

# Accessibility Handbook for Teaching and Learning



# Accessibility Handbook for Teaching and Learning

*LUKE MCKNIGHT AND BRIANA  
FRASER*



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# Accessibility Handbook for Teaching and Learning

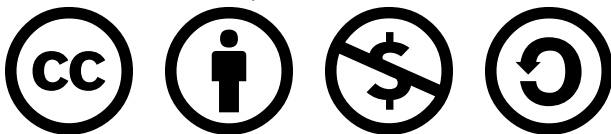
## Preface

This book was created by Luke McKnight (Assistive Technologist) and Briana Fraser (Educational Technologist, Langara College) with assistance from Clover Duong (Assistive Technologist Project Assistant, Langara College). This resource is intended as a reference for anyone to understand digital accessibility, create accessible content, and ensure everyone can access digital material.

Please use, share, and copy from this book as you see fit.

## License

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# Accessibility Statement

The authors of this work are committed to providing a fully accessible experience for all users of all abilities, including those who rely on assistive technologies like screen readers, text to speech, screen enlargement software, voice control, and alternative keyboard input devices to navigate and consume content.

## Accessibility Features of this Resource

The web version of this Pressbook is designed to meet Web Content Accessibility Guidelines 2.1, level AA. To create an accessible resource, authors incorporated the following:

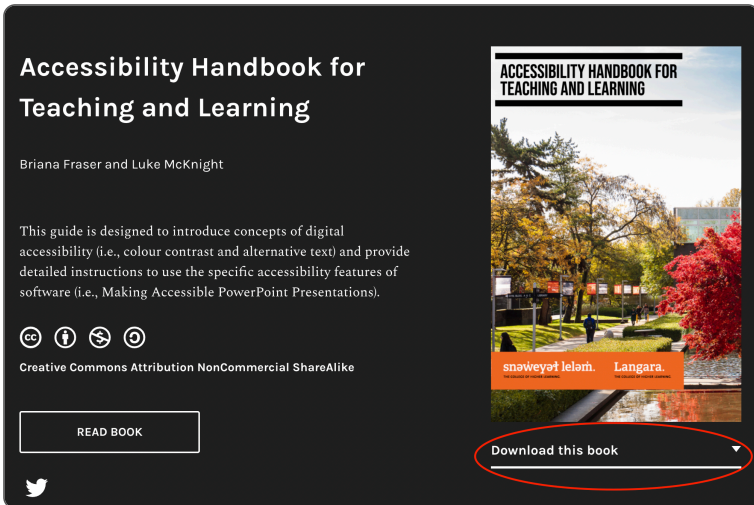
- Minimum 12 point body text.
- Pages are built with a consistent heading structure.
- All content has appropriate colour contrast (apart from two instances of poor contrast intentionally included as examples of what not to do).
- Information is not conveyed by colour alone.
- Content in web and EPUB export can be zoomed to 200% with no need for horizontal scrolling.
- All videos with audio are captioned.
- All images include alternative text or are marked decorative.
- Tables are properly formatted.
- All link text is descriptive (apart from examples of what not to do).
- Links do not open in a new window or tab, except where indicated.

- All embedded H5Ps are verified accessible by the author.
- Math content is accessible and presented as either:
  - LaTeX or MathML rendered by MathJax.
  - Images with complete, descriptive alt text.

As content is added to this resource, every effort is made to ensure content is accessible. Any issues will be noted on this page.

## Additional Formats

On the title page of this book open the **Download this book** menu and choose your preferred format.



Generally, HTML will be the most accessible format. However, users can download this resource in PDF, EPUB, and others. There is a possibility formatting will not sync perfectly between all formats and full accessibility cannot be guaranteed in other formats.

## Known Issues

The authors have made a dedicated effort to ensure the accessibility and usability of this resource. Any outstanding issues identified are documented below.

**Table of known accessibility issues**

| Location of issue | Issue description | Timeline for improvement |
|-------------------|-------------------|--------------------------|
| No current issue  | No current issue  | No current issue         |

## Contact Information

If you encounter an accessibility barrier or have any other questions or comments, contact [assistivetech@langara.ca](mailto:assistivetech@langara.ca).

Please include as much of the following information as possible:

- Location of the issue, including the web address and/or page title.
- A description of the issue.
- The computer or device, software, browser, and other technology you are using.
  - e.g., iOS, Safari, VoiceOver

A thorough description will assist us in addressing any issues and improving the accessibility and usability of this resource.

---

This statement was last updated on **March 11, 2024**



# Using This Resource

This first chapter explains how to navigate this book on the web and outlines some of the common features you will encounter in this resource.

**On this page:**

**Browser Personalization**

**Navigation | Glossary**

**Hypothes.is | Videos**



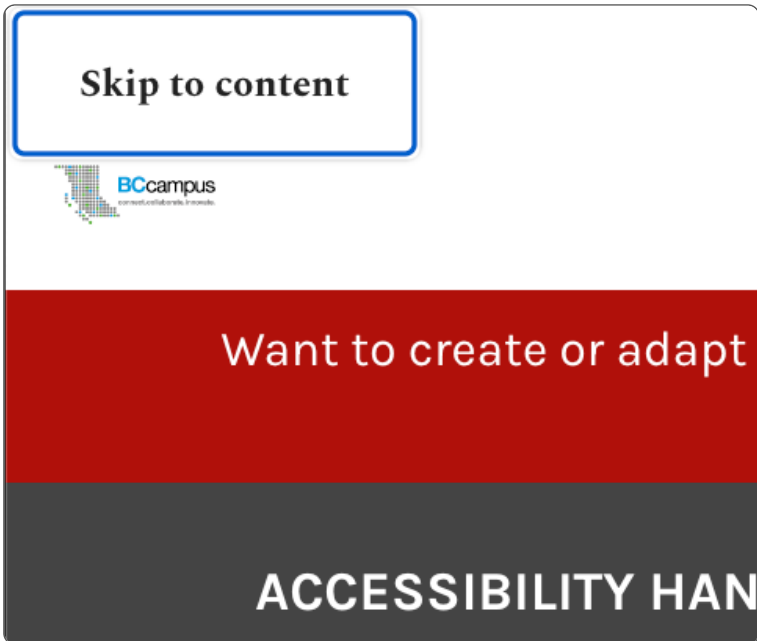
Consider the following tips for accessing this resource on the web.

## Browser Personalization

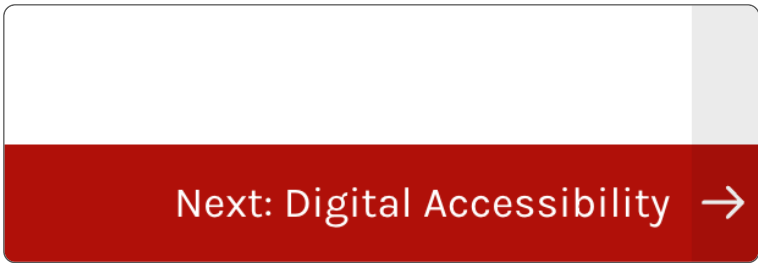
For reading this book (and much of the web) you may want to customize the appearance of the content. Tools such as UI Options Plus (UIO+) browser extension for Chrome and Edge as well as Immersive Reader for Edge and Reader View in Firefox allow users to change the font style, size, background colour and use tools like read aloud and line focus.

## Navigation

On each page, pressing **Tab** once moves focus to the **Skip to content** link. Selecting that link moves keyboard focus directly to the beginning of the page's main content.



At the bottom of each page are next and previous buttons. Use these buttons to move between pages and chapters:



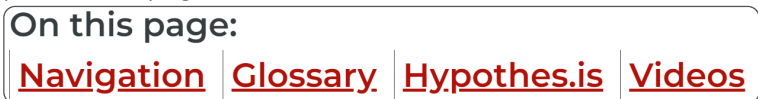
You can also use the left and right arrow keyboard keys to move between pages. If keyboard focus is on an interactive element such as an H5P or video, this will not work. Press **Tab** to move out of an element to resume navigating between pages.

Near the top left of each page is a table of contents. The **Contents** button expands the table of contents menu allowing you to navigate between pages and chapters:



To quickly access the table of contents, use the skip to content link then press **Shift Tab** twice. This action will move focus to the **Contents** menu.

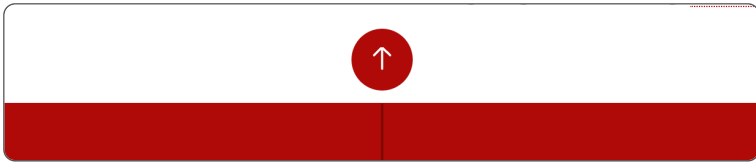
Most pages contain an "On this page" list of links to specific parts of the page, such as:



Select a link to skip to that part of the page.

Pages that do not have a table of contents are short or only cover one significant topic.

As you move down the page, a **Back to top** button appears at the bottom of the screen:



Select the **Back to top** button to move back to the top of the page.

In the top right of each page is the **Search in book...** tool



Search results are displayed on a new page.

## Glossary

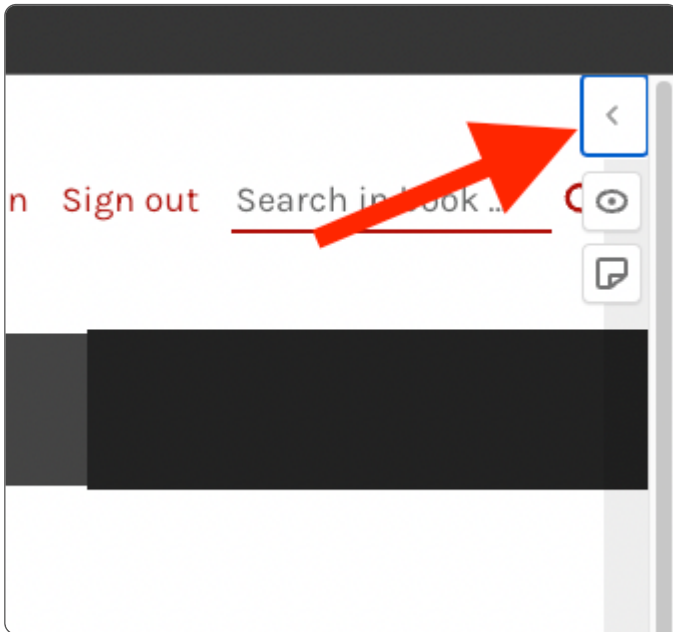
Glossary items appear in bold, red text with a dotted underline, such as in this **example**.

