convert Table to List*** button.



4. On the ***Convert Table to List*** user options menu, select the table type in the left pane (the Okay button with turn on).



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5. Change any of the default settings in the ***Output List Options*** pane as needed.

   The default settings ***Output List Options*** pane are the default, however in some cases choices may need to be changed. Here are the choices:

   - **Keep output groups on same page** - The **Keep output groups on same page** option will prevent the data groupings from splitting across pages.

     The option works well when the table has a limited number of columns. As the number of columns increases, fewer groupings will fit on the page. When only one group will fit on a page, the rest of the page will be empty. In that case, it may be better to allow groups to split across pages.

     To overcome large swaths of emptiness at the bottom of pages, use the undo option (Ctrl+Z three (3) times) and then run the macro a second time with the **Keep output groups on same page** option turned off.

   - **Place an empty paragraph between groups in the output list** - An empty paragraph between groups enhances readability. Turning this option off may assist in keeping more than one group on a page.

   - **Use title case for all headings** – When checked, this will convert headings to title-case otherwise it will leave the case unchanged.

     Italics and underlined text will be retained only if this selection is unchecked

   - **Clear current colors and highlights from row and/or column headings** – Color row and column heading should only be used if they signify something to the reader. When checked, the existing colors will be replaced with the color selected in the ***Row/Column Heading Colors*** frame otherwise row and column headers will retain their original colors.

   - **Display colors in bold** – If checked, the headings will be in bold in the color specified. The default settings are designed to assist readers in locating groups quickly.

   - **How to Display Empty Table Cells** – There are two choices, "N/A" and em dash. Empty cells may cause confusion with readers thus the default choice of "N/A". If either "N/A" or em dash is chosen and empty cells were filled during the list creation, the transcriber note (in the blue box) will indicate their use to the reader.

6. Click the ***Okay*** button and enjoy the show.

Note:

- Converting a table to a list does not change any font characteristics of data cells. If changes in the data need to be made, make them before rotation.

- If the output list is not satisfactory (the conversion options need to be changed), the table can be reverted to its original format by pressing **Ctrl+Z** (undo) **three times**.

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Table Disassembly

The following table was disassembled using tools from Word's Table Tools menu. The primary tools used were Delete (rows and columns), Insert (rows and columns), Split Cells, Merge Cells, and Split Table, along with cut, copy, and paste.

Text or Box Color	RGB Value (Hex Color Number)	Trichromacy (Normal Color Vision)		Color Blindness Type					
				Protanopia* (Red-Green Color Blindness)		Deuteranopia** (Red-Green Color Blindness)		Tritanopia*** (Blue-Yellow Color Blindness)	
		Contrast Ratio White Bkgrnd	Contrast Ratio Black Bkgrnd	Contrast Ratio White Bkgrnd	Contrast Ratio Black Bkgrnd	Contrast Ratio White Bkgrnd	Contrast Ratio Black Bkgrnd	Contrast Ratio White Bkgrnd	Contrast Ratio Black Bkgrnd
Red	255-0-0 (#FF0000)	4.0:1	5.3:1	5.5:1	3.8:1	3.0:1	6.9:1	3.9:1	5.4:1
Blue	74-93-255 (#4A5DFF)	4.9:1	4.3:1	4.8:1	4.4:1	4.4:1	4.8:1	4.7:1	4.5:1
Orange	228-90-45 (#E45A2D)	3.6:1	5.8:1	3.7:1	5.7:1	3.7:1	5.7:1	3.6:1	5.8:1
Green	0-128-0 (#008000)	5.1:1	4.1:1	4.8:1	4.4:1	6.2:1	3.4:1	5.4:1	3.9:1
Violet	192-0-249 (#C000F9)	4.6:1	4.6:1	5.3:1	4.0:1	3.4:1	6.1:1	4.5:1	4.7:1
Tan	156-112-82 (#9C7052)	4.3:1	4.9:1	4.5:1	4.7:1	4.1:1	5.1:1	4.4:1	4.81

The table was broken into four groups, Normal color vision, and the three types of color blindness. Here are some hints about looking at the table:

The first two columns contain row headers which must be kept with each of the four disassembled tables (otherwise the type of information in the rows would have no meaning.

Column group headers were broken into table descriptions above each table.

Column headers above the numbers were left in place.

This is a non-trivial task that will take time and practice to accomplish.

The four resulting tables are shown below:

Contrast Ratio for White and Black Backgrounds for Trichromacy
(Normal Color Vision)

Text or Box Color	RGB Value (Hex Color Number)	White Background	Black Background
Red	255-0-0 (#FF0000)	4.0:1	5.3:1
Blue	74-93-255 (#4A5DFF)	4.9:1	4.3:1
Green	0-128-0 (#008000)	5.1:1	4.1:1
Violet	192-0-249 (#C000F9)	4.6:1	4.6:1
Tan	156-112-82 (#9C7052)	4.3:1	4.9:1

Contrast Ratio for White and Black Backgrounds for Tritanopia*
(Red-Green Color Blindness)

Text or Box Color	RGB Value (Hex Color Number)	Contrast Ratio White Bkgrnd	Contrast Ratio Black Bkgrnd
Red	255-0-0 (#FF0000)	5.5:1	3.8:1
Blue	74-93-255 (#4A5DFF)	4.8:1	4.4:1
Green	0-128-0 (#008000)	4.8:1	4.4:1
Violet	192-0-249 (#C000F9)	5.3:1	4.0:1
Tan	156-112-82 (#9C7052)	4.5:1	4.7:1

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Contrast Ratio for White and Black Backgrounds for Deuteranopia**
(Red-Green Color Blindness)

Text or Box Color	RGB Value (Hex Color Number)	Contrast Ratio White Bkgrnd	Contrast Ratio Black Bkgrnd
Red	255-0-0 (#FF0000)	3.0:1	6.9:1
Blue	74-93-255 (#4A5DFF)	4.4:1	4.8:1
Green	0-128-0 (#008000)	6.2:1	3.4:1
Violet	192-0-249 (#C000F9)	3.4:1	6.1:1
Tan	156-112-82 (#9C7052)	4.1:1	5.1:1

Contrast Ratio for White and Black Backgrounds for Tritanopia***
(Red-Green Color Blindness)

Text or Box Color	RGB Value (Hex Color Number)	Contrast Ratio White Bkgrnd	Contrast Ratio Black Bkgrnd
Red	255-0-0 (#FF0000)	3.9:1	5.4:1
Blue	74-93-255 (#4A5DFF)	4.7:1	4.5:1
Green	0-128-0 (#008000)	5.4:1	3.9:1
Violet	192-0-249 (#C000F9)	4.5:1	4.7:1
Tan	156-112-82 (#9C7052)	4.4:1	4.81

Reducing the Font Size of Tables for Tablets and Computer Screens

On tablets and computer screens, the table size problem is less problematic because the user can zoom the table to explore the detail. Keeping the table in its original form allows for easier comparison of table data from row to row and column to column.

Keep in mind that the zoom function on screens is also limited. Zooming allows the user to see the table larger but at the same time to see less of it. This means that large tables which require greater font size reduction in order to fit on the screen will require greater zooming magnification and will be difficult if not impossible to read. For very large tables, consider the listed/labeled conversion.

Here is a quick way to reduce the font size in a table.

With Word set in **Print Layout** view, place the cursor in the upper left cell of the table, then select the entire table by clicking on the four-headed arrow in the box in the upper left corner (viewable only in **Print Layout** view) or use the **Select** tool on the **Layout** menu of the **Table Tools** menu. Either method will select the whole table.

When the whole table has been selected, locate the **Decrease Font Size** icon on Word's **Home** tab, and click it to reduce the size of the font in two-point increments within the table or use **Ctrl+Shift+<** to. Repeat as necessary until the table fits the page width without distortions.

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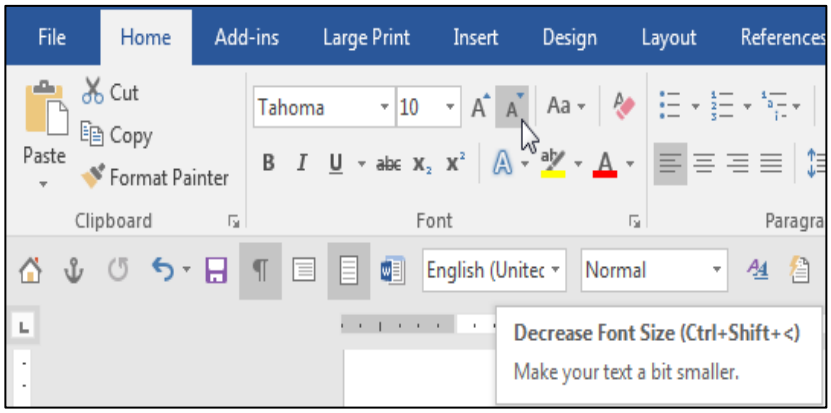
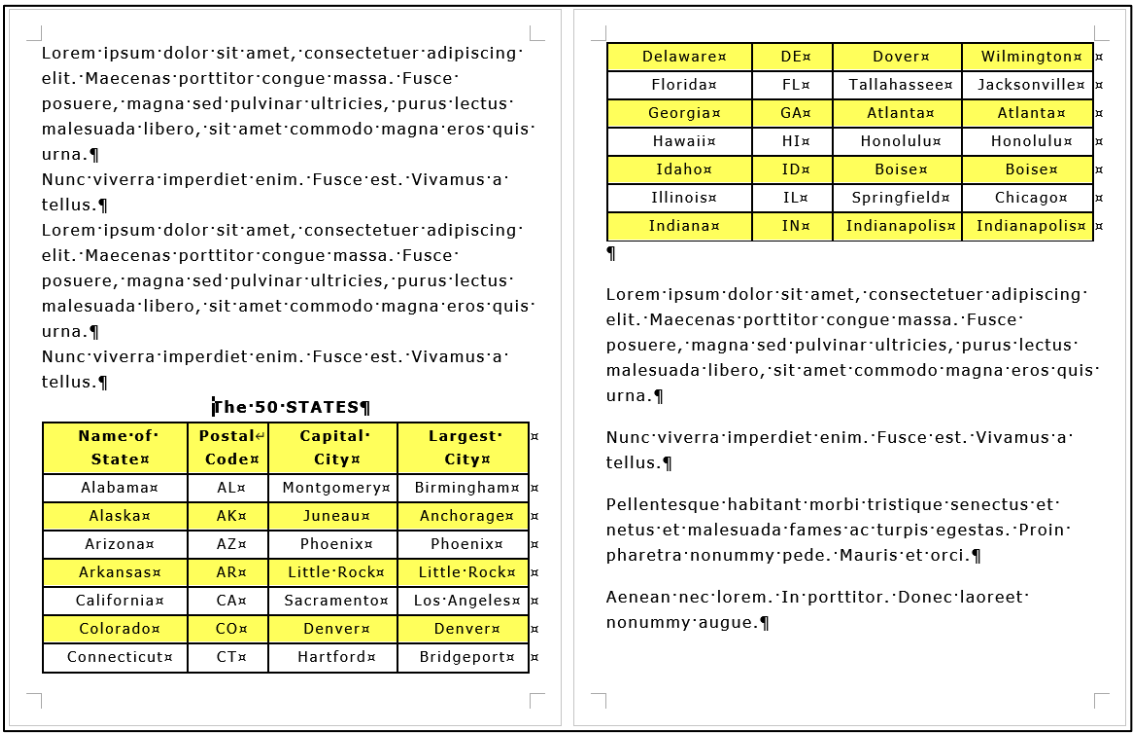
Alternately, the point size of the font can be specifically set by changing point size value.



Fixing Tables That Break Across Pages

Even if a table fits within page margins, tables with many rows will often be broken at the page boundry. Note that the table on the second page has no column header. While this particular table's columns are fairly self-evident, other tables may not be so easily understood when column headings are missing.



Lorem·ipsum·dolor·sit·amet,·consectetuer·adipiscing·elit.·Maecenas·porttitor·congue·massa.·Fusce·posuere,·magna·sed·pulvinar·ultricies,·purus·lectus·malesuada·libero,·sit·amet·commodo·magna·eros·quis·urna.¶

Nunc·viverra·imperdiet·enim.·Fusce·est.·Vivamus·a·tellus.¶

Lorem·ipsum·dolor·sit·amet,·consectetuer·adipiscing·elit.·Maecenas·porttitor·congue·massa.·Fusce·posuere,·magna·sed·pulvinar·ultricies,·purus·lectus·malesuada·libero,·sit·amet·commodo·magna·eros·quis·urna.¶

Nunc·viverra·imperdiet·enim.·Fusce·est.·Vivamus·a·tellus.¶

The·50·STATES¶

Name·of·State	Postal·Code	Capital·City	Largest·City
Alabama	AL	Montgomery	Birmingham
Alaska	AK	Juneau	Anchorage
Arizona	AZ	Phoenix	Phoenix
Arkansas	AR	Little·Rock	Little·Rock
California	CA	Sacramento	Los·Angeles
Colorado	CO	Denver	Denver
Connecticut	CT	Hartford	Bridgeport
Delaware	DE	Dover	Wilmington
Florida	FL	Tallahassee	Jacksonville
Georgia	GA	Atlanta	Atlanta
Hawaii	HI	Honolulu	Honolulu
Idaho	ID	Boise	Boise
Illinois	IL	Springfield	Chicago
Indiana	IN	Indianapolis	Indianapolis

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Nunc·viverra·imperdiet·enim.·Fusce·est.·Vivamus·a·tellus.¶

Pellentesque·habitant·morbi·tristique·senectus·et·netus·et·malesuada·fames·ac·turpis·egestas.·Proin·pharetra·nonummy·pede.·Mauris·et·orci.¶

Aenean·nec·lorem.·In·porttitor.·Donec·laoreet·nonummy·augue.¶

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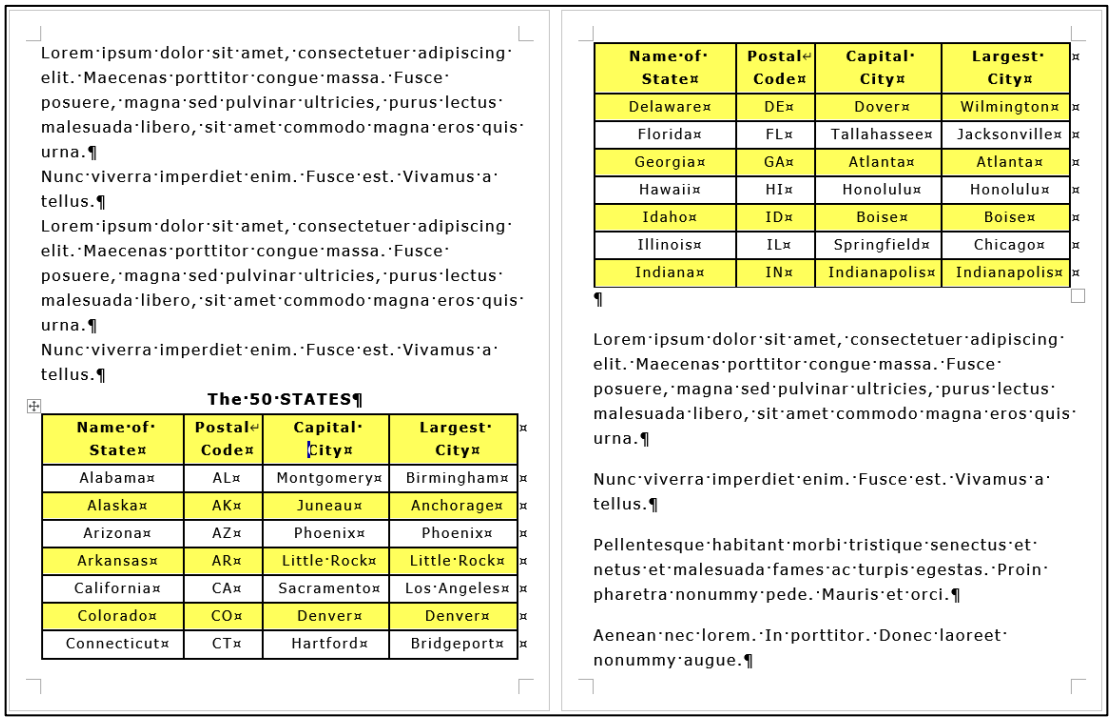
Here are the same two pages with the column headings repeated on the second page (and beyond).



Lorem·ipsum·dolor·sit·amet,·consectetuer·adipiscing·elit.·Maecenas·porttitor·congue·massa.·Fusce·posuere,·magna·sed·pulvinar·ultricies,·purus·lectus·malesuada·libero,·sit·amet·commodo·magna·eros·quis·urna.¶

Nunc·viverra·imperdiet·enim.·Fusce·est.·Vivamus·a·tellus.¶

Lorem·ipsum·dolor·sit·amet,·consectetuer·adipiscing·elit.·Maecenas·porttitor·congue·massa.·Fusce·posuere,·magna·sed·pulvinar·ultricies,·purus·lectus·malesuada·libero,·sit·amet·commodo·magna·eros·quis·urna.¶

Nunc·viverra·imperdiet·enim.·Fusce·est.·Vivamus·a·tellus.¶

The·50·STATES¶

Name·of·State	Postal·Code	Capital·City	Largest·City
Alabama	AL	Montgomery	Birmingham
Alaska	AK	Juneau	Anchorage
Arizona	AZ	Phoenix	Phoenix
Arkansas	AR	Little·Rock	Little·Rock
California	CA	Sacramento	Los·Angeles
Colorado	CO	Denver	Denver
Connecticut	CT	Hartford	Bridgeport

Name·of·State	Postal·Code	Capital·City	Largest·City
Delaware	DE	Dover	Wilmington
Florida	FL	Tallahassee	Jacksonville
Georgia	GA	Atlanta	Atlanta
Hawaii	HI	Honolulu	Honolulu
Idaho	ID	Boise	Boise
Illinois	IL	Springfield	Chicago
Indiana	IN	Indianapolis	Indianapolis

¶

Lorem·ipsum·dolor·sit·amet,·consectetuer·adipiscing·elit.·Maecenas·porttitor·congue·massa.·Fusce·posuere,·magna·sed·pulvinar·ultricies,·purus·lectus·malesuada·libero,·sit·amet·commodo·magna·eros·quis·urna.¶

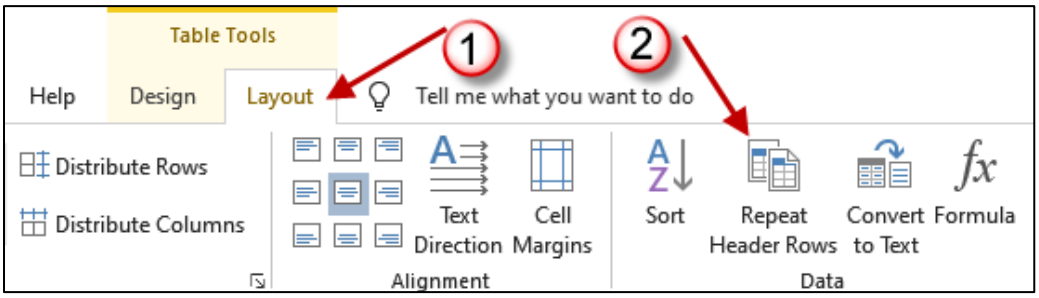
Nunc·viverra·imperdiet·enim.·Fusce·est.·Vivamus·a·tellus.¶

Pellentesque·habitant·morbi·tristique·senectus·et·netus·et·malesuada·fames·ac·turpis·egestas.·Proin·pharetra·nonummy·pede.·Mauris·et·orci.¶

Aenean·nec·lorem.·In·porttitor.·Donec·laoreet·nonummy·augue.¶

Here is how to fix the problem

1. Place the cursor in the table's header row. Word's Table Tools menu will appear above the ribbon or in later versions of Word, within the ribbon.
2. Select the Layout tab on the Table Tools menu.
3. Click the Repeat Header Rows icon.



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Creating Table Columns with Decimal Alignment

For video and practice files - See #9 on the *Video and Practice File Links* page.

Tables which contain columns of numbers in decimal form may be difficult to compare with other table cells when the decimal points in the columns are not aligned.

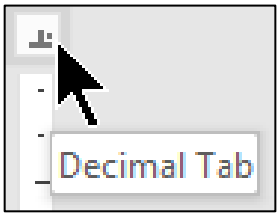
Here is an example of a table with decimal alignment problems:

Student	Trial #1	Trial #2
Billy	61.456	84.4756
Mary	45.11	6
Marcus	.067	1.06
Allison	1.345	45.67

Notice that it would be difficult to compare values with cells above or below.

To align the decimal points, a decimal tab is needed in each of the columns.

The decimal tab can be selected from the tab selection box located in the upper left corner of the editing area directly above the left vertical ruler (just below the house icon on the Quick Access Toolbar). Hovering the mouse over the box will display a tool-tip with the name of the tab type. The icons represent tabs and paragraph indention settings.



Clicking on the tab box will change the selections. Here are the available selections:

Decimal Tab

Bar Tab

First Line Indent

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Hanging Indent

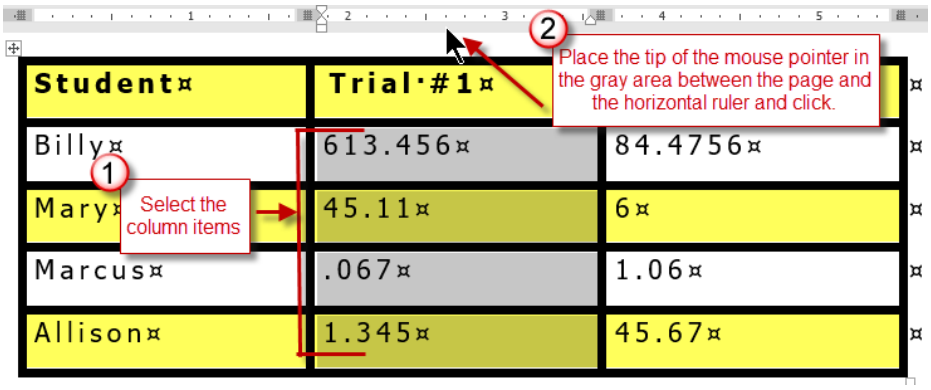
Left Tab

Center Tab

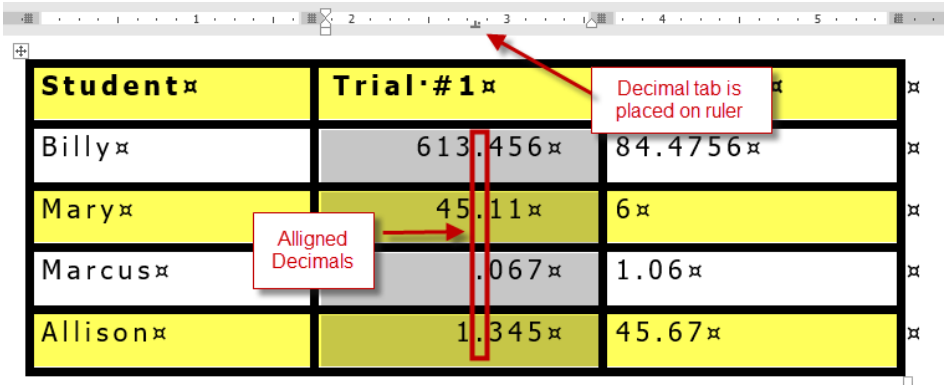
Right Tab

Here is how to set the decimal tab:

1. Select the decimal tab in the tab selection box.
2. Highlight the cells in a single column which need alignment.
3. Move the pointer to the gray area between the horizontal ruler and the page above the selected column items and click the mouse to set the decimal tab.



After setting the decimal tab:



Note: The decimal tab icon can be slid from left to right to move the selected items within their cells.

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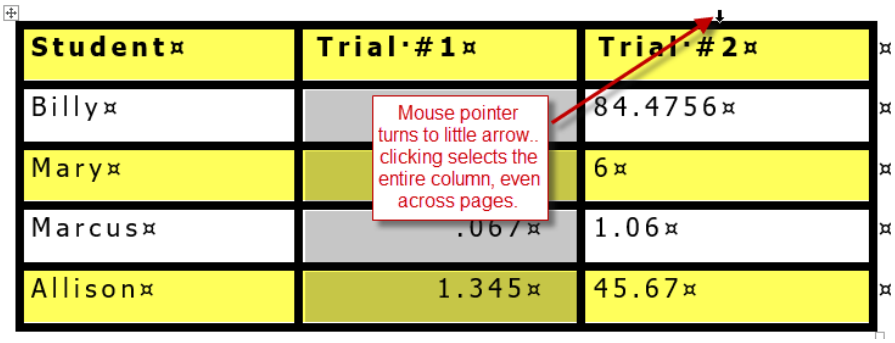
4. Repeat for other columns.

For large tables, especially tables which span more than one page, an entire column can be selected by hovering the mouse pointer over the table column until a little down pointing arrow appears. Clicking the mouse will select the entire column.



This selection process will cause no changes in cells (including column labels) unless those cells contain a decimal point (a period). In that case the period will align to the same decimal tab as the cells containing numbers.

For more information on using the ruler see this internet article:

https://www.howtogeek.com/338956/how-to-use-rulers-in-microsoft-word/

or **https://bit.ly/2suVVrY**

Converting Tables Used for Column Formatting

Pseudo Conversion

Pseudo Conversion of a Table Which Fits Within the Page Margins

Pseudo Conversion removes the "table look" so that each column of the table appears to a column on the page… but it still remains a table

This macro retains the table formatting but removes the "large print" visual appearance. Wrapping text is of no concern as a choice regarding the number of columns wanted is provided.

Here is a word bank formatted in a table. Note the wrapping within the cells.

document	each	easier	elements	embed	end
even	example	fits	focus	footer	for
from	galleries	graphics	header	headings	help
if	in	insert	is	it	keep

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Here is the same table after conversion to pseudo columns. The light cell borders are visible in some versions of Word but do not appear in the output PDF or printed document.

document¤	each¤	easier¤
elements¤	embed¤	end¤
even¤	example¤	fits¤
focus¤	footer¤	for¤
from¤	galleries¤	graphics¤
header¤	headings¤	help¤
if¤	in¤	insert¤

Converting a Table into Real Columns

Real columns are better than pseudo columns because they will not revert color banding when a new large print template is attached.

Here is a table with no column or row headers. The table was used as a formatting tool to hold a word-bank. When the large print template was attached, the words were badly wrapped within the cells

document¤	each¤	easier¤	elements¤	embed¤	end¤
even¤	example¤	fits¤	focus¤	footer¤	for¤
from¤	galleries¤	graphics¤	header¤	headings¤	help¤
if¤	in¤	insert¤	is¤	it¤	keep¤
keyword¤	layout¤	left¤	look¤	make¤	match¤
matching¤	need¤	new¤	next¤	of¤	off¤
on¤	online¤	options¤	or¤	other¤	page¤
parts¤	paste¤	picture¤	pictures¤	plus¤	point¤
powerful¤	produced¤	professionally¤	prove¤	provides¤	reach¤

Here is the same table converted into real columns. The columns are sandwiched between to "Section Break Continuous" page breaks. The resulting area is like a new piece of paper pasted on the main page. It has settings which can be changed… for instance the right margin can be increased in order move the columns closer together.

To change the right margin, select the layout tab then select the Margins icon and change the right margin to a desired size. This is trial and error process.

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Section Break (Continuous)

document¶	if¶	on¶
each¶	in¶	online¶
easier¶	insert¶	options¶
elements¶	is¶	or¶
embed¶	it¶	other¶
end¶	keep¶	page¶
even¶	keyword¶	parts¶
example¶	layout¶	paste¶
fits¶	left¶	picture¶
focus¶	look¶	pictures¶
footer¶	make¶	plus¶
for¶	match¶	point¶
from¶	matching¶	powerful¶
galleries¶	need¶	produced¶
graphics¶	new¶	professionally¶
header¶	next¶	prove¶
headings¶	of¶	provides¶
help¶	off¶	reach¶

¶

Section Break (Continuous)

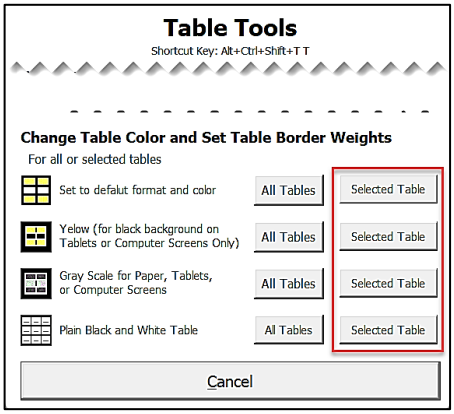
Creating a New Table in an Existing Large Print Document

When a new table is created within an existing large print document, the border weights are drawn for Normal style sizes of 14, 16, 18, and 20 points. For any document with a Normal style larger than 20 points, the table borders will be smaller than they should be and will need to be adjusted to match other borders around tables or boxes in the document.