Glossary terms are fully accessible buttons. Screen readers will read the glossary term followed by the definition in line with the surrounding text. Mouse users can click the button to reveal a popup definition of the term.

# Hypothes.is

Hypothes.is is a social annotation tool that allows you to highlight, annotate, and share content on the web. The Hypothes.is plugin is built into this Pressbook.

1. Select the **Annotation Sidebar** in the top right of the page.



2. Log in or sign up to hypothes.is
3. Highlight text and select **Annotate** to add a note or **Highlight** to highlight content.

Hypothes.is is keyboard accessible and text can be highlighted using **caret browsing**.



## Videos

This book includes a number of demonstration videos. All videos containing audio are captioned. There are some videos which contain no audio.

# DIGITAL ACCESSIBILITY



# Digital Accessibility



## CLEARING A PATH FOR EVERYONE!

*"Clearing a Path for Everyone" – Michael Giangreco / University Of Vermont Center For Digital Initiatives Collection*

The one argument for accessibility that doesn't get made nearly often enough is how extraordinarily better it makes some people's lives. How many opportunities do we have to dramatically improve people's lives just by doing our job a little better?

– Steve Krug, *Don't Make Me Think, Revisited*

Digital technology is so ubiquitous that it is difficult to think of many activities that don't rely on some kind of technology. Many people may take for granted that things just 'work.' What if something you used everyday didn't work? What if you couldn't read your email? What if you couldn't log in to your online banking? What if your computer speakers suddenly stopped working?

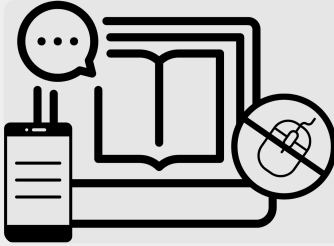
Every day people encounter something that doesn't work for them. A PDF that cannot be read aloud may not effect you, but for some that inaccessible PDF might as well be blank. A form that says 'fill out the forms marked with red text' may make sense to you, but some people will not be able to decipher which fields to complete. A video without subtitles excludes anyone that cannot clearly hear the audio.

#### Accessible digital content can be:

Accessed,  
Consumed,  
Interacted with,  
by everyone,  
at the same time.



Accessibility accounts for a diversity of access means.



Access means can be informed by:

- Choice of device, such as a computer or phone.
- Control type, e.g. without a mouse.
- Necessary software, like text to speech tools or voice control.
- Customization including increasing font size or inverting colour schemes.

In the context of digital accessibility, an access profile will likely be intimately related to a user's disability and the technology the use. Learn more about assistive and adaptive technology in the Assistive Technology User Guides Pressbook.

### A user's access means can be influenced by something:

- Persistent, for example blindness.
- Temporary, like eye strain.
- Situational, such as glare from the sun.



Access means may also change over time.

According to Statistics Canada, 27% of Canadians have a disability (Statistics Canada, 2022). However, educators cannot rely on accommodation requests, or lack thereof, to decide when to make accessible content. 96% of disabilities are “invisible”, that is they are not outwardly visible to the casual observer (Morgan, 2020). There is no way to determine who accesses content in what way by looking at them. Additional statistics suggest only one-third of college students with a disability disclose their status (Adam and Warner-Griffin, 2022). Further, 94% of high school students with disabilities get some form of assistance, while that number drops to 17% at the college level (Krupnick, 2014). Accessible content is built for everyone and reduces the need to accommodate specific cases, increases the usability of content, and maximizes the independence of all users. Accessible content is designed for everyone.

**Accessibility is not a feature, inaccessible content is a bug.**

## Works Cited

Adam, Tara, and Catharine Warner-Griffin. “A Majority of College Students with Disabilities Do Not Inform School, New NCES Data Show.” *National Center for Educational Statistics*. Accessed September, 20, 2022.

Krupnick, Matt. “Colleges Respond to Growing Ranks of Learning Disabled.” *Washington Monthly*, February 18th, 2014.

Morgan, Paula. “Invisible Disabilities: Break Down the Barriers.” *Forbes*, March 20, 2020.

Statistics Canada. “New data on disability in Canada.” *Canadian Survey on Disability, 2022*.

# Accessible Content

## Creating Accessible Content

Take a moment to consider who ramps are built for.





Many people might answer “wheelchair users”. That is correct. Ramps are purpose-built to assist movement. They are **essential** for someone using a wheelchair to navigate and access parts of the physical world. However, most people can also use ramps. What is essential for some also benefits others.

**Ramps benefit:**

- People pushing a stroller or pulling a shopping cart
- People using a walker, walking stick, or cane
- Children learning to walk or anyone having difficulty with stairs
- Cyclists pushing their bikes

- People on crutches or those with other temporary disabilities
- Movers and delivery people

In the digital world there are many 'ramps'.

#### **Digital Ramps:**

- Headings
- Colour contrast
- Alternative text
- Closed captions
- Responsive design

Software like Word, PowerPoint, and Brightspace were designed to create accessible content by default. When used as intended, those platforms create material that is accessible with no additional steps, hacks, or workarounds required.

As an example, consider when you last (or ever) received formal training on creating Word documents. If you have, how long ago was it? Or, have you simply been doing things the way you've always done them? That approach is often adopted with good intentions under the assumption that if something isn't broken, don't fix it. However, inaccessible content is broken content. When people can't access and engage with material, that material is broken.

Creating accessible content may require some unlearning of steps in your current workflow. You may need to (re)learn some features. But, many platforms and software create accessible content by default.

**The hardest part of learning something new is not embracing new ideas, but letting go of old ones.**

– Todd Rose, *The End of Average*

Traditionally, one might think of creating accessible content as an accommodation essential for some users; but like ramps, these elements benefit everyone.

Maximizing accessibility allows for democratic, just, equitable, and inclusive access.

Accessibility:

- Minimizes othering
- Allows maximum independence
- Increases audience size
- Aids comprehension
- Meaningfully includes the greatest number of people
- Requires less work than accommodation
- Makes content easier to share and remix

Some people just have to show up. Others have to hack, plead, and ask for favours simply to be able to participate. Creating and providing accessible content reduces that burden. This handbook seeks to problematize the excess labour inaccessible content imposes on some users.

## Accessibility Spectrum

A better understanding of digital accessibility helps with creating accessible content and choosing accessible resources. Keep in mind, digital accessibility is not pass/fail; material may be more or less accessible than previous versions or alternate formats. Aim to provide the most accessible version of content to deliver the same information to everyone at the same time.



By adopting the best practices and consulting the resources found in this guide, you will learn how to choose and create accessible content efficiently and effectively.

**A final note:**

Focus on creation and revision, not remediation. When you create new content or update existing material, focus on incorporating accessibility best practices. Do not focus on all your existing documents and worry about 'fixing' each one. Aim to improve as you move forward.

# Digital Accessibility Quick Start Guide

For initial accessibility checks, ensure content has:

## Readable fonts

For readability prefer sans-serif fonts like Aptos, BC Sans, Helvetica or Open Sans.

Use plain serif fonts like Cambria, Sitka, or Times New Roman.

## Layout and structure

Use built-in tools for:

- Headings
- Lists
- Tables
- Titles

## Appropriate use of colour

Use dark text on light backgrounds and light text on dark backgrounds.

Do not use colour alone for meaning.

## Descriptive link text

Write unique, descriptive text

of link destinations and use built-in tools to create hyperlinks.

Do not include bare URLs.

alternative text.

2. Use Kaltura or OneDrive to generate captions and edit for accuracy.
3. Provide text transcripts of audio recordings.

## Text equivalents for images, videos, and audio

1. Briefly describe the information in an image via adjacent text, figure captions, or coded

## Been evaluated by an accessibility checker

Use tools, such as accessibility checkers in Office programs and Brightspace, to check for common accessibility issues.

Many platforms have tools and features that were designed to create accessible material by default. When used as intended software like Word, PowerPoint, and Brightspace create content that is accessible with no additional steps, hacks, or workarounds required.

Prefer formats such as HTML, Docx, and EPUB that allow user customization, as opposed to rigid formats like PDF or images of text. The greatest affordance for individuality is customization.



# ACCESSIBILITY FAST



# Accessibility FAST

There are three frameworks to use to remember the key points of digital accessibility: SCULPT, THRIVES, and FAST.

**SCULPT** reminds authors to check:

Structure

Colour and Contrast

Use of images

Links

Plain English

Tables

**THRIVES** reminds authors to focus on:

Tables

Hyperlinks

Recordings

Inclusive font

Visuals

Examine

Structure

The above frameworks are useful methods to remember key accessibility concerns. To focus on the important areas of digital accessibility this guide uses the **FAST** approach to organize major accessibility fundamentals.

**FAST** emphasizes:

Function

Appearance

Structure

Text equivalents

Function

Function means material:

- Conveys information effectively in **plain language** appropriate to audience.
- Is **responsive** and customizable (Word documents, **EPUB**, and HTML are much more accessible than **PDF**).
  - Can be accessed by mouse, keyboard, on a phone, etc.
  - Can be read aloud, zoomed in, viewed in dark/night mode.
- Has no media that automatically plays.
- No content flashes more than 3 times per second.

## Appearance

Appearance means content:

- Has readable fonts.
- Has sufficient **colour contrast**.
- Does not rely on visual style, such as colour, alone to distinguish or emphasize.

## Structure

Structure ensures content has:

- Visual and coded **structure**, including **headings** (not just larger, bold font), lists, and titles.
- **Tables** with headers and logical order.
- Left-justified text (for languages that read left to right).

## Text Equivalents

Including text equivalents is essential for accessibility.

Ensure:

- Images have equivalent descriptions provided via adjacent text, **figure captions**, or **alternative text** or are marked as decorative where applicable
- **Links** are presented as descriptive, visually distinct, linked text not bare URLs.
- Charts have linked or adjacent table data.
- Videos have **closed captions**
- Audio has **transcripts**

In addition, use available accessibility tools and resources, including:

- **Templates**
- **Accessibility checkers** and
- This Pressbook
  - This resource is organized along the FAST framework. The details of FAST are not meant to be memorized,

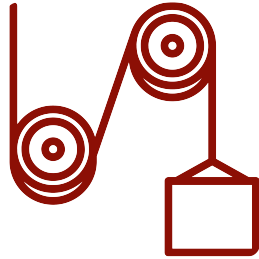
nor is the material in this book. Bookmark this Pressbook to use as a guide when creating content.