1. Place the cursor in any cell of the new table.

2. Click the table tools menu icon on the large print tab ribbon "Table Tools" is located in the Other Formatting Tools group.

3. Then, in the bottom half of the menu, in the area labeled **Change Table Color and Set Table Border Weighs,** click the "Selected Table" button of the table style being used in the document.



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Here is an example of two tables… the top table was part of the document when the large print template was attached. The bottom table was manually created within the large print document. Note the weight (thickness) of the table borders. the bottom table should be corrected using the procedure outlined above.

Page Numbers

What is a Page Number in Large Print?

There are two types of page numbers in large print:

1. Page numbers that appear on physical pages. These page numbers must be added by the transcriber See: ***Adding Page Numbers to a Large Print Document***

2. Reference page numbers (the numbers that appear in the pink bars). Reference page numbers correspond to the physical page numbers in the original book or document. These page numbers are added by a process for locating and formatting reference page numbers.
   See: ***How to Find, Tag, and Format Reference Page Numbers***

Page Numbering Choices

Large print transcribers or agencies have a page numbering choice to make.

For Large Print on Paper

1. Page numbers are added to the document at the bottom left of each page. The page numbers are the same size as the Normal style. The page numbers do not correspond to the page numbers in the original book or document. Word can be used to automatically create a table of contents using these page numbers.

   The pink reference page numbers will have no relationship to a table of contents generated by Word. The table of contents relates only to the physical page numbers.

   Implications for the reader
   The reader can use the Word generated table of contents to locate the physical page number in lower left corner of the page. If asked to go to a specific page, as they are numbered in the original book, (e.g., the teacher says to the class, "Turn to page 67.") the reader must leaf through the document, looking at the page numbers in the pink bars, to locate that page.

2. Page numbers (in a smaller font size) can, optionally, be placed on the pages to assist in the assembly and binding of a large print document.

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For Large Print Electronic Text for Screen Reading

Physical page numbers are only needed when the output media is paper. Page numbers are not used when the output media is for screen reading (tablet or computer screen). While each "electronic" page has an unseen page number, the addition of page numbers, as they are used in paper documents, serve no useful purpose and will only consume valuable screen space.

An electronic table of contents, without the ellipses and page numbers, can be automatically generated by Word.

Implications for the reader
Each entry in the electronic table of contents is linked to an electronic page and with a touch or a click on the table of contents entry, the electronic document will move to that page.

When the teacher says to the class, "Turn to page 67.", the reader can use the device's search procedure to locate the reference page number in the pink bar. The reader would activate the search and enter, in lower case, "pn" (without the quotes) followed by "67" (without the quotes).

Note: No space should be inserted between the "pn" and the "67". The device or computer will search the document to locate the page, however, on some versions of Adobe Reader (and perhaps other readers) a space may be required following the "pn" in order to find the required page (this appears to be an unfortunate bug).

Adding Physical Page Numbers to a Large Print Document

Page numbers are useful in two situations... when unbound papers are scattered across the floor and need to be arranged by page number and when Word is used to automatically create a table of contents (see ***Building a Table of Contents Using Word's Automatic Table of Contents Builder***

Word provides a wide variety of styles for page numbering from menus but simple is best in this case. Here is how to do it:

1. Make sure the show/hide is turned on (so you can see paragraph marks).
2. Click the **Insert Tab** on Word's ribbon
3. Select the **Page Number** menu located in the Header & Footer group.

4. Select **Bottom of Page** and then the style labeled **Plain Number 1**.

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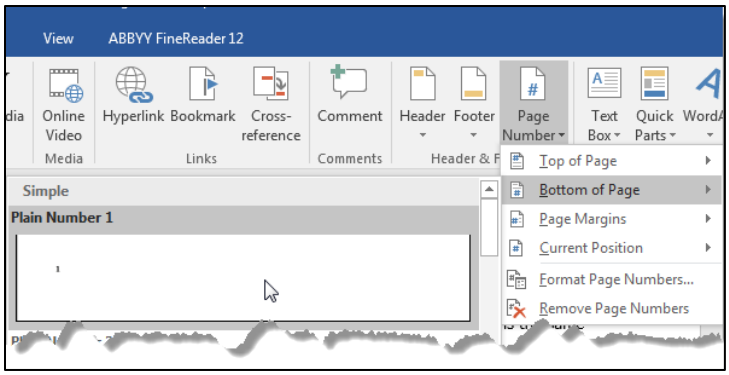
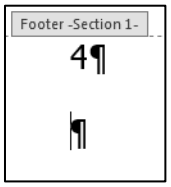
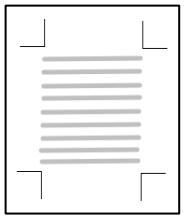


The page number will appear on the footer line and will look like this:



5. Delete the last paragraph mark.
6. Please note, too, that the ribbon menu has changed to show the **Header & Footer Tools/Design** above the ribbon.
   a. **Using crop marks to assist in adjusting the page number position**
   A little display tool in Word will help with the visualization of the margin edges. It is called a crop mark, a gray right-angle mark in each corner of the page that identifies both the horizontal and vertical margin edges. It appears automatically when Word's configuration is set for large print (set by using the *magnifying glass icon* in the QAT). Crop marks show the margin edges at the corners of the page but are not shown in the printed or electronic output.



Remember that you have chosen a large print template with a specific margin size. It is likely that the page number will be located, at least partially, within the bottom margin and the result may be that the page number may not fully print on the paper.

To fix this issue, locate the **Footer from Bottom** scroll box at the right of the **Header & Footer Tools** ribbon and increase the number until the page number moves above the bottom margin line on the crop mark.

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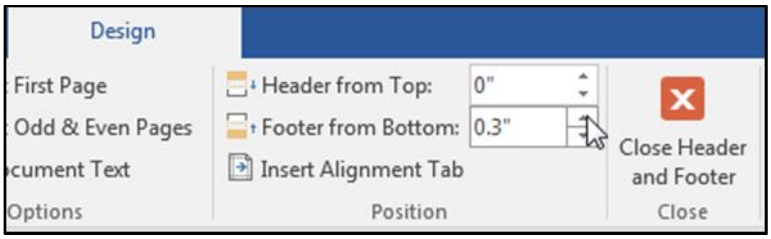


7. When you are done adjusting the bottom margin, the page number should be just above the crop mark.

Setting the starting page number

If the document is being prepared in sections or is to be printed in sections, then having contiguous page numbers across sections is important.

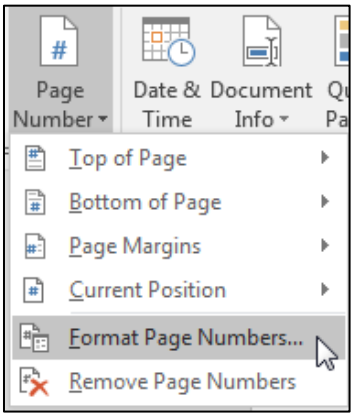
For example, if the text of the document ends on page 43, the next page number will be 44.

If your document is to be printed double sided and the next section should begin on an odd page (the right-hand page), you will need a blank page at the end of that section so be sure to put an odd page break at the end of that section. This will produce a blank page with page number 44 on the back of page 43.

If the document is to be printed single sided and no blank page is needed, then the next page will be on page 44 and no *Odd Page Break* is needed.

The first page of the next section will be page 44 or 45 depending the situation described above. After creating the page number in new section, the starting page number will need to be set. Here is how you do it.

Click the **Insert Tab** on Word's ribbon and select the **Page Number** icon near the right side of the ribbon, then select the **Format Page Numbers** from the drop-down menu.



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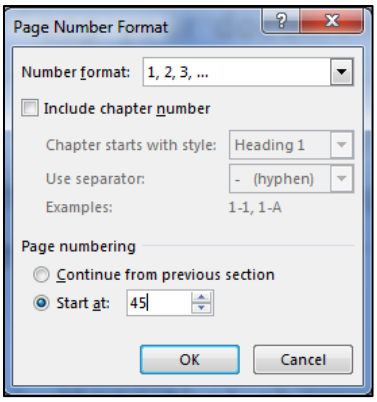
The **Page Number Format** dialog box will appear. Set the **Start at:** value to 44 or 45 and click OK.



The Page Number Format menu offers a multitude of option for page number types.

Select the **Close Header and Footer** icon if it is visible on the screen.

This will make the first page of the section begin with that number.

Read More about Headers and Footers

How to Delete a Header or Footer from a Single Page in Word

https://bit.ly/2JKOlnz

How to Find, Tag, Validate, and Format Reference Page Numbers

The ***Auto Tag Pg Numbs*** macro places a red "$pg" at the beginning of paragraphs to provide a readily identifiable visual indicator that the paragraph has been identified as a potential reference page number. The red is unimportant and can be typed in normal text if desired.

The macro will find plain Arabic page numbers 1-9999 and Arabic page numbers 1-9999 preceded by or followed by up to two upper or lower-case letters. e.g., The following page number configurations will be found: "12", "A12", "12C", "A12B", "AB12", "AB12AB". The macro will also tag upper or lower-case roman numerals from i to ccc (1-300). Invalid roman numeral structures will be ignored.

Keep in mind that every page in the original document should be represented in the large print document even if there is not a page number printed on the original pages. Some pages in the original document may not have a printed page number, but the number is implied when viewed within the sequence of preceding and following pages. There may be exceptions to this general rule: e.g., a section containing only pictures may have no page numbers.

The macro will honor a hyphen between page numbers when the page numbers represent a range of pages such as "231-232". These might be used when text horizontally spans facing pages or when the page number range includes a blank page(s).

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The page numbers of empty pages can be included by using a continuation hyphen in the page number. For example: If page 23 is the last printed page in a book's chapter, page 24 (the back side of page 23) may be blank and page 25 will be the beginning page of the next chapter. Pages 23 and 24 can be combined by typing the page numbers separated by a hyphen. (23-24). When the ***Format Tagged Pg Numbers*** macro is run the page numbers will appear like the image below and the page will contain the text of page 23.

23-24 23-24

The beginning of the next chapter would begin (typically on a new page) with the formatted reference number 25.

The *Auto Tag Pg Numbs* macro can, mistakenly, add the "$pg" to paragraphs which are not valid reference page numbers. At the completion of the *Auto Tag Pg Numbs* macro, a dialog box will ask if you wish to validate the found page numbers (described below). If answered "yes", a validation choice menu will appear. Page number tag validation can also be invoked by using the **Validate $pg Tags** macro.

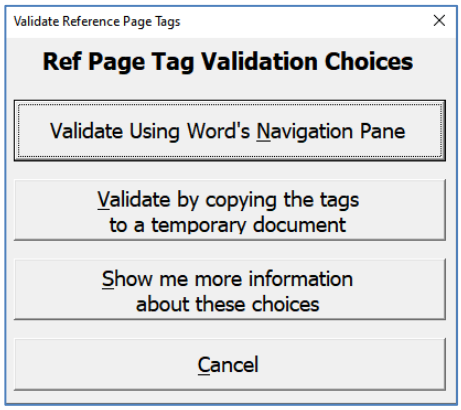
Validating $pg Tags

After running the ***Auto Tag Pg Nmbs*** macro, the user is asked if he/she wishes to validate the reference page numbers which have been tagged. If the user answers "yes" to the validation query a menu of validation choices will be presented.

This same menu can be invoked by selecting the ***Validate $pg Tags*** icon in the Reference Page Numbers group of the Large Print tab ribbon.

Validation involves making sure that all pages are represented (no missing page numbers) and that they are in the correct order and that there are no false reference page tags.

The validation begins with the Validation Choices menu. The "Show me more information about these choices" button will provide on-screen information about how to validate the reference page number tags.



There are two methods which can be used for validation

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1. **Validation using Word's Navigation Pane**
   This method should be selected first. It will work with small to moderate sized documents but has limits. If too many reference page numbers are found the Navigation Pane will display the message "*There are too many results to show here*.". Use the second validation method when this message appears or when it is a personal preference.

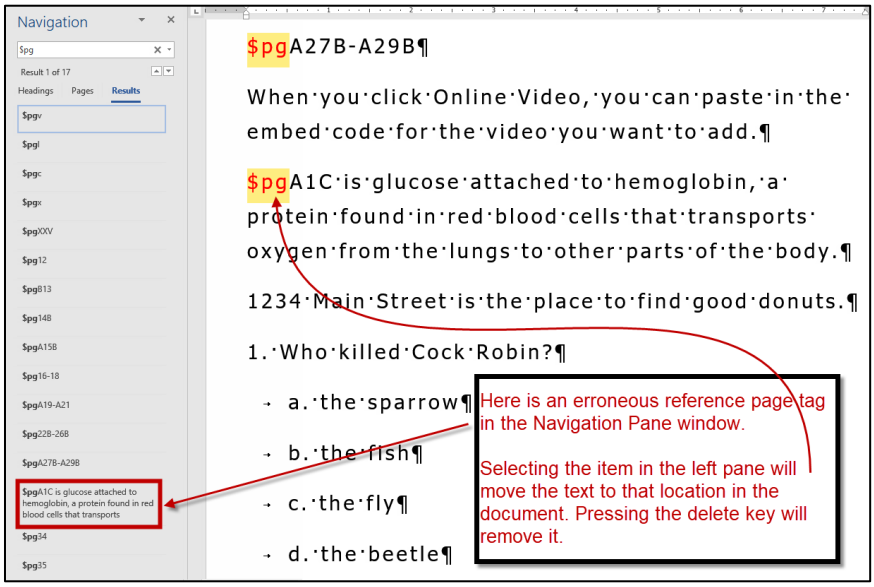
2. **Validation using a temporary document**
   This validation method is a fully macro automated for validating the tagged pages when there are more pages than can be handled by the *Navigaion Pane*, but the correction process requires task switching between a temporary document and the original document. Validating Reference Page Tags Using the Navigation Pane

Validating Reference Page Tags Using the Navigation Pane

The found "$pg's" excerpts can be viewed in the Navigation pane. The small boxed triangles to the right and above the *Results* button can be used to move up and down in the document from one "$pg" to the next. Clicking on the an item in the Navigation Pane will more the document to that location in the document.

Erroneous "$pg's" can usually be deleted with the Delete key, without moving the cursor into the document. Other corrections with the cursor placed in the document can be made and movement within the document can resume using the boxed triangles.

Missing page numbers can be inserted manually in the text by inserting an empty paragraph and typing the page number. Without moving the cursor, use the *Manual Tag Pg Number* macro to tag the number.



Validating Reference Page Tags using a Temporary Document

This macro will extract the tagged paragraphs from the document, will open a new document and will paste them into the document in a column format.

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Here are two pages showing the tags have been selected by the macro:

Practice·File·for·Auto·Tag·and·Format·Reference·Page·Numbers¶

$pgv¶

Reading·is·easier,·too,·in·the·new·Reading·view.·You·can·collapse·parts·of·the·document·and·focus·on·the·text·you·want.·If·you·need·to·stop·reading·before·you·reach·the·end,·Word·remembers·where·you·left·off·—·even·on·another·device.¶

$pgl¶

Video·provides·a·powerful·way·to·help·you·prove·your·point.·When·you·click·Online·Video,·you·can·paste·in·the·embed·code·for·the·video·you·want·to·add.¶

$pgc¶

Save·time·in·Word·with·new·buttons·that·show·up·where·you·need·them.·To·change·the·way·a·picture·fits·in·your·document,·click·it·and·a·button·for·layout·options·appears·next·to·it.·When·you·work·on·a·table,·click·where·you·want·to·add·a·row·or·a·column,·and·then·click·the·plus·sign.¶

$pgx¶

Video·provides·a·powerful·way·to·help·you·prove·your·point.·When·you·click·Online·Video,·you·can·paste·in·the·embed·code·for·the·video·you·want·to·add.¶

$pgXXV¶

Video·provides·a·powerful·way·to·help·you·prove·your·point.·When·you·click·Online·Video,·you·can·paste·in·the·embed·code·for·the·video·you·want·to·add.¶

$pg12¶

You·can·also·type·a·keyword·to·search·online·for·the·video·that·best·fits·your·document.·To·make·your·document·look·professionally·produced,·Word·provides·header,·footer,·cover·page,·and·text·box·designs·that·complement·each·other.¶

$pgB13¶

For·example,·you·can·add·a·matching·cover·page,·header,·and·sidebar.·Click·Insert·and·then·choose·the·elements·you·want·from·the·different·galleries.¶

Below are the reference page tags from the document shown above after pasting them into a new document.

$pgv¶

$pgl¶

$pgc¶

$pgx¶

$pgXXV¶

$pg12¶

$pgB13¶

$pg14B¶

$pgA15B¶

$pg16-18¶

$pgA19-A21¶

$pg22B-26B¶

$pgA27B-A29B¶

$pgA1C·is·glucose·attached·to·hemoglobin,·a·protein·found·in·red·blood·cells·that·transports·oxygen·from·the·lungs·to·other·parts·of·the·body.¶

$pg34¶

$pg35¶

$pg36¶

¶

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Here are the first 154 reference page tags of a 376-page book on the first two pages of the temporary document when the document is shown with 4 columns per page.

$pg2¶	$pg21¶	$pg40¶	$pg59¶	$pg78¶	$pg97¶	$pg116¶	$pg135¶
$pg3¶	$pg22¶	$pg41¶	$pg60¶	$pg79¶	$pg98¶	$pg117¶	$pg138¶
$pg4¶	$pg23¶	$pg42¶	$pg61¶	$pg80¶	$pg99¶	$pg118¶	$pg137¶
$pg5¶	$pg24¶	$pg43¶	$pg63¶	$pg81¶	$pg100¶	$pg119¶	$pg139¶
$pg6¶	$pg25¶	$pg44¶	$pg64¶	$pg82¶	$pg101¶	$pg120¶	$pg140¶
$pg7¶	$pg26¶	$pg45¶	$pg65¶	$pg83¶	$pg103¶	$pg121¶	$pg141¶
$pg8¶	$pg27¶	$pg47¶	$pg66¶	$pg84¶	$pg104¶	$pg123¶	$pg142¶
$pg10¶	$pg28¶	$pg48¶	$pg67¶	$pg86¶	$pg105¶	$pg124¶	$pg144¶
$pg11¶	$pg30¶	$pg49¶	$pg68¶	$pg87¶	$pg106¶	$pg125¶	$pg145¶
$pg12¶	$pg31¶	$pg50¶	$pg69¶	$pg88¶	$pg107¶	$pg126¶	$pg146¶
$pg13¶	$pg32¶	$pg51¶	$pg70¶	$pg89¶	$pg108¶	$pg127¶	$pg147¶
$pg14¶	$pg33¶	$pg52¶	$pg71¶	$pg90¶	$pg109¶	$pg128¶	$pg148¶
$pg15¶	$pg34¶	$pg53¶	$pg72¶	$pg91¶	$pg110¶	$pg130¶	$pg149¶
$pg16¶	$pg35¶	$pg54¶	$pg73¶	$pg92¶	$pg112¶	$pg131¶	$pg150¶
$pg17¶	$pg36¶	$pg56¶	$pg75¶	$pg93¶	$pg113¶	$pg132¶	$pg152¶
$pg19¶	$pg37¶	$pg57¶	$pg76¶	$pg94¶	$pg114¶	$pg133¶	$pg153¶
$pg20¶	$pg39¶	$pg58¶	$pg77¶	$pg96¶	$pg115¶	$pg134¶	$pg154¶

Making corrections will require returning to the original document. Use Alt+Tab to move between the two documents. Repeat until all corrections have been made in the original document, then close the temporary document without saving.

How to Manually Insert a Reference Page Number into a Document.

The reference page number style is too complex to be manually typed and the style is not available in the Styles Pane, so... here is how to create a new reference page number(s) in the document.

How to Enter a Single Reference Page Number Tag

In an empty paragraph (just a paragraph with a paragraph mark and nothing else), type the page number, then use the **Manual Tag Pg Numb** macro to place the "$pg". Alternately, type a "$pg" followed by the page number (the "$pg" does not need to be typed in red and do not use spaces). and execute the ***Format Tagged Pg Numbers*** macro.

How to Enter Multiple Reference Page Number Tags

In any number of empty paragraphs (just paragraphs with a paragraph mark and nothing else), type the page numbers. Then run the macro **Auto Tag Pg Numbs** to locate and tag the new page numbers. Validate the reference page tags (as discussed above) then execute the ***Format Tagged Pg Number****s* macro.

Hidden Secret of the Reference Page Number Style

The tagged reference page number paragraph looks like this before formatting:

$pg12¶

Below is how a formatted reference page number appears (when Show/Hide is turned off) after the *Format Tagged Pg Numb* macro is executed.

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12 12

Below is how a formatted reference page number appears (when Show/Hide is turned on) after the **Format Tagged Pg Numb** macro has been executed. The circles are non-breaking spaces and the little arrow in the center is a right margin tab.

°12 → 12°

Below, a hidden code, a "pn" (without the quotation marks), is placed to the left of the right-hand page numbers by the formatting macro. You cannot see it in the above example because the characters are the same color as the background. The red underscore is an indication that the "pn" and page number have not been found in the spell-check dictionary.

Below is how the formatted reference page would look if you could see the "pn" in black.

12 pn12

Purpose of the Hidden Code in the Reference Page Number

The hidden "pn" can be used by readers of the document in electronic form to move to a specific reference page in the document. Page location for electronic text is typically found by using the PDF reader's fined procedure. If the reader wants to move to page 234, the user would type "pn234" (without the quotes) into the find string of procedure and the procedure will show a list of all items in the document meeting the search criteria where the correct item can be selected.

For video and practice files - See #10 on the *Video and Practice File Links* page.

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Page Breaks: Why and How to Use Them

For video and practice files - See #11 on the *Video and Practice File Links* page.

How Do Page Breaks Work?

There are a variety of page breaks available in Word. For most large print documents, only odd page breaks, even page breaks and a "simple" ***page break*** will typically be used.

Page breaks are used to assure that text begins on the desired paper page (odd or even) when the output is to be printed on both sides of the paper. For single sided printing or for screen or tablet reading, odd and even page breaks are not needed… "simple" page breaks will do the job just fine.

The Simple Page Break

A simple page break (Ctrl+Enter) produces a new page within the same document section. Think of it as saying "start a new page". It is typically used to lines text or a paragraph (an orphen line) to the next page page, to keep related elements on the same page, or to move structures like the reference page number paragraphs to the next page.

Use Ctrl+Enter in front of the text to be moved to the next page or go to the ***Insert Tab*** and select ***Page Break*** to insert a page break.

Visualize the simple page break like this, where the double dotted line represents a simple page break:

*

The Odd Page Break

In books, sections and chapters usually begin on an odd numbered page (the right-hand page). To insert an ***Odd Page Break***, go to the ***Layout Tab*** and select ***Breaks*** and choose ***Odd Page*** from the dropdown menu. Inserting an odd page break starts the new section on the next odd-numbered page. If the odd page break is entered at a location on an odd numbered page, then next page will have the next odd number. In this case the output (on paper) will have a blank (even numbered) page between the two odd pages.

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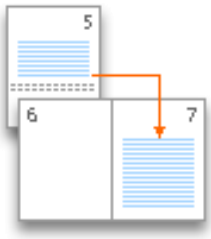
Visualize the odd page break like this, where the double dotted line represents the odd page break:



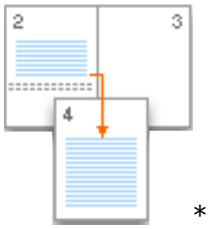
*

The Even Page Break

To insert an ***Even Page Break***, go to the ***Layout Tab*** and select ***Breaks*** and choose ***Even Page*** from the dropdown menu. Inserting an even page break starts the new section on the next even-numbered page. If the even page break is entered at a location on an even numbered page, then next page will have the next even number. In this case the output (on paper) will have a blank (odd numbered) page between the two even pages.

Even page breaks are often used to create a blank page

Visualize the even page break like this, where the double dotted line represents the odd page break:



*

You may wish to add the **Breaks** icon

to the QAT.
* Images from or adapted from:
https://support.office.com/en-us/article/Insert-delete-or-change-a-section-break-0eeae2d6-b906-42d3-a1bd-7e77ca8ea1f3
or
https://tinyurl.com/h7xezf4

When are odd page breaks needed?

Odd page breaks are **only needed when the document will be printed on both sides of the paper**. If the document is to be printed on only one side of the paper or the document is to be read on a tablet or a computer screen, then odd page breaks (which may produce a blank page in the between logical sections) should be replaced with a simple page break.

When are odd page breaks be used?

It is strongly suggested that all new documents be created using odd page breaks before the start of sections and/or chapters. These usually begin with a ***Heading 1*** style. This will create a document which can be used not only for double sided printing on paper but can also be

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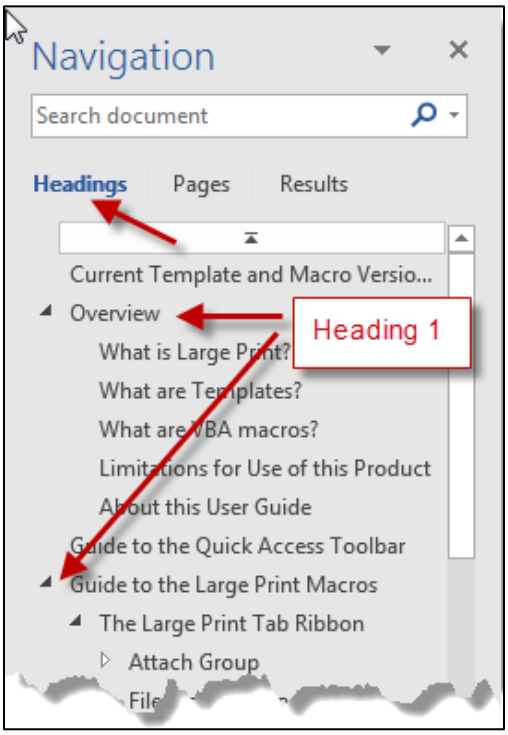
used as a "master" file for creating single sided paper printing or for tablet or computer reading on a computer screen. The "master" file should be saved with the odd page breaks intact. Be sure to name the file with something that will indicate that that it is for double sided paper printing (in other words… it has odd page breaks).

How to insert odd page breaks before each Heading 1 style

If the document has been properly formatted with heading styles, then adding an odd page break before each ***Heading 1*** style is easy when Word's Find tool is used.

While a simple find and replace can be used to insert an odd page break before a specified heading style, the reality is that most ***Heading 1*** styles are preceded by a reference page number and the odd page break should be inserted before the reference page number so that it will appear as the first item on the new odd page. Here is how to do it:

Press Ctrl+F to invoke the Word's Find procedure.



When the navigation dialog appears, click the **Headings** selection. You will see an outline of all the headings in the document. Those items out dented to the left are the highest order of the outline (likely a ***Heading 1*** style). Clicking on the little triangles will collapse or expand the outline level. Clicking on the title of the heading will cause the document to move to that location.

Locate the reference page number before the Heading. Place the cursor at the left of the reference page number. Select Word's Layout tab and locate the Breaks menu icon in the Page Setup group. then select the Odd Page break at the bottom of the pop-up menu.