# Function

In assessing the function of content, the basic question is: “does it work?”

Functional content:

- Conveys information effectively using plain language.
- Works on different devices and with user customization.
- Does not automatically play, move, or close.
- Has no content that flashes more than 3 times per second.



Functional content is important for users of assistive technology to ensure they can consume and interact with material. Ensuring function benefits all users, allowing choice and customization when accessing material.

**On this page:**

[Plain Language](#) | [Robust Content](#) | [Media](#)

## Plain Language

A first step to functional content is to write using **plain language**. Plain language is especially helpful for readers with cognitive disabilities and/or using assistive technology, but all readers benefit from clear, direct writing.

Plain language helps readers:

1. Find what they need.
2. Understand what they find.
3. Use what they've learned.

A Stanford study found that people often make their writing “more complex in order to appear smarter”, but doing so often results in the opposite effect (Oppenheimer, 2006). That does not mean writing can never be complex. Writing should be appropriate to the audience and context. For example, a course outline or subject introduction should be relatively plain. Research materials, textbooks, and journal articles can be significantly more complex.

## Plain Language Best Practices

Write for the intended audience:

- Accessibility guidelines suggest a 9th grade reading level for general content, such as a public webpage or general document.
  - Academic and technical writing will likely exceed that level.
- Check your Word document’s readability or paste your content into the Readability Analyzer for statistics. Learn about customizing Word Editor settings.
- Don’t assume knowledge. Introduce and explain concepts and technical terms early.
- Explain acronyms, initialisms, and abbreviations the first time they appear.

Use clear language:

- Aim for an average sentence length of 15 words.
  - Some sentences should be shorter and some should be longer.
- Avoid long words when possible.
- Avoid idioms and figures of speech.
- Use active verbs and personal pronouns.
- Use contractions.

Group content:

- Publish as much content as possible in one document or webpage.
- Avoid sending readers to additional resources or downloading multiple formats to obtain essential information.

#### Further Resources:

Read more about Plain Language & Accessibility from the Government of Minnesota IT Services.

Consult the Plain Language Action guide.

Learn more about using simple words and phrases.

Read Plain Language and Design for Post-Secondary by Melinda Worfolk.

## Robust Content

In digital accessibility, robustness refers to the strength of the code behind material. When creating something, ensure your content is robust:

- By testing on multiple devices and browsers
  - Zoom in to 200% in a web browser to test that your content is adaptive, **responsive**, and can reflow.
    - **EPUB** and Word will reflow by default.
    - Web content can be made to be responsive with relative ease.
    - PDF requires significant work to make accessible

and generally do not reflow properly (by design).

- By pressing **Tab** to verify reading order and focus states to ensure links and buttons can be reached by keyboard alone.
  - Also use **Tab** to check that **table** content is read in the correct sequence.

Ensuring your content is robust allows users to customize their experience and use on their chosen device.

## Multiple Formats

Provide content in multiple formats. Robust content can be converted between formats with little to no loss of function or formatting.

Choose the best format based on content:

- Use HTML (Brightspace, WordPress, etc.) whenever possible.
  - HTML has many accessibility features.
- Word documents for short documents.
  - Word documents can easily be locked to restrict editing.
- EPUB for longer documents like manuals or books.
- MS Forms for forms and surveys.
- PPTX for presentations.
- Use PDFs only when necessary as they are exceedingly difficult to make accessible.



## Media

Include **captioned** media in accessible players. Media players must be able to be operated by keyboard alone.

Ensure audio and video do not autoplay; for carousels or slideshows, provide an option to pause. If media autoplays, many users will have difficulty pausing. The inability to pause media will interfere with many types of assistive technology and be a distraction to most users, regardless of access means.

Ensure no content flashes more than 3 times per second as it could cause seizures.

## Works Cited

Oppenheimer, Daniel M. (2006), "Consequences of erudite vernacular utilized irrespective of necessity: problems with using long words needlessly". *Applied Cognitive Psychology*, vol. 20, 139-156, 2006.

# Appearance

How content appears is an important influence on the accessibility of your content. Consider:

- Font choices
- Use of colour



Accessible appearance helps those with vision impairments, cognitive disabilities, or a colour vision deficiency. However, like many accessible design practices, following these best practices will benefit everyone.

**On this page:**

**Accessible Font** | **Accessible Colour**

## Accessible Font

Text content needs to be readable. For people with low-vision or dyslexia, good font choices can make content easier to read. Consider the following passage:

"**Dylexia**, pelviusory kownn as **word benniliss**, is a lernniag dtsailibiy ('lenraing dctflufiuy' in teh UK) that affects eiehr reading or wtiring.

Diferent poplee are actfeed to difenrfet dregees. Pemrlobz aym ilcndue diffiulticis in spelniig wdros, redanig qliucky, wnrting wdros, "snudniog otu" words in the head, pronnunciog wdros when rdaeing aould adn undhrsiandeg waht noe rdaes. Otefn teshe diffiulticets era first niteocd at school. Teh diffiultices aer iuvnrotary, dna popele wthn this ddeorizr have a nomral drisee to leran."

[Dylexsa - Wikipedia](#)

"Teh eon argumnet orf accessilibiy that dseon't teg mdae naerly often egounh is who eradarxrintoily better it mkeas smoe ppleoe's lievs. wHo many otroptinpieus do we hvae to dcaratimllay irpomve peolpe's lievs just by dniog ruo job a lltite betetr?"

Stvee Kurg, [Dno't Make Me Think, Revisited](#)

Animation  
demonstrat  
ing what  
text may  
look like to  
someone  
with  
dyslexia

Consider how much more difficult that is based on font choice:

*"**Dylexia**, puorkeisy kownn as **word bdniness**, is a lennmg dtsibathy ('lhenriag djuitticfy' in etb UK) tabt affjfs eiebr reindog or wtiring.*

*Drfesjefot pploee era affteefil to deeffrint derges. Peborlms nya iuncle duffiulties in slnlipeg wdros, rdaenig qliucky, wtiring words, "sdinnuog otu" wrdos in the head, puuncornaing wlorz webn reaiding aould uad uasnrndi-etang what noe rades. Ofen these duffeulties ear first nitoced at soboel. heT defuulticfcs are ilrmoatny, dna ppolee wthn this dordeizr hvae a normal dsree to lrean."*

[Dlyexica - Wikipedia](#)

*"Teh eno armugnet rof acelsstibiay tabt dsoen't get made nerahy otefn eugnob is wob ectoanrdirtrazy better it makes smoe polepe's lives. Hwao many onpittwoirpes do we hvae to drimaltactazy irmpove pelpoe's lievs just by dniog ruo job a liltite betetr?"*

Stvee Kurg, [Don't Make Me Think, Rsiieetud](#)

Animation  
demonstrat  
ing what  
italic text  
may look  
like to  
someone  
with  
dyslexia

Consult footnote<sup>1</sup> for an unmodified version of this text.

The above animation is a brief simulation of dyslexia. Creating accessible content, including choosing readable fonts, have a great impact on people with dyslexia.

## Font Better Practices

Sans-serif fonts in sizes between 12 and 14 points are shown to be the most readable styles (Morrell & Echt, 1997; Lin et al., 2013).

Prefer sans-serif and basic serifs:

- Sans-serif fonts such as Aptos, Arial, Calibri, Helvetica, or Montserrat are good choices.
- Simple serif fonts, such as Cambria, Sitka, and Times New Roman are readable.
- Avoid decorative fonts with elaborate serifs.

1. **Dyslexia**, previously known as **word blindness**, is a learning disability ('learning difficulty' in the UK) that affects either reading or writing.

Different people are affected to different degrees. Problems may include difficulties in spelling words, reading quickly, writing words, "sounding out" words in the head, pronouncing words when reading aloud and understanding what one reads. Often these difficulties are first noticed at school. The difficulties are involuntary, and people with this disorder have a normal desire to learn."

Dyslexia – Wikipedia

**"The one argument for accessibility that doesn't get made nearly often enough is how extraordinarily better it makes some people's lives. How many opportunities do we have to dramatically improve people's lives just by doing our job a little better?"**

Steve Krug, *Don't Make Me Think, Revisited*



*Image of the letter a in upper and lower case in sans-serif and serif font styles. The serifs—small ticks at the end of character strokes—are circled in red.*

Use font size 12 or larger for documents, 18 or larger for presentations, and 16 pixels or larger on webpages.

Left-align text for languages that read left to right. Avoid justified alignment as that may create “rivers of white space” which are gaps that appear to run through a paragraph due to coincidental alignment of spaces and excessive blocks of white space when zoomed in.

Consider spacing.

- Line height or line spacing must be at least 1.5 times the font size.
- Spacing after a paragraph must be at least 2 times the font size.
- Letter spacing must be at least 0.12 times the font size.
- Word spacing must be at least 0.16 times the font size.

Avoid excessive use of italics, long blocks of all capitals.

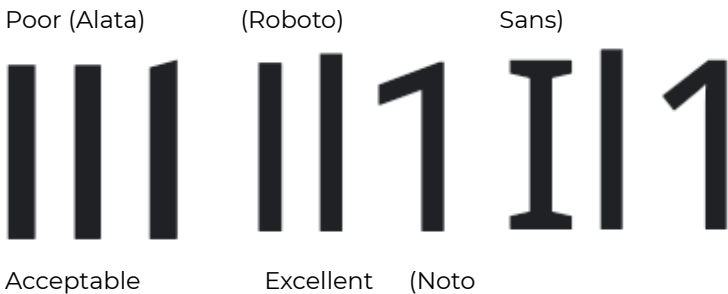
Do not use images of text and avoid putting text over images.

## **More about Font**

Font choices are part of good design and make content easier to read for everyone.

A simple test for your font choices is the III test to root out *imposters*. When choosing a font, type a capital I, a lowercase l, and the number 1 beside each other with no spaces: III.<sup>2</sup> A good font will have obvious distinction between those characters. A harder to read font will have imposter characters that look similar and can easily be mistaken for one another. Choosing a readable font helps avoid character ambiguity which may cause confusion for readers.