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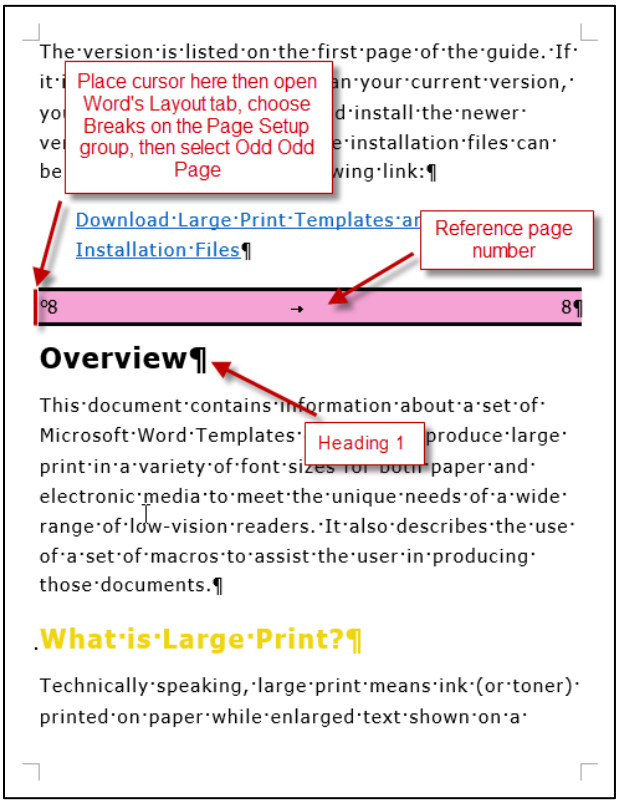
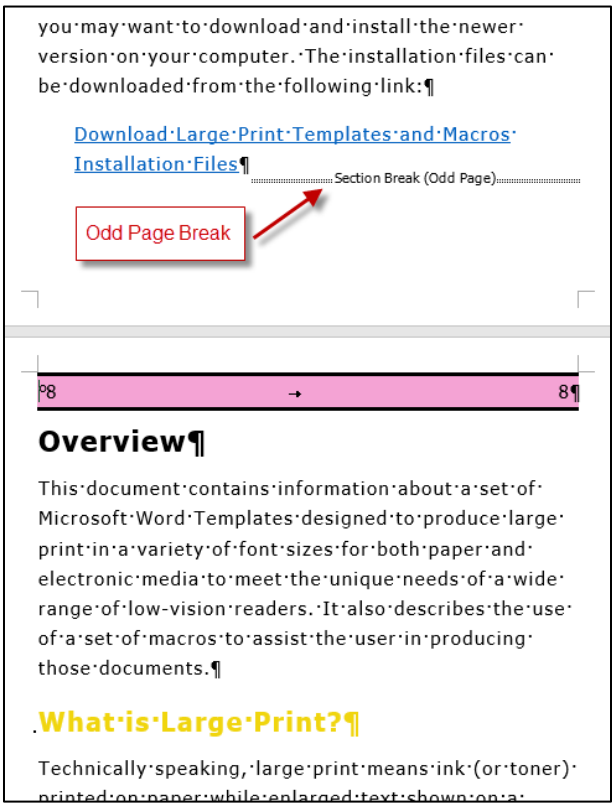
Page before and after instering a page page break.





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Using the "master" file to create a new file for single sided printing or computer or tablet reading

To use the "master" file for output targets which do not need odd page breaks, open the "master" file and immediately save it with a new name using Word's ***Save As*** procedure. Now… use the ***Pg Breaks to New Pg*** macro to convert the odd, even and continuous page breaks into simple page breaks thereby eliminating the blank page issue.

Dealing with Hyperlinks

Types of Hyperlinks

Hyperlinks come to two varieties:

1. Internal links which connect one part of a document to another part of the same document. This type of link will be found in tables of contents in DAISY and NIMAS files. These links are usually non-functioning and should be converted to normal text.

2. External links which connect the document to internet web sites or to email address. This type of hyperlink should be preserved but must in a useable format to be effective.

Anatomy of Hyperlinks

When properly formatted email addresses and web addresses are typed into MS Word, those addresses will be automatically converted to a hyperlink. The links will typically be shown in a blue color font and will be underlined. When the mouse is hovered over the link, a tool-tip will usually appear instructing the user how to activate the link. The following tool tip type is shown in Word. In PDF files, holding down the control key is not needed.

Properly Formatted and Poorly Formatted Hyperlinks?

These Are Properly Formatted:
jerry@thewhittakers.org
http://www.duxburysystems.com/
www.duxburysystems.com/

These Are Not a Properly Formatted Web or Email Address
jerry@thewhittakers
this email address is missing a domain (.org, .com, .gov)

duxburysystems.com
this is web name is missing the "http://www." or the "www.".

Word requires the prefix above to be automatically recognized as a web address, however, most web browsers do not require the "http://www." or the "www."

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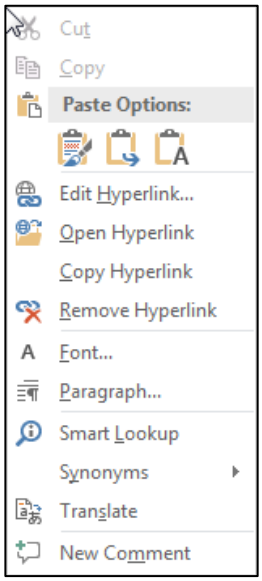
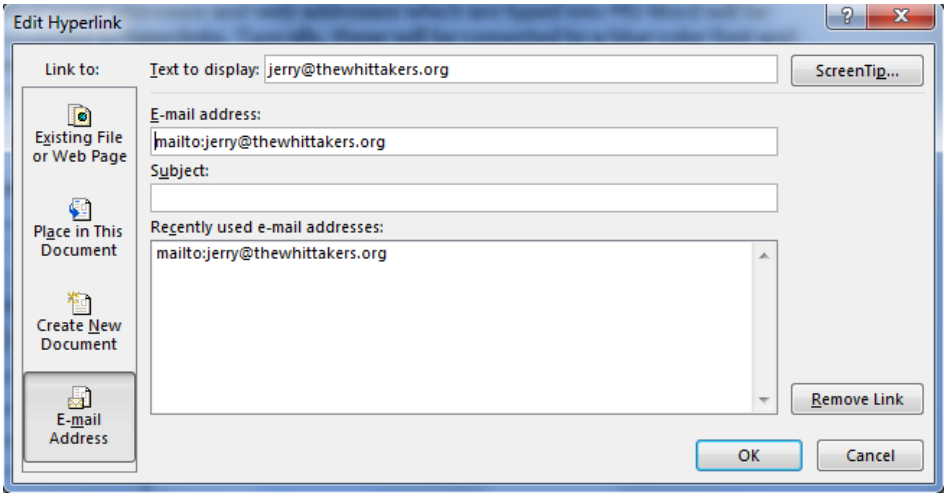
Editing the hyperlink

Place the mouse cursor on the hyperlink. When the mouse is right-clicked on the link, a menu will appear:



Selecting the **Edit Hyperlink** on the menu above will bring up a dialog box which reveals not only the display text on the screen but also the E-Mail address preceded by the "mailto:" command.



Obviously, the type of external hyperlink shown above will work just fine for paper documents. The email address is readable and useable if needed. On electronic devices, the hyperlink will typically start the email program and place the address in the correct position.

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Repairing Hidden Hyperlinks and Non-Linked Addresses

Hidden links use plain text has the link indicator. The actual web address, however, cannot be seen unless the mouse hover is on the link. This type of link presents a problem to users of paper documents (it cannot be seen and thus cannot be typed into a web browser). A hidden link will look like this:

You can email me at this address.

Use the **Edit Hyperlink** dialog will show the word "address" in **Text to display** box.

It is also possible to have a web site or an email address which is text only when it should be a hyperlink. Something like this.

My email address is jerry@thewhittakers.org

While the address above is correctly formatted, it is not an actual link. It would work for paper documents (although it would not have the distinctive color and style of a hyperlink) but it would not be a live link on an electronic device.

Properly formatted email and web address regardless of whether they are the hidden links or text addresses can be converted into the distinctive true hyperlinks by using the ***Replace hidden hyperlinks and text addresses with hyperlinked addresses*** macro in the ***Selected Cleanup*** menu in the **File Cleanup** group of the **Large Print** tab ribbon.

CAUTION: Be sure not to include any internal hyperlinks in the selected text when running the ***Replace hidden hyperlinks and text addresses with hyperlinked addresses*** macro. These are described in the next section.

Fixing DAISY and NIMAS Bulleted Internal Hyperlinked Lists

For video and practice files - See #12 on the *Video and Practice File Links* page.

DAISY and NIMAS files often contain bulleted and hyperlinked lists. These usually appear in tables of contents along with page numbers from the original text and often look like this:

- Same-Shape Maps M6
- Equal-Area Maps M7
- Robinson Maps M7
- Western Europe M8
- London M9

These lists can be turned into normal text by using the **Remove bullets or, numbers, and internal hyperlinks from hyperlinked TOCs** macro found in the sub-menu of the ***Selected Cleanup*** icon.

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While everything looks like normal text, the style is still "Hyperlink". It appears that this cannot be handled by a macro. Selecting the list and applying **Clear All** from the styles pane will fix the problem.

Math

Spatial Math vs Linear math

Spatial math refers to math such as typical addition, subtraction, multiplication and division which appears on several lines. Linear math is math which appears on a single line

Spatial Math:

```
   345
 + 678
  1023
```

Linear Math:

345+678=1023

Entering Spatial Math

There is no quick solution to the entry of spatial math in large print. If attempted, the font must be changed to a monospaced font (where each character has the same width) so that the math correctly aligns on the page. The spatial sample above is in the Lucida Console font however Consolas font is also useable.

The most significant problem is Word itself. Word is designed to produce text... from left to right and top to bottom. Even if multiple columns are used, the columns are produced from top to bottom and this would make entry very difficult. One solution is to use images of math (see more below).

Entering Simple Linear Math

Simple math in linear form can be accomplish directly on the keyboard as shown in the example above. The use of a monospaced font may not be necessary.

If the math contains exponents (super-scripts or sub-scripts) then the font of the math should be increased in size so that superscripts and sub-scripts are readable. Super-scrip and sub-script font control can be found in the *Font* group on the home tab in Word. *Example*:

$x^2+y^2=z^2$ Example in 18-point font.

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$x^2+y^2=z^2$ Example of above enlarged to make super-scripts approximately 18 points in size

Using Word's Equation Editor to Produce Math Equations

Word's Equation Editor, unfortunately, does not play well with the large print template and is, therefore, not a useable solution for producing math equations.

Using Math Images Are a Problem

Many, perhaps most, math available in DAISY and NIMAS formats have math presented as an image. The images can be resized to meet the needs of the reader, however, too much enlargement will likely result in a severely deteriorated image quality or will be limited to the width of the paper margins. Images which are too small are less of a problem on pad devices and computer screens because the user can zoom the image (at least in part if not in whole) to view them.

If spatial math images are scanned, use a high scanning resolution (600 to 1200 dpi) to allow for better image enlargement.

There are two methods for dealing with low quality math images:

Re-create the equation using MathType or converting the image to a more useable form using EquatIO

Using EquatIO to Convert Images of Equations

EquatIO, a product of Text Help (**https://www.texthelp.com/en-us/**). Think of EquatIO as a math OCR. Equations which appear in the text as images can be converted into text which can be enlarged to meet the reading needs of those needing large print.

If EquatIO fails to correctly read the equation then MathType will be needed to make corrections.

Using MathType to Produce Math Equations

MathType (a product by Design Science - **http://www.dessci.com/en/products/mathtype/**) can be used math equation. Before using MathType, it must be properly configured.

Why is MathType Configuration necessary?

Keep in mind that the smallest element in the equation (typically superscripts and subscripts) should be no smaller than the "Normal" style font in the document.

Here is a MathType entry using MathType's factory settings. Note that it contains italics which are not desirable, it is in Times New Roman (rather than Tahoma) and that the superscript is much smaller than other elements of the equation.

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

While MathType entries, can be resized using sizing handles like those of images, this type of sizing must be done visually. The problem is that manual resizing affects all elements of the "image". In order to make a superscript match the 18 point size of the "Normal" style in a large print document,

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manual resizing would cause the base font size of the rest of the equation to be much larger than the "Normal" font size needed.

Here is an example of a MathType produced equation which has been manually enlarged to make the superscript 18 points in size. Note how big the rest of the equation has become.

This is 18 point font.

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Here is an example of the same equation when MathType settings set to match a "Normal" style of an 18 point document.

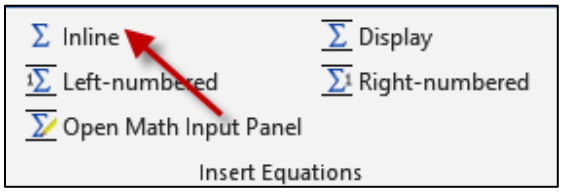
This·is·18·point·font.

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$ ¶

Configuring MathType

MathType can be used to create math in the large print documents, however, to conform with the style and recommended large print guide-lines, use the following settings to configure MathType

1. Start MathType and select "Inline" at the top left of ribbon menu.



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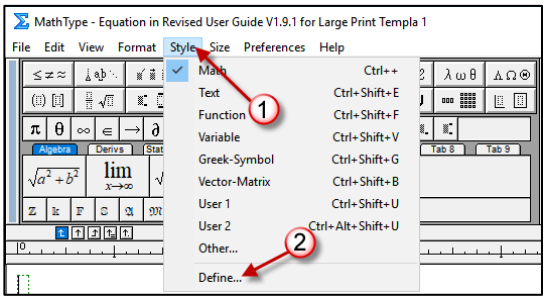
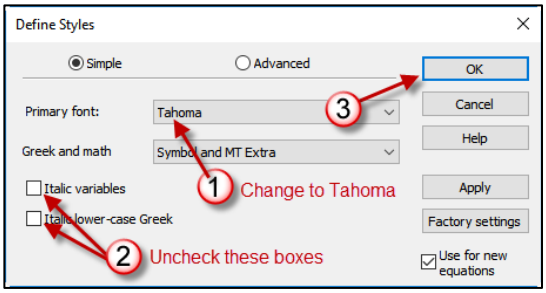
2. Select the "Style" tab followed by the "Define…" at the bottom of the pop-up menu



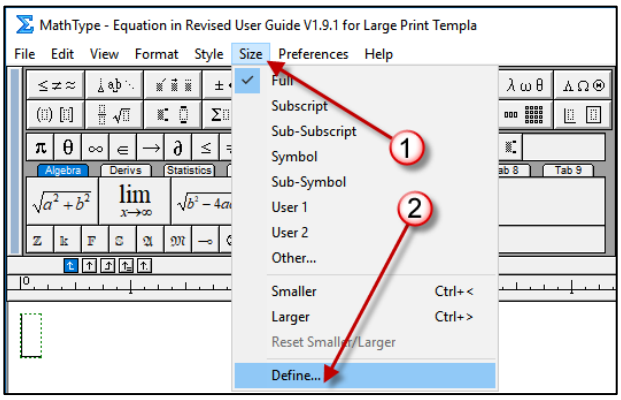
3. Change the Primary Font to "Tahoma" to match the font used in the large print template.



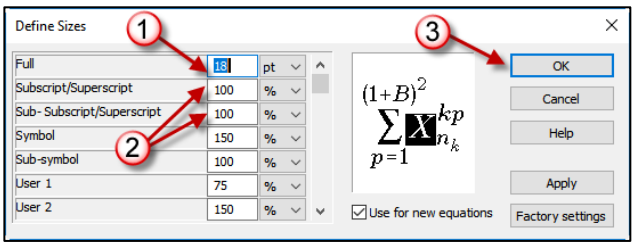
4. Uncheck the "Italic variables" and "Italic lower-case Greek".