Consider these examples:



The III test is not the only factor in choosing the right font, but is a good quick test of font legibility.

## Accessible Colour

Text must have a **contrast ratio** of at least 4.5:1 against the background colour. For example, black on white is 21:1 and orange on white is 3.37:1.

Additionally, do not use visual styling, including colour, alone to emphasize content.

2. Admittedly, the default font of Pressbooks, Montserrat, is not an excellent example of best practice.

These best practices are essential for readers that are colour blind, but benefit users printing in black and white, viewing in the sun with screen glare, custom contrast settings, or other vision impairments.

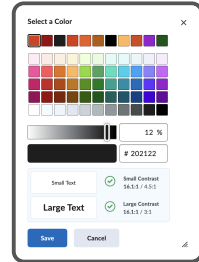
The next chapter examines colour in further detail.

## Works Cited

- Krug, Steve. *Don't Make Me Think, Revisited: A Common Sense Approach to Web Usability*. 3rd ed., New Riders, 2014.
- Lin, H., Wu, F.-G., & Cheng, Y.-Y. Legibility and visual fatigue affected by text direction, screen size and character size on color LCD e-reader. *Displays*, vol. 34, no. 1, pp. 49–58, 2013.
- Morrell, R. W., & Echt, K. V. (1997). Designing Written Instructions for Older Adults: Learning to Use Computers. *Handbook of Human Factors and the Older Adult*, vol. 14, pp. 335–361, 1997.

# Accessible Colour

1 in 12 men and 1 in 200 women have some kind of colour vision deficiency (Colour Blind Awareness, 2010). To create inclusive content foreground information must have sufficient **colour contrast** against background colours. Additionally, it is essential that colour is not the only means to convey or emphasize information.



**On this page:**

[Accessible Colour](#) | [Colour Contrast](#) | [Use of Colour](#) | [Digital Colour](#) | [Colour Code Tools](#) | [Further Reading](#)

## Accessible Colour

Consider that good colour practices aren't just for those who see colour differently. Better practices are

### Essential for

- Readers with a colour vision deficiency.
- Readers with low vision.
- Readers on an electronic paper screen, like an e-reader.

## But also benefit

- All readers, regardless of access means.
- Readers that customize appearance and style.
  - Effective use of colour ensures information looks similar regardless of device and user settings, such as dark or night mode or other custom contrast settings.
- Readers that print content in black and white.
  - Content that relies on colour or lacks sufficient contrast will lose meaning in black and white.
- Readers experiencing eye fatigue.
- When viewing content in poor lighting or when there is glare from the sun.

## Colour Contrast

For proper colour contrast, aim for **at least** a 4.5:1 ratio. To (over)simplify that ratio, that means the text is 4.5 times brighter than the background. Large text (size 18 point or greater) or bold 14 point or greater, requires only a 3:1 ratio to be accessible. Logos and decorative images have no colour requirements.

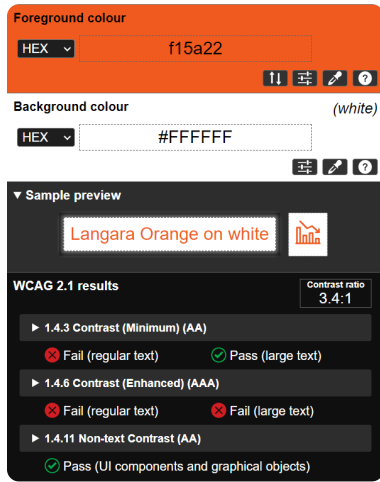
As an example of an accessible contrast ratio,

black text on a white background has a ratio of 21:1. Orange text on a white background (or vice-versa) has a ratio of 3.37:1 and does not provide sufficient colour contrast.

Colour combinations to avoid:

- Red and green
- Green and red or blue or brown or black
- Light green and yellow
- Blue and purple of grey

Use dark font colours on light backgrounds (black text on a white page for example) and light font colours on dark backgrounds (for example white text on a black background)



## Use of Colour

Further, don't rely on colour alone to convey information or emphasize importance. Accessible practice is to add visual or text equivalents to colour, for example:

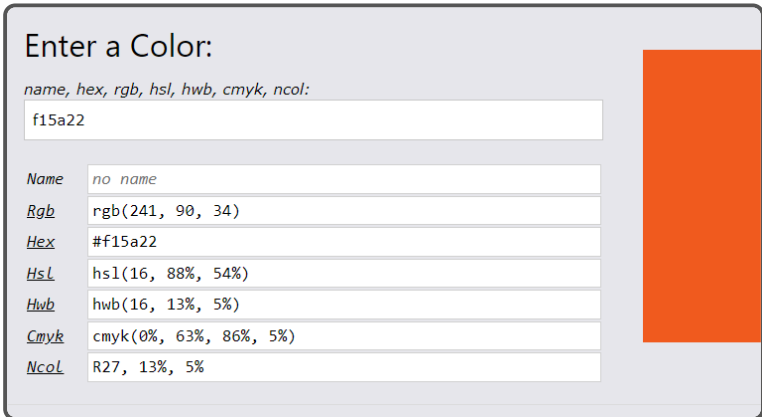
- Use colour, shapes, and text in charts and diagrams.
- Add text indicators to highlighted table cells.

- Include reminders like “important” or “required” in addition to using bold or a specific font colour.

If you rely on colour alone, readers with colour vision deficiency, using screen readers or text to speech software, or those viewing in black and white will miss the meaning.

## Digital Colour

Digital colours are specified using colour codes. The most common colour codes are Hexadecimal (hex), RGB, and HSL. Each of these colour codes express colours using different values. Try entering a colour in this Color Converter tool to see how colours can be coded.



The screenshot shows a web-based color converter interface. At the top, it says "Enter a Color:" followed by a list of supported color models: name, hex, rgb, hsl, hwb, cmyk, ncol. A text input field contains the hex code "f15a22". To the right of the input field is a vertical orange color swatch. Below the input field, there are several rows of color information, each with a label and a value:

|             |                        |
|-------------|------------------------|
| <i>Name</i> | no name                |
| <i>Rgb</i>  | rgb(241, 90, 34)       |
| <i>Hex</i>  | #f15a22                |
| <i>Hsl</i>  | hsl(16, 88%, 54%)      |
| <i>Hwb</i>  | hwb(16, 13%, 5%)       |
| <i>Cmyk</i> | cmyk(0%, 63%, 86%, 5%) |
| <i>Ncol</i> | R27, 13%, 5%           |

Hex values are referred to in this guide, but the principles are applicable to any colour code system.

## Colour Code Tools

There are many options for finding colour codes.

## Firefox

Firefox has a built-in eyedropper tool. Navigate to **Tools > Browser Tools > Eyedropper**. Click on the colour you want and the hexadecimal code is copied to your clipboard.

Additionally, right-click on any webpage and select **Inspect**. Navigate to the **Accessibility** pane and select an option from the **Simulate** menu to see how different people may experience the colour of that page.

## Chrome

ColorZilla Chrome extension allows you to easily copy colour codes from websites. Simply open the extension and use the eyedropper to select a colour. The HEX colour code is added to your clipboard.

In Chrome, you can right-click on the colour you want and select **Inspect**. Navigate to the **Styles** pane in the **DevTools** window. Additional options are available in the **Computed** tab. On a complicated page, you may wish to use the filter box to search for “color.” Click on the colour box next to the element you want to get the colour codes. This option display contrast ratios only if the colour is coded as a foreground or background colour relative to another properly coded element’s colour. That is not always the case, however, you can still use this method to find the hex codes and compare them in another tool.

## macOS

Built-in to MacOS is the Digital Color Meter application. Press CMD + L to lock the meter’s position on the desired colour. Use the Color menu or press SHIFT + CMD to copy the colour code. This tool allows users to copy colour codes as RGB.

Contrast for MacOS is an excellent application to determine colours and colour contrast.

## Windows

TPGi Color Contrast Analyser for Windows is an excellent option.

You can use Microsoft PowerToys to find Hex codes.

Use these tools to find colour codes and contrast checking tools to verify accessible colour contrast.

## Contrast Checkers

WebAIM (Accessibility in Mind) is an exceptional resource that has a contrast checker (that can be added as a browser tool), a link contrast checker, and additional reading on colour contrast.

ACE (Accessibility Colour Evaluator) is an excellent tool for checking colour contrast. You can set multiple colours for multiple elements (background, text, link, hover, etc.) and see the corresponding colour contrast ratios.

Consider some of these as well and find what works best for you:

Color Contrast Checker

Palette Checker

Who can use this color combination?

Color Blind Web Page Filter

Safe Hexadecimal Color Codes

---

### Further Reading

WebAIM guide to WCAG colour guidelines.



## Works Cited

Colour Blind Awareness. "About Colour Blindness." *Colour Blind Awareness*, 2010.

|       |               |
|-------|---------------|
| Title | Article Title |
| H2    | Main Point    |
| H3    | Subtopic      |
| H2    | Second Point  |
| H3    | Subtopic      |
| H3    | Subtopic      |
| H2    | Third Point   |

# Accessible Headings Quick Start Guide

Headings are essential for screen reader users to navigate long documents. Headings benefit all readers by providing context, organizing material, and emphasizing connections.

To get started with accessible headings:

**Use a hierarchical structure**

**Use headings in Word**

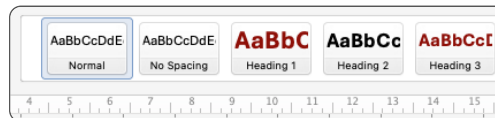
For example:

Heading level 1: Main topic or title.

Heading level 2: Primary sections.

Heading level 3: Subsections of heading level 2s.

Use the Word Styles gallery to set headings.



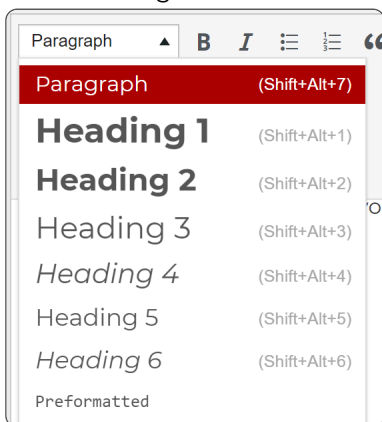
Headings should describe the content below it.

Multiple subsequent heading levels can be nested under a higher level and any content can follow any heading level.

Do not skip a heading level.

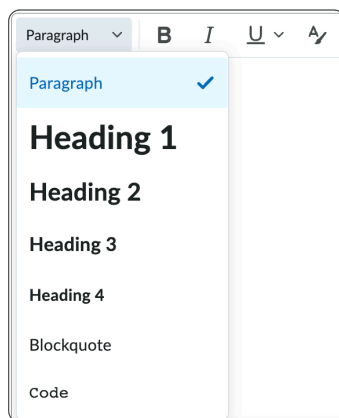
## Include style and code

Headings are not just larger, bolded text. Use visual style for headings to set them apart, but headings must also include coded meaning.



Verify heading structure via **View > Navigation**.

## Use Brightspace headings



Set headings using the styles menu in the Brightspace editor. Heading styles can be customized using the colour, font, and size tools in the Brightspace editor. The Brightspace Accessibility Checker will flag out of order headings.

Use built-in tools to create accessible headings.

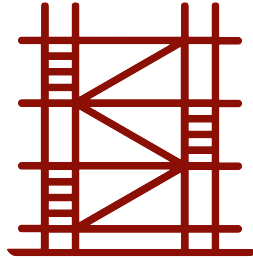
Moving forward...

Use headings to create an accessible and organized reading experience for all readers. Additionally, an accessible heading structure can help you create outlines, reorganize content, and generate a table of contents.

**For more information on headings and document structure**, move to the next page.

# Structure

Properly **structured** documents are essential to allow users who cannot see the layout to navigate documents. Assistive technology relies on the underlying structure to differentiate between (and indicate to users) content types which allows users to jump to specific places in the document, browse or skim information, and understand an overview before delving deeper. Consistently structured documents help all readers with context, organization of ideas, and clarity.



## Consider your user

| User Question                       | Feature used to answer                              |
|-------------------------------------|---|
| Where am I?                         | Page, slide, and document titles                    |
| How did I get here, where can I go? | Navigation menu, table of contents                  |
| What is here?                       | Headings, lists, labels                             |
| What does this relate to?           | Consistent style and layout across related material |

## On this page:

[Headings](#) | [Navigation](#) | [Lists](#) | [Tables](#)

## Headings

**Headings** are an important part of documents and web pages.

Headings create organizational flow, build connections between key concepts, and break up large blocks of text to increase readability. Headings create a navigable document outline that helps all readers understand the logical structure of the page and navigate to different sections. Properly coded headings convey the document structure to screen readers and speech-to-text software.

Use built-in tools to create headings in nested, sequential order. Proper headings are both visual (often larger font) and semantic (code for interpreting content). Simply making text larger and bold does not give headings essential meaning in code. Proper headings have both style and meaning.

Headings are

#### Essential for

**Screen reader** users that rely on headings to navigate the web and longer documents. The nest hierarchy of headings also provides context and relationships between key concepts to screen reader users.

#### But benefit

All readers, regardless of access means.

- Headings provide context and explain relationships between ideas.
- Headings visually show how information flows

and review relationships between concepts.

- Coded headings provide the same meaning through their nested hierarchy.
- Consistent style and usage aid readers in understanding and navigation.
- Headings emphasize key concepts.
- Headings can be used as “bookmarks” in a long document for readers to use to take breaks and resume their place.
- Headings allow for skimming to review and find specific content efficiently.

Authors.

- Headings can be used to create a table of contents automatically in Word documents.
- Headings can be moved in the Word Navigation pane to move all subheadings and subordinate content under that heading.
- Easily update heading style to change the appearance of all headings of that level.
- Create a summary or overview document.

## Navigation

- Ensure documents have a title.
- Add a table of contents to documents longer than 5 pages.
- Provide **skip links** and multiple ways to navigate (previous and next buttons, menus, breadcrumb navigation, site map, etc.) in HTML.

## Lists

Use the list tools to create lists. Creating lists using asterisks or dashes will not inform assistive technology that the content is part of a list. Lists are useful for steps in a process or grouping items. It is important that everyone is made aware of the presence of a list.

Properly formatted lists organize information and makes your documents accessible.

- Use bullet lists to group items or show hierarchy.
  - Lists where the sequence is not important.
1. Use numbered lists for items where sequence is important.
  2. Such as steps in a process.

## Tables

### Table Best Practices

- Tables must have a header and/or column row.
- A concise, descriptive table title or caption helps with context and organization.
- Do not use nested, merged, split, or unnecessary blank cells.
- Use cell borders to keep data visually discrete. There are exceptions in which cell borders can be removed.
- Ensure cells have adequate padding and margins.

- Do not use colour alone to indicate meaning.
- Verify table reading order by placing the text cursor in cell A1 and press the **Tab** key to move cell to cell. Ensure reading order matches the visual order.
- The Brightspace Accessibility Checker offers significant checks and resolutions to improve table accessibility. The Office (Word and PowerPoint) checker does not offer as robust checks, only flagging missing header row.

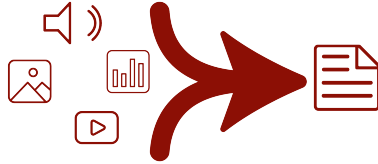
Do not use tables to enforce layout. Tables are for organizing and presenting data (data can be numbers or text) in a tabular format. Use columns, text alignment, or other layout tools for layout.

Later chapters will expand on using built-in tools to create headings, lists, and tables in different software suites and document types.

# Text Equivalents

Text equivalents are essential to accessible content. Everyone benefits from clear **links**, blind and low vision users

need **alternative text**, **closed captions** and **transcripts** are helpful to all but essential for people that are deaf or hard of hearing.



As mentioned previously, don't rely on colour alone to convey meaning or importance.

Add text equivalents to colour, for example:

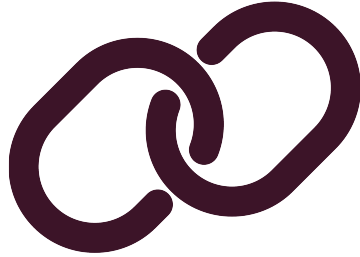
- Use colour, shapes, *and* text in charts and diagrams
- Add text indicators to highlighted table cells
- Include reminders like “important” or “remember” in addition to bolding emphasized text

If you rely on colour alone, readers with colour vision deficiency, using screen readers or text to speech software, or those viewing in black and white will miss the meaning.

The following chapters will expand on descriptive link text, alternative text, closed captions and transcripts.

# Accessible Links

Use **descriptive hyperlink text** in place of bare URLs. Effective link text helps readers locate links and understand their destination and purpose. For users of assistive technology hyperlink text can be used to navigate content quickly. Bare URLs or links written as “click here” or “read more” provide less information to everyone and are not useful to assistive technology users for navigation.



## On this page:

[Linked Text](#) | [Link Examples](#) | [Create Links](#) | [Cybersecurity Citations](#)

Descriptive links are essential for screen reader users but help everyone understand the purpose and destination of links.

Do not use bare URLs and avoid ambiguous links.

Why? Watch the following demonstration of screen reader software reading links.



*One or more interactive elements has been excluded from this version of the text. You*

*can view them online here:*  
[https://pressbooks.bccampus.ca/  
accessibilityhandbook/?p=4255#oembed-1](https://pressbooks.bccampus.ca/accessibilityhandbook/?p=4255#oembed-1)

The exceptions are for email addresses or short, top-level URLs such as Langara.ca

If necessary to provide a URL, such as on a document you are directly printing for distribution, consider using link shorteners like bit.ly or tinyurl.

## Linked Text

Hyperlink text should be:

### **Descriptive**

- Describe the destination and purpose of the link, independent of adjacent text. For example: Consult the Word accessible link guide for more information.
- “Click here” or “More” are not useful as those links do not include purpose or information and are dependent on the surrounding context.
  - Screen reader software allows users to navigate a document by moving link to link. This is useful to skip content, browse, and revisit a link. As such, links should be unique and make sense without surrounding context.
  - Consider the Links List Sidebar Firefox extension to review links on a webpage and get a sense of what links are presented to a screen reader.
- Bare URLs are unpleasant to listen to and do not provide any meaningful information for anyone. Do not include bare URLs. The exceptions are short URLs intended to be

memorized, such as langara.ca, URLs shortened using tools like bit.ly, or email addresses.

If the link destination is anything but a webpage, indicate the type of document file in the link text, for example, Screen Reader Reading Links (video, 2:04).

- When linking to PDF indicate the file type, size, and use a file landing page (if available on your platform) instead of direct download or opening automatically in browser. Many users are excluded by PDFs and will appreciate the warning.

### **Concise**

- Hyperlink text should be to the point without superfluous information. For example, How to write and create accessible hyperlinks in Brightspace is too long. A better link might be: Consult the Brightspace chapter for more information on creating accessible hyperlinks in Brightspace.

### **Unique**


- Each link must have unique link text. For example, webpages or newsletters are often riddled with scores of “Click here” or “Read more” links. Links written that way must be avoided.
- If multiple links go to the same destination, make the link text the same for each.

### **Visually distinct**

- Use standard link formatting, often underlined text in a contrasting colour.

- Generally, only use underlined text for links.

## To Create Links

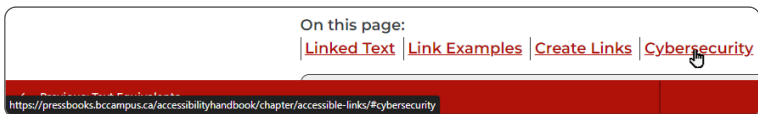
1. Write a description of the link destination using informative and relevant words. For example: Accessible links in PowerPoint or Digital Accessibility Essentials.
2. Select descriptive text and use built-in tools to insert a link. In most platforms, the link button will resemble a chain or interlocking loops, such as: 
3. Or, on most platforms press **Control (Command on macOS) k**.
4. Paste the destination URL in the address or URL box.

Most platforms' default link styling is accessible on white backgrounds. Avoid deviating from the default styling.

## Cybersecurity

Distributing bare URLs has been justified under the counterproductive guise of cybersecurity. The assertion is that users do not want to click on descriptive hyperlinks for fear of navigating to a fraudulent website.