5. Click the "OK" button.

6. Select the "Size" tab followed by the "Define..." button on the pop-up menu.



7. Change the font size to match the font size of the "Normal" style in the chosen large print template and set the "Subscript/Superscript" "Sub- Subscript/Superscript" to 100%



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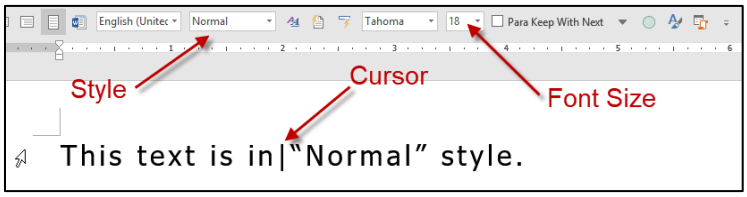
8. The size of the "Normal" style can be seen in the Quick Access Tool Bar when the cursor is placed in text which is styled with "Normal



Set "Subscript/Superscript" and "Sub-Subscript/Superscript" to 100%. This will force the MathType to make these the same size as the "Normal" style.

9. Click Ok to save the settings.

NOTE: Matching the MathType font size settings must be done anytime the "Normal" style font size changes does not match the current MathType setting

Using MathType to Convert Word's OMML Equations Into MathType Equations

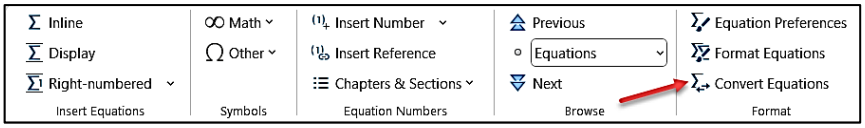
Word is capable of producing equations using its built-in equation editor. The editor is located on the right end the ribbon of the "Insert" tab. These equations are in OMML (**O**ffice **M**ath **M**arkup **L**anguage). When the Large Print Template is attached to a document containing OMML equations they will automatically enlange to the size of the document's text, **HOWEVER**, two problems will/may occur.

Italics will be underlined, superscrips and subscripts will be undersized (smaller than the size of the "Normal" style).

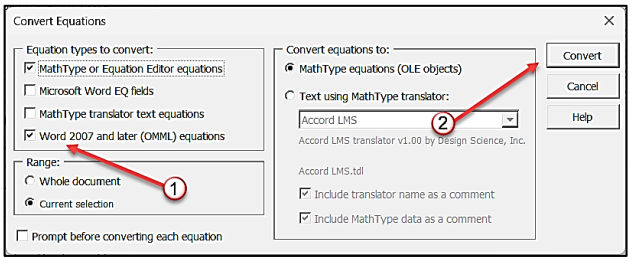
$$A = \pi r^2$$

Both of these issues can be corrected by converting the OMML to MathType Equations, **However**, MathType must be configured to supress italics and set to the correct font size (described in the "Configuring MathType" section above).

Converting: On the MathType menu, select "Convert Equations"



On the Convert Equations dialog, make sure "Word 2007 and Later (OMML) equations" is checked then select "Convert" to convert all OMML equations.



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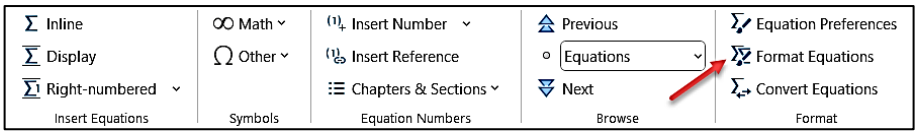
After the conversion, on MathType's menu, select "Format Equations". This will resize the equations to match the large print.



There will likely be tabs preceeding the equations which will need to be removed.

Building a Table of Contents Using Word's Automatic Table of Contents Builder

For video and practice files - See #13 on the *Video and Practice File Links* page.

While there is a large print style for creating table of contents entries, it is a tedious task because the page numbers in the original table of contents in a book will not match with the physical page numbers in the large print document.

MS Word can make that task easier because it can produce a table of contents complete with leader lines and page numbers which match the page numbers in the large print document.

The entries in the table contents are based on the heading levels in the document. Headings act as an outline of the content. The large print template provides up to five levels of headings. If the document has been carefully formatted with headings, in a logical hierarchal order, then creating a table of contents can be easily accomplished.

The other feature of Word's table of contents builder is that the entries in the table can be created as internal hyperlinks. While it will look just fine on paper, on a tablet or computer screen the hyperlinks are functional. That means that the reader can select an item on the table of contents and the screen will update to the location that that table of contents entry references.

To create and automatic table of contents (TOC), do the following:

Create the page where the table of contents will begin. Create a title for the page and place a couple of paragraph marks there.

Place your cursor on one of the paragraph marks, then go Word's **References** tab and select the **Table of Contents** drop-down menu at the left of the ribbon.

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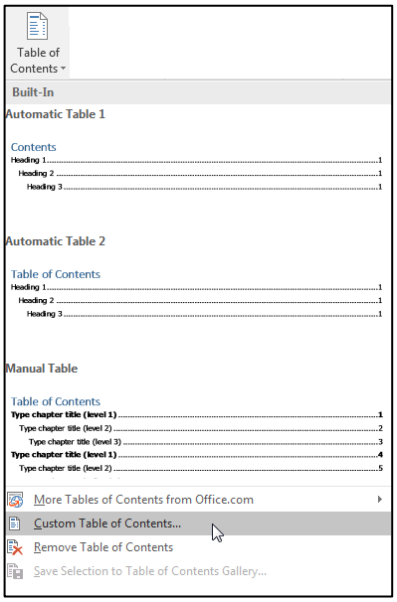
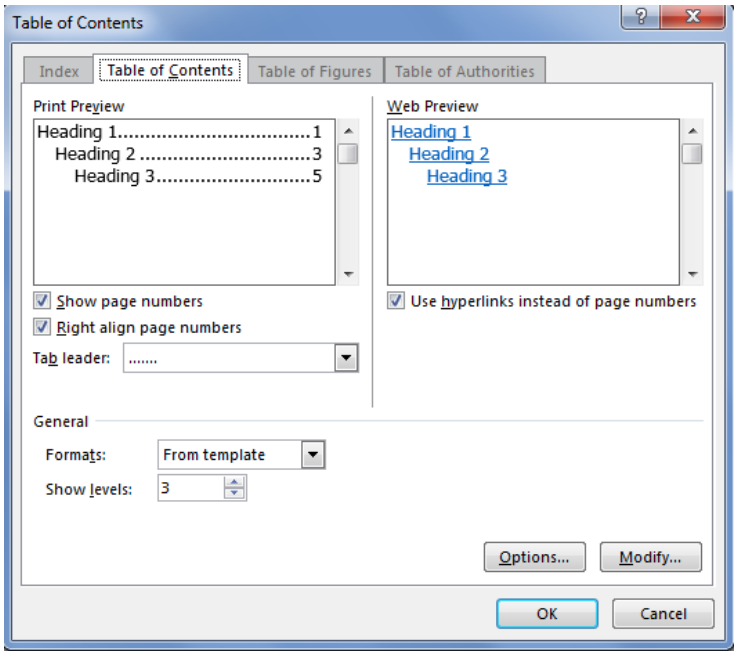
On the dropdown menu select **Custom Table of Contents**



1. On the **Table of Contents** dialog, set the **Show levels** to the level of headers wanted. A setting of three would build the TOC from headings 1, 2 and 3

   Leave the **Use hyperlinks instead of page numbers** checked, otherwise your will lose the hyperlink ability of the TOC. Even though it is checked, the TOC entries will **not** be blue underlined.

   There are choices of leaders and Formats but the **"From template"** format will be the style matching the large print template. You can see a preview of the output in the **Print Preview** box. Note: For tablets and screen reading the **Show page numbers** check box should NOT be unchecked.



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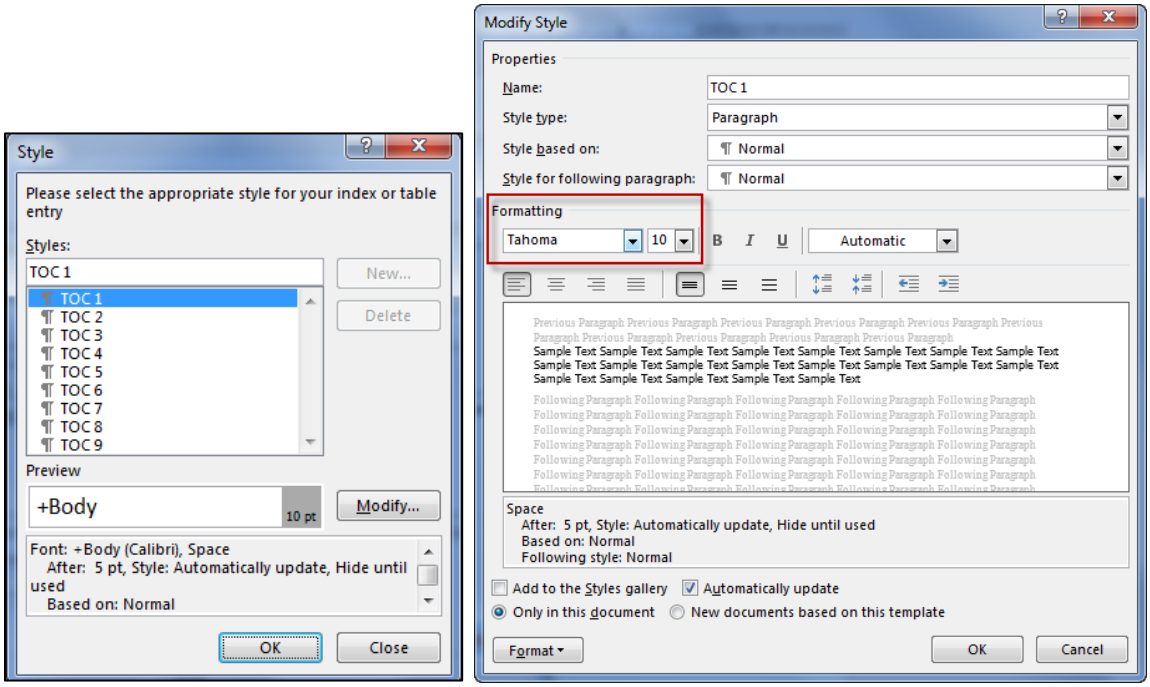
2. The first time this dialog is used, the font should be set to the **Tahoma,** the font used in the large print template. To do this, click the **Modify** button. In the **Style** dialog box, select the **Modify** button. In the **Modify Style** dialog box, change the font to **Tahoma.** The point size to the size of the **Normal** style in the current large print template will be the default size for each of the TOC levels

   The large print template has up to five levels of headings. The table of contents can be set to include up to the five levels or less.

   Tab leaders with page numbers are appropriate for paper documents as the physical page numbers are accessible on the pages. For screen access there are no page numbers so a TOC with lead lines and page numbers (which would only reference the electronic pages) should be omitted.

   If the TOC will contain level two headings or higher, consider making the TOC1 entry in bold text and about 2 points larger than the rest.
   .
   Then back out of these two **Modify** menus using the **OK** buttons.



3. When you have made your selections, click **OK** and the table will be built at your cursor location.

Note: TOC will be built from the entire document, so, it may include entries from pages which precede the TOC… things like the title pages etc. These can be selected and deleted from the TOC.

Suggestion: Following the typical hyperlink colors (typically blue text) may help the reader realize or remember that the hyperlinks are active. The text color can be changed for each TOC level by selecting the color drop-down (with the word "Automatic"). Font characteristics such as bold can also be changed here.

Review the Table of Contents page numbers to make sure that the sequence is correct and that pages following breaks fall within the sequence of numbers.

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Finalizing and Publishing the Document

Saving the Large Print Document as a PDF File

The Word document is the master file. It should not be distributed to the end user. Instead, the Word file should be used to create a PDF file which can be used to print paper documents by the end user or can be used to read the document on a computer or pad device.

To save the document as a PDF file:

In Word 2013, 2016, 2019, and Word 365, select Word's "File" menu and then select the "Export" function. **DO NOT** use Word's file "Save As" to save the PDF file… it has sometimes produced unsatisfactory results!

Transferring PDF Files to Pad Devices

For video and practice files - See #14 on the *Video and Practice File Links* page.

There are several ways to move files from a computer to iPads or other tablets. They include:

1. **Direct cable transfer**. There are programs which use a cable connected between a computer and a pad device.
2. **Transfer via memory cards or flash memory sticks**. While not common, some pads support the use of memory cards or USB memory sticks. The PDF file is copied to the card or stick and from there to the pad device.

3. **Transfer via Local Area Network Connection.** There are many programs which will allow the transfer of a file from the computer to a pad device. The requirements are usually that a program must be installed on both the computer and the pad device and that both the computer and the pad device must be connected to the same local area network. Here is a link to an article which has several suggestions:

   Plover Lets You Share Files Between Any Devices Over Wi-Fi Airdrop Style

   https://bit.ly/2H6Jc41

4. **Transfer via IP address.**
   This is, perhaps, the most universal solution for file transfer as it can be independent of special software or hardware devices and can be utilized regardless of pad device manufacturer or pad operating system.

   On the computer side, the file document creator must have access to a cloud storage system such as *Dropbox, Box, Google Drive, OneDrive,* or *Amazon AWS* or similar services. Many of these cloud storage services offer free but limited storage. See this article for information about free storage limits on some of the more popular sites:
   The Best Free Dropbox Alternatives
   https://bit.ly/2FsWqul

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On the pad device side, only a web browser and internet connection are needed.

Here is how it works: On the computer side, the PDF file(s) are placed in the cloud storage system. Each file in the cloud is given a unique IP address. The IP address is available to the from the storage system and can be copied or sent to someone via email.

Here is how the IP address of the file can be used:

Via Email: On the pad device side, the IP address can be received via email. Usually, the IP address is displayed as a hyperlink which can be activated by a touch to download the PDF file(s). Once opened the PDF file(s) can be sent to local storage which is accessible by a PDF reader such as iBooks, Adobe Acrobat Reader or another PDF reader.

Via Written IP Address: The IP address of the PDF file(s) can be sent in paper form. The IP address is typed into the address line of a web browser where the file will be opened. Once opened, the PDF (s) can be set to local storage which is accessible by a PDF reader such as iBooks, Adobe Acrobat Reader or another PDF reader.

Suggestion: Some URLs can be very long and typing them without error can be a problem. There are services which can shorten a URL to a more manageable length. Clicking on the short URL or typing it into the address line of a web browser results in the long URL being accessed.