Users can hover their mouse over, or move keyboard focus to, a link and examine the URL in the floating tooltip in documents or the bottom left corner of their browser window.



Do not post, publish, or share bare URLs. Write descriptive links.



## Citations

For online-only resources (that is, not to be printed) APA style recommends hyperlinking the title of the work in the reference list. For online-only content MLA style recommends hyperlinking the resource title on the works cited page.

However, for printed material APA guideline 9.35 requires that URLs and DOIs include “http://” or “https://” in a reference list citation (298-300). According to MLA Handbook guideline 5.96, in printed material URLs may be truncated to omit “http://” or “https://” but must include the remainder of the URL in the location element of a works cited entry (195). However, according to guideline 5.93, if the item is identified by a DOI (Digital Object Identifier), “https://” must be included (194).

|        | MLA   | APA  |
|--------|---|--|
| Print  | Camp, Nathan T., et al. "The Citation Catastrophe: Propagation of AI-Generated Counterfeit Citations in Scholarship." <i>The Journal of Academic Librarianship</i> , vol. 51, no. 4, July 2025. <a href="https://doi.org/10.1016/j.acalib.2025.103065">https://doi.org/10.1016/j.acalib.2025.103065</a> . | Camp, N. T., Bengtson, J. A., & Sandstrom, J. C. (2025). The citation catastrophe: Propagation of AI-generated counterfeit citations in scholarship. <i>The Journal of Academic Librarianship</i> , 51(4). <a href="https://doi.org/10.1016/j.acalib.2025.103065">https://doi.org/10.1016/j.acalib.2025.103065</a> |
| Online | Camp, Nathan T., et al. "The Citation Catastrophe: Propagation of AI-Generated Counterfeit Citations in Scholarship." <i>The Journal of Academic Librarianship</i> , vol. 51, no. 4, July 2025.   | Camp, N. T., Bengtson, J. A., & Sandstrom, J. C. (2025). The citation catastrophe: Propagation of AI-generated counterfeit citations in scholarship. <i>The Journal of Academic Librarianship</i> , 51(4).   |

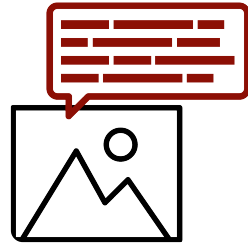
Unfortunately, neither of these guidelines address the issue that a reader may choose to print an 'online-only' resource. This leaves creators in a potentially tricky position. While some may adhere to the rigid rules of various citation guidelines, best practice is to prefer accessibility and provide hyperlinked text over bare URLs whenever possible.

## Works Cited

American Psychological Association. *Concise Guide to APA Style: The Official APA Style Guide for Students*. American Psychological Association, 2020.

Modern Language Association of America. *MLA Handbook*. The Modern Language Association of America, 2021.

# Alternative Text Quick Start Guide



**Alternative text (alt text) is an equivalent text description of visual information.**

Visual elements that include information must have a text-based description. Graphics, such as backgrounds, borders, or visual flourishes that do not contribute information are decorative.

## Mark decorative images

Images included for purely aesthetic purposes (or that have an adjacent text equivalent or descriptive figure caption) should be marked as decorative.

**Provide Alternative Text**

**Alternative Text**

Provide alternative text for the image. This text should convey the same information as the image. If this image does not convey any information, select "this image is decorative".

Alternative Text:

This image is decorative

## Describe informative images

If unsure, err on

the side of adding alt text. It is better to repeat information than have someone miss out completely.

For visuals that contain information there are three methods to provide alternative text:

**Adjacent text** provides details equivalent to the visual information. Use visuals and text to support,

reinforce, and reference each other. All users can access important information when presented in plain text.

**Figure captions** are generally placed below visual elements and provides all users with supplementary information such as citations, accreditation, and contents and are useful to orient all users.

**The alt text field** presents a concise description of visual content to screen reader software used by blind and low vision users. The alt text field is also where images are marked as decorative when appropriate.

Depending on the complexity of the graphic, knowing which type of text alternative to provide is important. Alt text depends on context and purpose. If equivalent information is present in adjacent text or a figure caption, graphics should be marked as decorative.

Marking images as decorative, adding a

figure caption, or including alt text will differ depending on platform or software. Refer to later chapters in this guide for instructions to add text equivalents to visuals in specific platforms.

### Alt Text ×

How would you describe this object and its context to someone who is blind or low vision?

- The subject(s) in detail
- The setting
- The actions or interactions
- Other relevant information

*(1-2 sentences recommended)*

Generate alt text for me

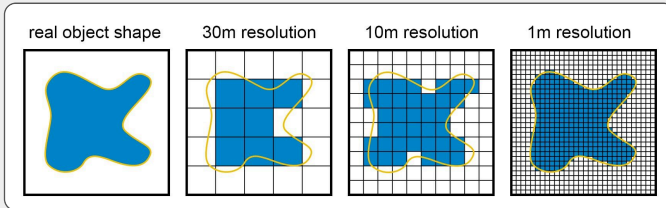
Mark as decorative

## Alt text = type + focus + details

To write alt text: Include the **type** of visual, describe the **focus**, and add essential **details**. Consider how you would describe the image if talking to a friend on the phone. Use proper

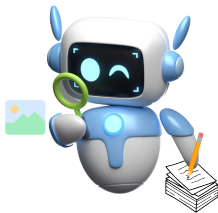
punctuation and grammar and limit alt text to 2 or 3 brief sentences.

### Alt Text Example



**[type]** Diagram of **[focus]** satellite image resolutions comparing real object shape to satellite images taken at 30 metre, 10 metre, and 1 metre resolutions. **[details]** The diagram illustrates that the shape of an object will be more accurately represented as the resolution of a satellite image increases.

### Use AI as a starting point



AI has rapidly improved in describing images, particularly the structure of complex images and extracting text from images. Edit AI generated descriptions for accuracy and clarity. Read more about using AI to generate alt text.

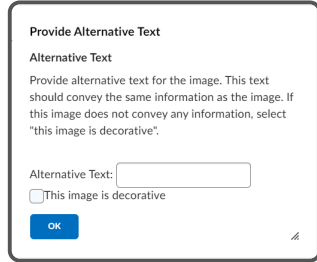
Moving forward...

Understand that alternative text is so fundamental to accessibility it is the first Web Content Accessibility Guideline (1.1.1). Writing alt text is somewhat of an art. Including adjacent text equivalents and reinforcing visual information with text is an excellent way to reach everyone. Remember to try your best, ask for help, and try to be as inclusive as possible.

For **more information** on Alt Text, move to the next page.

# Alternative Text

**Alternative text** (alt text) is a description of visual content. Descriptions can be provided by adjacent text, an **image caption**, or the alt text field. Alt text is code that is read by screen reader software to blind and low vision readers. Alt text allows all users to understand the context, purpose and meaning of visual content by relaying critical visual information in text format.



Alt text is essential to digital accessibility. According to WCAG 2.0 Guideline 1.1.1 : “All non-text content that is presented to the user has a text alternative that serves the equivalent purpose.”

## On this page:

[Where to Include Alt Text](#) | [Decorative Images](#) | [Writing Alt Text](#) | [Common Platform Guides](#) | [View Content Without Images](#) | [Further Reading](#)

Provide alt text because it is

### Essential for

Screen reader users to understand non-text content such as images, diagrams, and other graphics.

## But also benefits

- Users with low bandwidth or inconsistent connection.
- Users with content blockers that could prevent images from being displayed.
  - Alt text provides context, purpose, and information of the image if it does not load.
- Creators by providing clues for moved or missing image source.
- Creators by incorporating a review of why an image is being included. Is it decorative? Does it contribute useful information? If not, is it necessary?

Images and diagrams are excellent compliments to text and vice-versa. Including visuals can break up large block of texts and increase understanding. However, do not overly rely on any single format alone.

## Where to Include Alt Text

Add alt text to visual elements that contain information. This is essential to provide a text equivalent of visuals, including:

- Images and graphics
- Diagrams and charts
- Images of text
- Important logos
- Linked images

- Buttons styled with a graphic

Use this tool to determine when to use alt text (including some tips for writing alt text based on image type) or when to mark an image as **decorative**.



*An interactive H5P element has been excluded from this version of the text. You can view it online*

*here:*

*<https://pressbooks.bccampus.ca/accessibilityhandbook/?p=48#h5p-73>*

## Decorative Images

Useful alt text is important. Knowing when to mark a graphic as decorative is equally important. Visual elements that are included purely for aesthetic purposes and do not contribute any meaningful information should be marked as decorative. Additionally, a graphic should be marked as decorative if the information in the visual element is available in another format such as a figure caption or adjacent text. Use images and text to support and reinforce each other to make content more accessible and easier for all to understand.

**Provide Alternative Text**

**Alternative Text**

Provide alternative text for the image. This text should convey the same information as the image. If this image does not convey any information, select "this image is decorative".

Alternative Text:

This image is decorative

OK

Mark decorative images with built-in tools (often a checkbox labelled “mark image as decorative” or similar) or with alt="" in HTML markup.

If in doubt, err on the side of adding alt text. It is better someone consume content twice than miss out altogether.

## Image Attribution

When adding an image attribution (copyright license etc.) to a decorative image, ensure the caption is also marked as decorative. If it is not, assistive technology would not announce the image, but would read the succeeding attribution text. This would lead the reader to believe they may have missed an important image.

To add a caption to a decorative image in:  
Word

1. Right-click on an image and select **Insert Caption...**
2. Or select the image, move to the **References** tab and select **Insert Caption**.
3. Enter your caption and select **Ok**.
4. Right-click the image and choose **Edit Alt Text...**
5. Check **Mark as decorative**.

PowerPoint

1. Move to **Insert** and select **Insert Textbox**.
2. Place the textbox under the image and type your caption.
3. **Control (Command on macOS)** and click, or click and drag over, the image and the textbox.

4. Right-click the image and select **Group > Group**.
5. Or, on the **Home** tab, select **Arrange > Group > Group**.
6. Select your new group and copy (right-click > **Copy** or **Control [Command on macOS] and c**).
7. On the **Home** tab, choose **Paste > Paste Special**.
8. Choose **Picture (PNG)** and select **Ok**.
9. Right-click on newly grouped image and select **Edit Alt Text...**
10. Check **Mark as decorative**.
11. Remove old image and textbox.

## PDF

The image caption should be marked as an artifact along with the image.

## Webpage

1. Use `<figure>` for proper formatting to include a caption via `<figcaption>`
2. Enter an alt attribute of `alt=""` for the image.
3. Use `aria-hidden="true"` to ensure a screen reader will not read the `<figcaption>` tag.

Wrap the `<figcaption>` in a `<div>`, for example:

```
<figure>
  
  <div aria-hidden="true">
    <figcaption>Image caption to be hidden from screen
readers</figcaption>
  </div>
</figure>
```

## Writing Alt Text

Before writing alt text, consider the **context** (information around image in content), **purpose** (what the image contributes), and **meaning** (the message the image conveys).

Understand that graphics can be informative, functional, or decorative. An informative graphic includes information and must be accompanied by a text description. A functional image performs an action like a link or button; the alt text must indicate what the action will be when the graphic is activated. A decorative image is purely for aesthetic purposes such as a border or background. Note, when accompanied by alt text or a figure caption, informative images can be marked as decorative.

To begin writing alt text, consider how you would describe the image to someone over the phone.

Caroline Desrosiers offers a formula to write alt text:

1. Identify the image **type** (if not a photo)
  1. Indicate if an image is a diagram, map, symbol, gif, drawing, cartoon, etc. The added context will orient users and aid their understanding.
2. Describe the **focus** of the image
  1. What is the most important information in the image.
3. Add relevant **details**
  1. Add details that contribute information or meaning but are not the focus.

Let's consider this example:



**Type** = graphic  
**Focus** = north pole centered globe

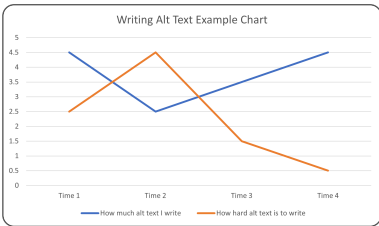
**Details** = surrounded by olive branches. This is the United Nations logo.

So, that provides us with alt text that would read “Graphic of north pole centered globe surrounded by olive

branches. This is the United Nations logo.”

Alt text should be succinct and accurate, including punctuation and grammar. There is no limit to the length of alternative text but aim for a sentence or two at most to provide a pleasant reading experience.

Other types of images might be suited to a different formula. Object – Action – Context (Chen, 2020) is a method similar to type, focus, detail mentioned above.



**Object** = Line graph  
**Action** = graph shows the amount of alt text written and the difficulty encountered in writing alt text over time.

**Context** = The difficulty in writing alt text rises briefly before quickly declining over time as the amount of alt text written increases consistently after an initial dip.

This method provides us with the alt text “A line graph that shows the amount of alt text written and the difficulty in writing alt text over time. The difficulty in writing alt text rises briefly before quickly declining over time as the amount of alt text written increases consistently after an initial dip.”

## Use Relational Terms

Describe the relative size and scale of elements in the graphic. Describe elements relative to the subject, one another, or to a common object.

Describe the directional and positional information of objects in the graphic relative to the frame, such as “on the right” or “near the top left corner.”

Depending on context, terms like “partial view,” “bird’s-eye view,” or “close-up” can be crucial.

Materials, mediums, and textures can be identified by name where possible.

For an image of a recognizable person or place, name them directly but also describe any relevant details.

## What to Avoid

If a photo, do not include “photo of...” or “image of...”

- However, “Screenshot of...”, “diagram...”, “map of...”, “cartoon drawing...” are useful information to orient users.

Do not include:

- Copyright information or attribution.
  - Copyright information should be included in a caption below the image or in a list of references.
- Emoticons.
- Hashtags.
- SEO keywords.
- Promotional material.
- Links.

Do not repeat information contained in adjacent text or included in a visible caption.

- If the relevant information of an image is include in a

caption or adjacent text, you can mark the image as decorative.

- If graphic element has a descriptive caption and is labelled with “Figure 1” for example, alt text could read “Figure 1, image caption contains description.”
- Image captions are useful for copyright, attribution, more information, or links.

Do not editorialize or include your own feelings or bias. Only include the important information to provide an accurate description.

Do not make any assumptions about gender or ethnicity. Prefer “they,” “them,” or “person” unless details are verifiable.

AI has improved the accuracy of machine-generated alternative text. Keep in mind that even an accurate description will provide no context or purpose. AI generated alt text may be useful as a starting point to be edited by a human.

## Common Platform Guides

Introductory resources on adding alt text in common platforms:

Microsoft Office

To add alt text in Word and PowerPoint:

1. Right click on an image and select **Edit Alt Text...** (**View Alt Text...** on macOS, **Edit Picture Alt Text** on Office 365)
2. Or, use the **Picture Format** Tab and select **Alt Text**
3. Type an image description

Read more about adding alt text in Word and PowerPoint.

Brightspace

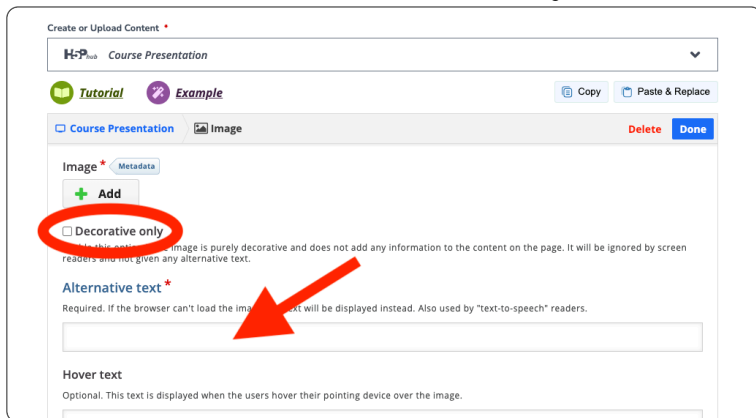
To add alt text to images in Brightspace:

1. When adding an image, you will be prompted to add alternative text or mark the image as decorative
2. To add alt text to existing images:
  1. Select the image
  2. Choose **Image Options**
  3. Enter alternative text or check **Image is decorative**
  4. Choose **Save**

Review the Brightspace Alternative Text chapter later in this guide and consult D2L guides on Alt Text for Brightspace Web Page Images.

H5P

To add alternative text to H5P images, enter a description in the **Alternative text** field or check **Decorative only**.



Read more about adding alt text in H5P.

WordPress

To add alternative text in WordPress or Pressbooks:

When uploading an image to WordPress, complete the **Alt Text** field in Media Library.

You can also add alt text in the Text/HTML editor in WordPress with alt="description of image".

Or, select an image and choose **Edit**, complete the alternative text field and choose Update.

Consult the Pressbooks chapter and WordPress chapter of this guide for more information.

Read more about alternative text for images from WordPress support documents.

PDF

To add alt text to PDFs:

1. Open **Reading Order** pane
2. Open **Reading Order Panel**
3. Right click on an image and choose **Edit Alternate text**
4. Enter your description and choose **Ok**
5. For a decorative image, select the image and choose **Background/artifact**

HTML

Alt text is entered in the `<img>` alt attribute. Decorative images must be marked alt=""

In WordPress and Pressbooks alt text is added to the **Alternative Text** field in the Media Library.

Other platforms

Google Docs and Sheets support alt text.

Twitter supports alt text for images you post.

Facebook allows users to add alt text on Facebook photos.

Instagram adds automatic alt text to images. Note that automatic alt text is rarely accurate and should be checked and edited.

Later platform-specific chapters will cover how to provide

equivalent text, add captions, and populate the alt text field in greater detail.

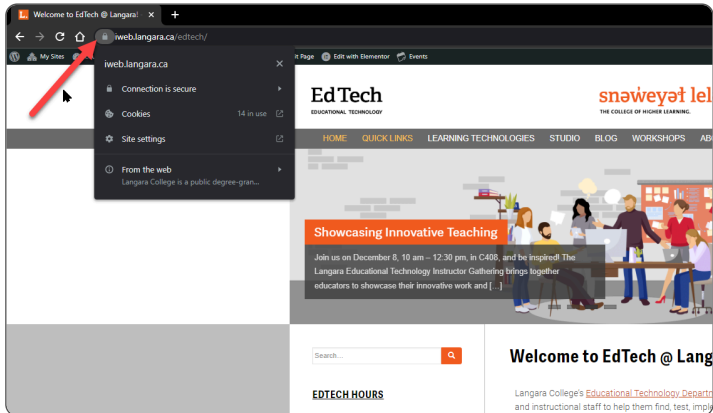
## View Content Without Images

If you are not sure about an image, try viewing your content without the image. If no information is lost, you can mark the image as decorative.

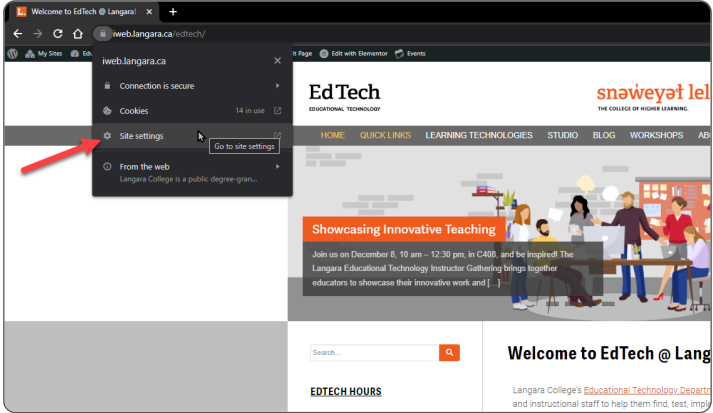
To view web content without images:

In Google Chrome:

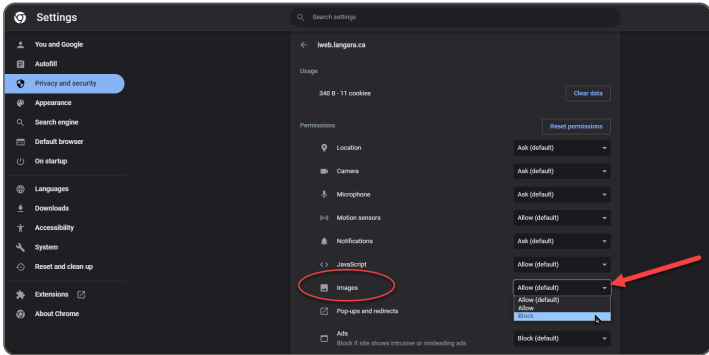
1. Select **View site information** (padlock icon on left side of address bar).