For a listing and description of URL shorteners, use these links (presented in both long and short form):

The Best URL Shorteners

https://tinyurl.com/u36zone

Also see: *Best Free Cloud Storage for 2020*

Best Free Cloud Storage for 2020

https://tinyurl.com/ycj2xh94

Which cloud storage has the best value?

Which cloud storage has the best value

https://tinyurl.com/ybhhtsha

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Additional Information for Inclusion following the Publisher's Copyright

The copyright notification might also be followed the name of the transcriber, the name, city and logo(s) of the organization supporting the transcription, and the date of transcription. In addition, this information should include the font size and name and if not for paper, the target media (e.g., "for 9.7 inch diagonally measured tablet screen").

In addition, a transcriber's note page should be included to indicate the meaning of black, red, and blue boxed material (if used) and should include changed items consistently used in the document. e.g., "The green circled numbers have been replaced by green numbers without circles or bold glossary words have been replaced with the same text but with a yellow background color.

Example of Specialized Format Notification and Transcriber Notes:

Specialized·Format·Notification¶

This·specialized·format·has·been·produced·in·compliance·with·U.S.·Code·Title·17,·Chapter·121·-·Limitations·on·exclusive·rights:·Reproduction·for·blind·or·other·people·with·disabilities.¶

Any·further·reproduction·or·distribution·of·this·material·in·a·format·other·than·a·specialized·format·is·prohibited.¶

Transcribed·by·Jerry·Whittaker·Galena,·Ohio·February,·2020.·Presented·in·18·point·Tahoma·font·for·9.7·inch·diagonally·measured·tablet·with·3:4·ratio·screen.¶

Transcriber·Notes¶

All·italicized·items·are·represented·using·underline.¶

Images·have·been·enlarged·and,·in·some·cases,·cut·into·multiple·pieces·for·clarity.¶

Changes·made·by·the·transcriber·are·preceded·by·a·blue·box·explaining·what·has·been·changed.¶

Image·captions·and·descriptions·are·enclosed·in·red·boxes.¶

Black·boxes·are·used·for·materials·that·are·boxed·in·the·original·document.¶

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Supplement: A Method for Capturing Mathematical Equations and Chemical Formulas Using Abbyy, Word, EquatIO, and MathType

In order to execute this method, both EquatIO and MathType must be installed on the computer.

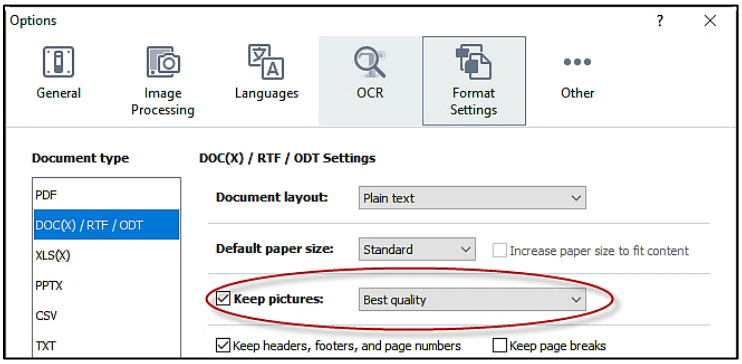
EquatIO is a program designed to OCR mathematics and chemical formulas and it fits well within the operational framework of preparing documents for both braille and large print using Word.

Where to get EquatIO
EquatIO is a product of Text Help https://www.texthelp.com/en-us/.

MathType is a Word add-on for placing MathML (**Math M**ark-up **L**anguage) into a word document.

Where to get MathType
MathType is a product of WRIS http://www.wiris.com/mathtype
MathType has an annual subscription fee of approximately $50.00

In order to successfully use this method, all formulas must be sent from Abbyy to Word as a picture. That means that Abbyy's options must specify that pictures should be sent to Word in the **Options** menu.



The equivalent of the **Keep pictures** check box in the **Options** menu is also available on Antileft Abbyy's main menu or in the document layout styles area when a document is saved or sent to Word.

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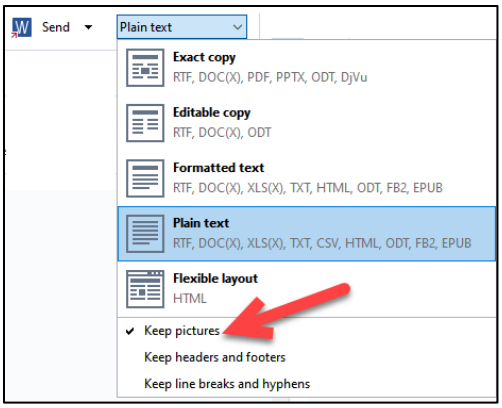
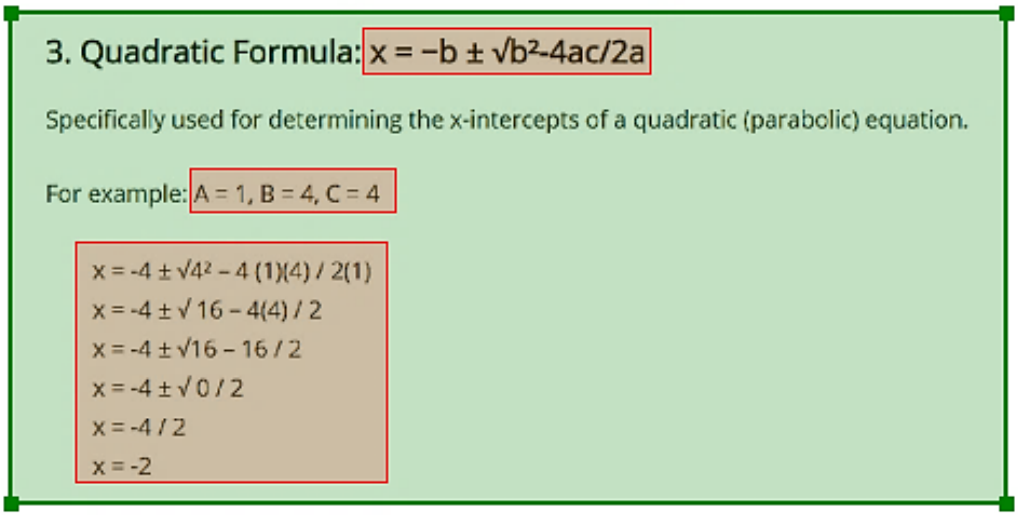


Here's how to Create Areas for Both Text, Math, and Chemical Formulas in Abbyy

Both the text accompanying the math equations or chemical formulas should be enclosed in a text area. In order for EquatIO to work within Word, the formulas must be marked as pictures. Interestingly, Abbyy allows picture areas to be created within text areas. To do this, select the picture tool icon from the toolbar and draw a picture area around each math item or group of math items or chemical formulas. Do not include any other text within the picture areas.

The picture tool icon on Abbyy's toolbar.

The resulting text and picture areas will look like this. **Note**: In the example, below, six equations are contained within a single picture area. Drawing a single picture area around a group of equations is faster than drawing an area around each equation or chemical formula. After sending this document to Word, each of the six equations will need to be converted separately using EquatIO.



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After the recognized document has been sent to Word, the images will appear like this.

3. Quadratic Formula: $x = -b \pm \sqrt{b^2-4ac/2a}$

Specifically used for determining the x-intercepts of a quadratic (parabolic) equation.

For example: A = 1, B = 4, C = 4

$x = -4 \pm \sqrt{4^2 - 4(1)(4)} / 2(1)$

$x = -4 \pm \sqrt{16 - 4(4)} / 2$

$x = -4 \pm \sqrt{16 - 16} / 2$

$x = -4 \pm \sqrt{0} / 2$

$x = -4 / 2$

$x = -2$

Here is How to Convert the Pictures of Math into a Useable Format in Word

While in Word, start EquatIO and select the Screenshot reader from the EquatIO toolbar.

Using EquatIO's Screenshot crosshairs, draw a box around a single equation or chemical formula. Do not enclose more than a single equation or formula within EquatIO's Screenshot box.

EquatIO will evaluate the formula, speak it out loud, and will present a menu with three selections in a blue oval in the upper right corner of the Screenshot box. Select the three-dot icon. From the pop-up menu, select **Copy MathML**. This will place the math or chemical formula on a clipboard. Next, click the "**X**" on the Screenshot reader menu.

Note: In the example, below, there are ten equations which will need to be converted separately by EquatIO.

3. Quadratic Formul $x = -b \pm \sqrt{b^2 - 4ac/2a}$

Specifically used for ercepts of a quadratic (parabolic) equation.

For example: A = 1, B = 4, C = 4

$x = -4 \pm \sqrt{4^2 - 4(1)(4)} / 2(1)$

$x = -4 \pm \sqrt{16 - 4(4)} / 2$

$x = -4 \pm \sqrt{16 - 16} / 2$

$x = -4 \pm \sqrt{0} / 2$

$x = -4 / 2$

$x = -2$

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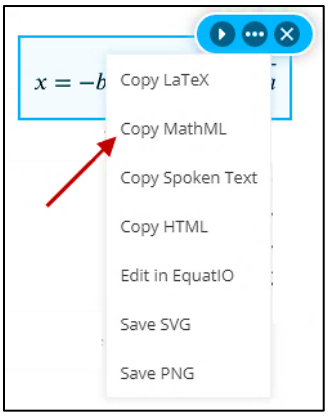
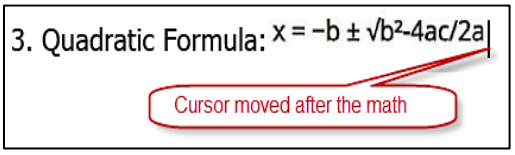
Here is the EquatIO pop-up menu which occurs when the three-dot menu item is selected.

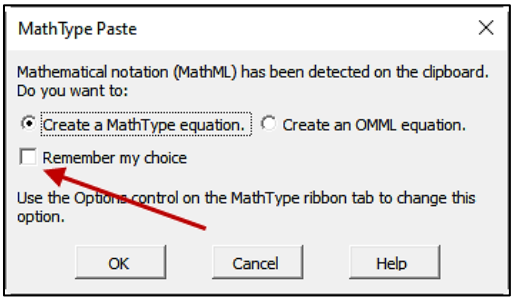


Move the cursor in front of or after the math or chemical formula picture.

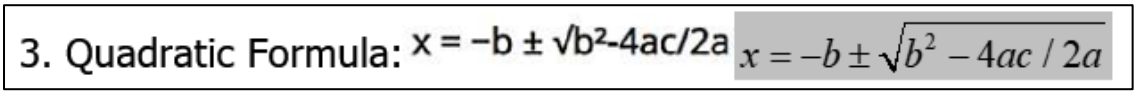


Press Ctrl+V to paste the MathML from the clipboard into Word.

If this is the first time this operation is used, you will see a MathType dialog box. Make sure **Create a MathType equation** is selected and if you do not want to see this menu again and again, check the **Remember my choice** box. Then click **OK**.



The MathML will paste into the document (shown in the gray area below). Do a visual match to make sure the formulas match. If there is a problem, repeat the process above or double click the math or chemical formula to edit it in MathType.



Select the picture of the equation or formula (the sizing handles will appear) and press the delete key to remove it. Only the MathType formula will be left in the document.

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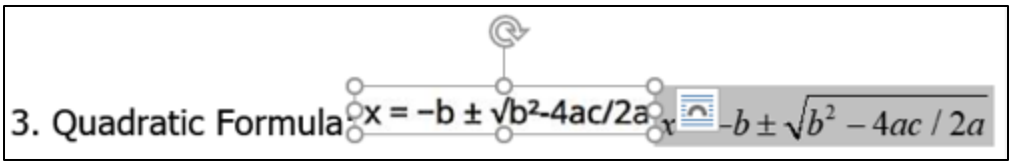
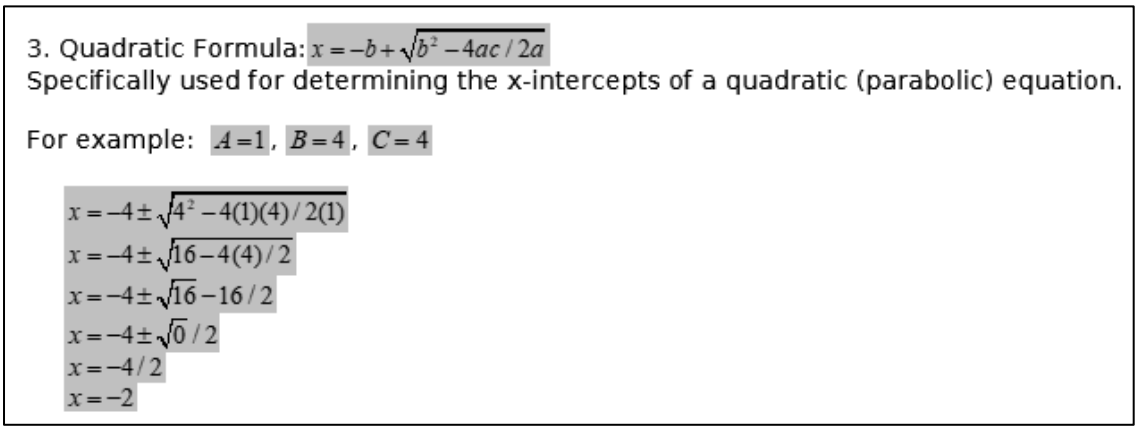


After completing all ten equation conversions with EquatIO, the math will look like this in the Word document.

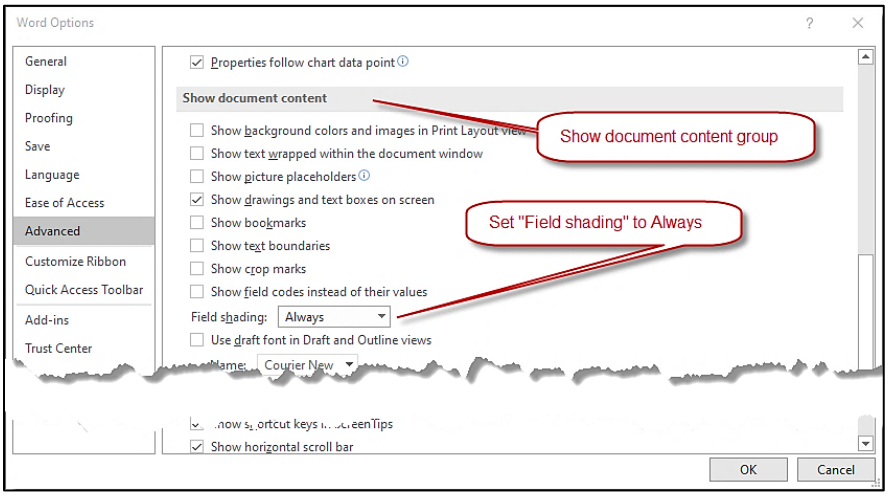


Repeat the above process for each equation or formula entry in the document.

Caution! MathML equations are fields which behave like in-line images (pictures). **Do NOT** perform any operations which will delete or alter pictures in any section of a document which contains MathML equations or formulas.

Note: Displaying MathML in Word on a gray background is a quick visual method for identifying the MathML fields in a document. Here is a setting in Word to make that happen:

From Word's **File** tab, select **Options** then in the **Word Options** dialog, select **Advanced** from the left menu pane. In the **Advanced** settings scroll down to the **Show document content group** and set the **Field Shading** to **Always**. Click the **OK** button to save the setting.



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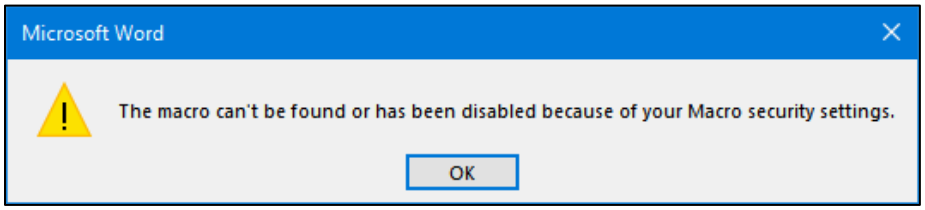
Supplement: What To Do When the Large Print Macros Will Not Run

Occasionally installations of the Large Print and Braille Macros will not run. The condition is often accompanied by the following Word error message.



There are several conditions which can result in this message. The following is a review of those conditions to help in solving the problem(s). You may require help from your technical staff to access some of the solutions depending on the security settings of your computer.

Installation Locations

The three large print and braille installation files are installed by copying each to one of three user specific folders used by Microsoft word. These locations are usually accessible to the user without restriction and are referred to as "Trusted Locations" by Microsoft.

"Trusted Locations" is **a feature of Office where files contained in these folders are assumed safe, such as files you create yourself or saved from a trustworthy source**. These files bypass threat protection services, bypass file block settings, and all active content is enabled" (from: https://learn.microsoft.com).

Here are the typical locations where the files are installed

Installation File Name	**Typical Installation Path (Trusted Location)**	**Description**
LargePrintTemplate.dotx	C:\Users**User Name**\AppData\Roaming\Microsoft\Templates	LP Template
LPandBRL.dotm	C:\Users**User Name**\AppData\Roaming\Microsoft\Word\STARTUP	Macros
Word.officeUI	C:\Users**User Name**\AppData\Local\Microsoft\Office	Word Ribbon & QAT

Trusted locations may vary from typical installations or from user to user. Any files stored in a trusted location are considered safe by the system and will bypass some of the security checks. The current trusted locations for a user can be viewed or changed from within Word by opening **Options/Trust Center/Trusted Locations**

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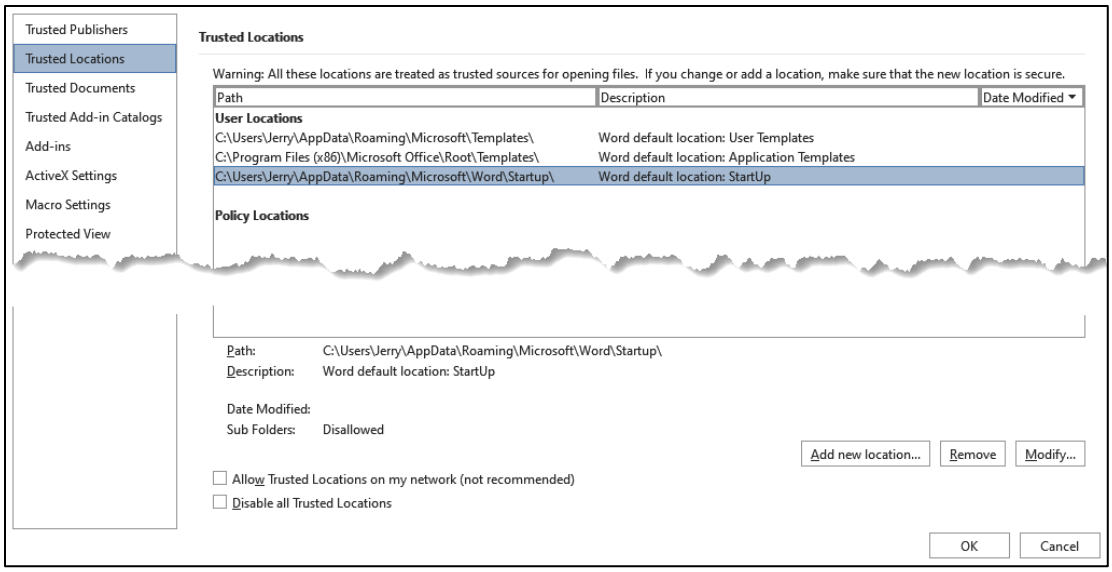


Note that all locations are user specific. When a computer is used by several users each should have a separate login and each must have their own copy of the files installed.

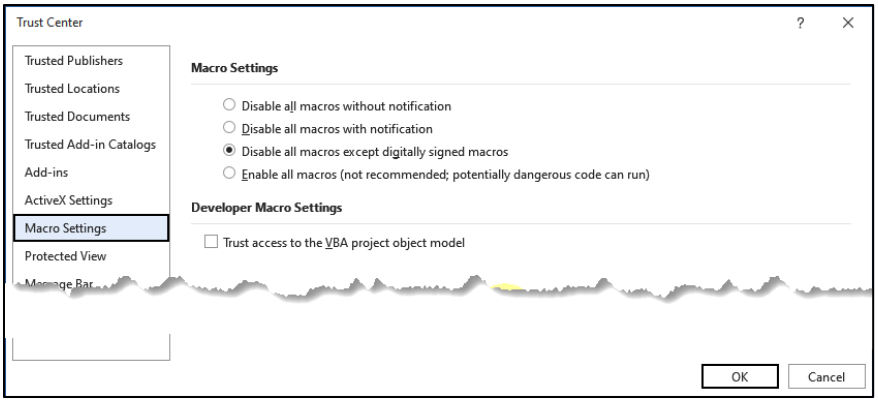
More information on how to add, remove, and change the trusted locations can be found here:

https://support.microsoft.com/en-us/office/add-remove-or-change-a-trusted-location-in-microsoft-office-7ee1cdc2-483e-4cbb-bcb3-4e7c67147fb4

Why Won't the Macros Run?

The three most frequent causes for macro failure are:

1. The Macro Settings (viewable by opening **Options/Trust Center/Trust Center Settings/Macro Settings)** need to be changed.



   The macros should typically run with setting shown above. Use "**Enable all macros…"** with caution!

2. The user has no trusted locations or the file "LPandBRL.dotm" is not installed in the trusted Word default location:
   C:\Users\User Name\AppData\Roaming\Microsoft\Word\STARTUP".
3. User or group policies prevent access to the trusted locations where files are installed.
4. Other programs (such as MathType macros) may have errors or have an expired digital signature.

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Supplement: Producing Large Print with Fonts Specifically for Low Vision

This large print creation system uses a typeface called Tahoma. Tahoma is a typeface that has been included with the Windows operating system since Windows 95 was released. While readily available and useable for large print it is not the only typeface which can be used.

Other Typefaces Used for Large Print

For clarification, a typeface is what you see and a font is what you use. Typefaces often used for large print include: **APHont, Verdana, Tahoma, Helvetica, Antique Olive, and Comic Sans** (when a contrasting font is needed). Many of these may already be installed and available on the computer.

Typefaces Specifically Designed for Readers with Low Vision

APHont: APHont was developed by the American Printing house for the Blind. It is a freeware download for use by people with low vision or people who create documents for them. Commercial may be restricted.

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789 .,:;!?@#%&*{(/\)}

Atkinson Hyperlegible: This font was developed by the Braille Institute of America, Inc. The font is free to use for personal, educational, and commercial applications.

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789 .,:;!?@#%&*{(/\)}

For detailed information see: **https://material.io/blog/atkinson-hyperlegible-design**

NOTE: When used in Word and printed, the Atkinson Hyperlegible font measures two points less than the setting specified in Word. **If used with this large print development system, the user should specify a font size two points larger than required by the reader when attaching the Large Print Template**.

How to Use a Different Font

In order to use a different typeface than the Tahoma typeface, the font must be installed on the computer. A quick internet search will be able to locate the desired font. Download the font and install it on the system.

Complete all editing on the document. Any additional typed text will be in Tahoma font so the following process will need to be completed a second time to convert the font from Tahoma to a new font.

Select the entire document (Ctrl+A), then, in the Font group on the Home tab ribbon, open the font name area and select the wanted font.

Changing the font (Typeface) may change the formatting.

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Supplement: Luminosity of Text in the Large Print Template

This supplement clarifies the criteria for the selection of text, background, and box colors within the large print template. Effort has been expended to assure that all color text used within the large print template is readable on both white and black backgrounds by both normal readers and readers with color blindness.

The W3C (World Wide Web Consortium) has developed luminosity standards for the use of color text for individuals with visual impairments. Those standards specify a minimum ratio of luminosity (think contrast) between color text and the background color upon which that text resides. See the W3C standard ***Web Content Accessibility Guidelines (WCAG) 2.0***

https://www.w3.org/TR/WCAG20/

https://bit.ly/2blKahy

The size of the text affects the calculation of the luminosity ratio. Larger text more easily meets the minimum luminosity ratio than does smaller text. Because the large print template produces large text, they need only pass the Level AA minimum of the standard. The W3C standard (section 1.4.3) states that "Large-scale text and images of large-scale text have a ratio of at least 3:1". Colors in the large print template have been adjusted to maximize the contrast ratios for both black and white screens and for individuals with normal and color blindness.

While the W3C standard applies to web pages, its application should extend to the viewing of text on computer or tablet screens even if presented thought a PDF file rather than an HTML page. As a logical extension, printing on white paper should produce relatively the same ratios.

Selection of the colors for text were made and evaluated with the assistance of a program called *Colour Contrast Analyse*r

https://www.paciellogroup.com/resources/analyser/

https://bit.ly/2LNCe7I

Other online contrast checkers can be found on the internet by searching for "color contrast web sites".

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The following table lists the ratios for each of the text and background colors used in the large print template as measured by *Colour Contrast Analyser* version 2.5.0.0.

Contrast Ratios of Color Text on White and Black Backgrounds

Text or Box Color	RGB Value (Hex Color Number)	Trichromacy (Normal Color Vision)		Color Blindness Type: Protanopia* (Red-Green Color Blindness)		Color Blindness Type: Deuteranopia** (Red-Green Color Blindness)		Color Blindness Type: Tritanopia*** (Blue-Yellow Color Blindness)	
		Contrast Ratio White Bkgrnd	**Contrast Ratio Black Bkgrnd**	**Contrast Ratio White Bkgrnd**	**Contrast Ratio Black Bkgrnd**	**Contrast Ratio White Bkgrnd**	**Contrast Ratio Black Bkgrnd**	**Contrast Ratio White Bkgrnd**	**Contrast Ratio Black Bkgrnd**
Red	255-0-0 (#FF0000)	4.0:1	5.3:1	5.5:1	3.8:1	3.0:1	6.9:1	3.9:1	5.4:1
Blue	74-93-255 (#4A5DFF)	4.9:1	4.3:1	4.8:1	4.4:1	4.4:1	4.8:1	4.7:1	4.5:1
Orange	228-90-45 (#E45A2D)	3.6:1	5.8:1	3.7:1	5.7:1	3.7:1	5.7:1	3.6:1	5.8:1
Green	0-128-0 (#008000)	5.1:1	4.1:1	4.8:1	4.4:1	6.2:1	3.4:1	5.4:1	3.9:1
Violet	192-0-249 (#C000F9)	4.6:1	4.6:1	5.3:1	4.0:1	3.4:1	6.1:1	4.5:1	4.7:1
Tan	156-112-82 (#9C7052)	4.3:1	4.9:1	4.5:1	4.7:1	4.1:1	5.1:1	4.4:1	4.81

Contrast Ratios of Black Text on Color Backgrounds

Background color for black text	RGB Value (Hex Color Number)	Trichromacy (Normal Color Vision)	Color Blindness Type: Protanopia* (Red-Green Color Blindness)	Color Blindness Type: Deuteranopia** (Red-Green Color Blindness)	Color Blindness Type: Tritanopia*** (Blue-Yellow Color Blindness)
		Contrast Ratio	**Contrast Ratio**	**Contrast Ratio**	**Contrast Ratio**
Aqua	125-249-239 (#7DF9EF)	16.7:1	17.2:1:	14.4:1	15.8:1
Blue	100-200-255 (#64C8FF)	11.2:1	11.4:1	10.2:1	11.2:1
Pink (Ref Page and Word Backgrounds)	244-163-212 (#F4A3D4)	11.0:1	10.4:1	12.3:1	11.0:1
Tan	210-169-99 (#D2A963)	9.6:1	9.4:1	9.8:1	9.4:1
Yellow	255-255-91 (#FFFF5B)	19.7:1	18.9:1	18.2:1	18.5:1
Green	0-255-100	15.5:1	14.3:1	14.1:1	15:1

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***Protanopia** (Red-Green Color Blindness)

Protanopes are more likely to confuse:

1. Black with many shades of red
2. Dark brown with dark green, dark orange and dark red
3. Some blues with some reds, purples and dark pinks
4. Mid-greens with some oranges

****Deuteranopia** (Red-Green Color Blindness)

Deuteranopes are more likely to confuse:

1. Mid-reds with mid-greens
2. Blue-greens with grey and mid-pinks
3. Bright greens with yellows
4. Pale pinks with light grey
5. Mid-reds with mid-brown
6. Light blues with lilac

*****Tritanopia** (Blue-Yellow Color Blindness)

The most common color confusions for tritanopes are:

1. light blues with greys
2. dark purples with black
3. mid-greens with blues
4. oranges with reds.

Definitions and descriptions of color blindness adapted from:

http://www.colourblindawareness.org/colour-blindness/types-of-colour-blindness

or

https://bit.ly/2sp9sC0

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********** End of Document **********