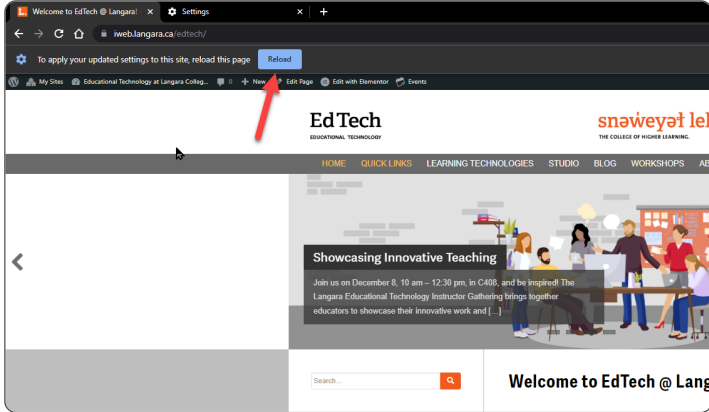
2. Select **Site settings**.



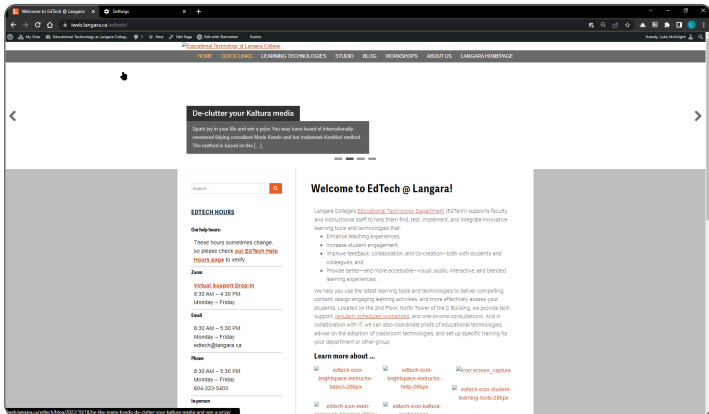
3. Beside Images, choose **Block**.



4. Move back to the website tab and click **Reload** or refresh the page.

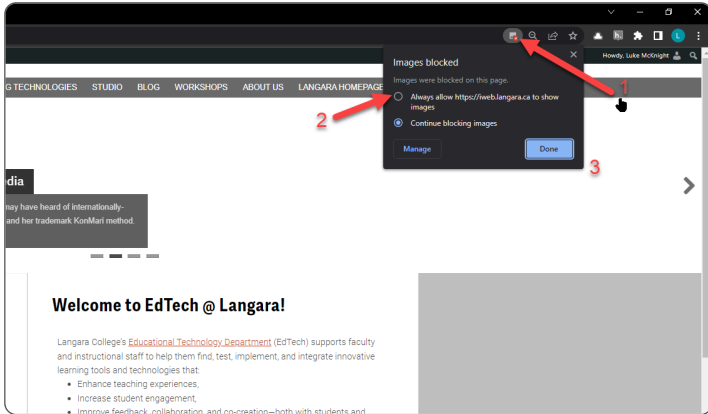


5. The page will load without images. Verify that no information is lost when images are removed.



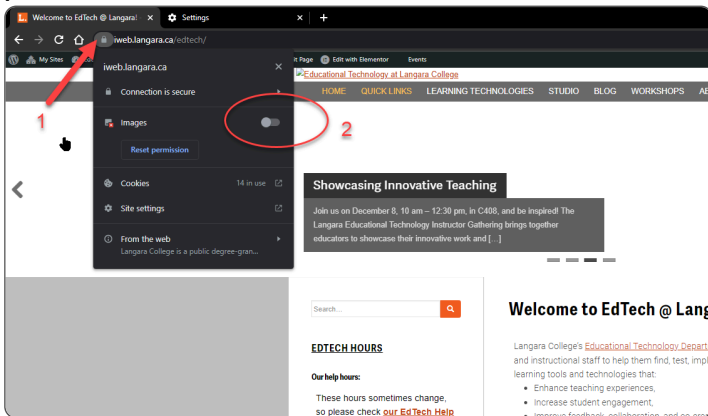
To restore images:

1. Click on image icon with red x in the address bar and select **Always allow [website] to show images**.
2. Click **Done**.



Or

3. Select **View site information** (padlock icon on left side of address bar) and toggle Images on or click **Reset permission**.

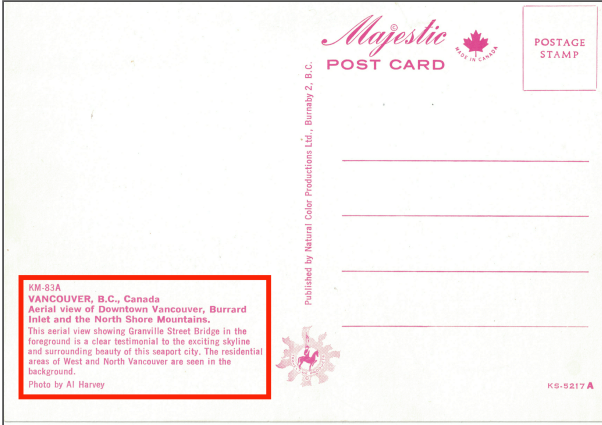


## Nothing New

Describing an image in text is not a new concept. Consider this postcard by AI Harvey from the mid-1970s:



On the reverse, note the description:



*VANCOUVE  
R, B.C.,  
Canada  
Aerial view  
of  
Downtown  
Vancouver,  
Burrard  
Inlet and  
the North  
Shore  
Mountains.  
This aerial  
view  
showing  
Granville  
Street  
Bridge in  
the  
foreground  
is a clear  
testimonial  
to the  
exciting  
skyline and  
surroundin  
g beauty of  
this seaport  
city. The  
residential  
areas of  
West and  
North  
Vancouver*

are seen in  
the  
background  
d.  
Photo by AI  
Harvey

The inclusion of this description (while not necessarily perfect for alt text) is an excellent example of a figure caption that describes the content of an image. While it is important to always include a text equivalent of an image, this

postcard exemplifies why that practice is valuable beyond accessibility considerations and has been common practice for decades.

### Further Reading

Tips for alt text by type of image from W3C Web Accessibility Initiative.

W3 Web Accessibility Initiative's alt text decision tree is useful for narrowing down what your alt text should convey.

WebAIM offers a comprehensive resource on alt text.

Write helpful Alt Text to describe images.

## Works Cited

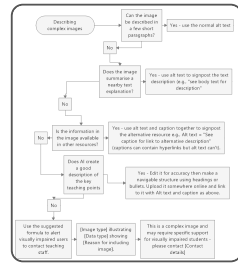
Chen, Alex. "How to write an image description." *UX Collective – Medium*, 2020.

# Alt Text for Complex Images

Describing complex visual content, such as flowcharts and diagrams, can be difficult.

When using complex visuals, ensure all users:

- Are aware there is an image with information
- Understand the nature and purpose of the image
- Are informed that the image is complex
- Know how and where to get more information (if appropriate)



**On this page:**

**Complex Visual Workflow | Beyond Alt Text | Further Reading**

## Complex Visual Workflow:

The following is adapted from Recommendations – Describing complex images

Use the following prompts to determine the best way to provide a text alternative to complex images:

**Can the essential information be described in a few brief sentences?**

1. If yes, type a description of the image using the [type] + [focus] + [details] outlined in the previous chapter.

2. If no, ask:

### **Does nearby text include the information in the image?**

1. If yes, mark the image as decorative or use alt text to direct users to text description.
2. If no, consider:

### **Is the information in the image available in other resources?**

1. If yes, use figure caption to link to resource.
2. If no, consider using AI to generate an effective description.
  1. Use Ian Linkletter's Alt Text Assistant to create descriptive text.
  2. Or, use CoPilot to generate a description. Consider asking CoPilot to "outline the information in the image" or "describe the image in detail."
  3. Google Gemini can also describe images and may be useful.
  4. AI generated descriptions are improving, but must be verified for accuracy. Read the AI Generated Alt Text chapter in this guide for more information.

If the description (AI assisted or not) is more than a few sentences, format the output with paragraphs, headings, and lists. Include the long description in adjacent text or an appendix. Make reference to the long description in the alt text or include a link in the figure caption.

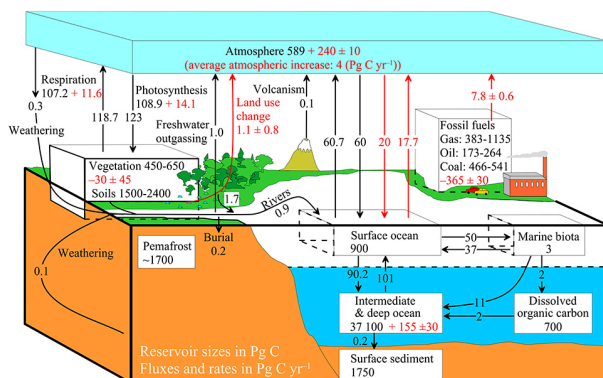
If no useful description can be created and/or it is not feasible to link to additional information, use the complex alt text formula (explained below) to direct readers to a support contact for further details.

## Complex Alt Text Formula

While the [Type] + [Focus] + [Details] alt text formula from the previous chapter is an excellent starting point, it may not be suitable for complex images. The World Wide Consortium has developed an expanded version:

“**[Image type]** illustrating **[data type]** showing **[reason for including image]**. This is a complex image and may require specific support for blind and low vision students – please contact **[Name of designated person]** if required.”

As an example, consider this model of the global carbon cycle:



Attribution:  
Kandasamy S and Nagender Nath B – via Wikimedia Commons.

To completely describe the information in this image would be impossible within the constraints of alt text. However, applying the complex image formula may be helpful:

“**[3D landscape model]** illustrating **[global carbon stores (Petagrams) and fluxes (Petagrams/year)]** showing **[the complexity of the cycle and the main impacts of human interference]**. This is a complex image and may require specific support for blind and low vision students – please contact **[your name]** if required”. (Note: remove [ ] before including complex image formula as alt text).

## Beyond Alt Text

As mentioned in the prior chapter, alt text should be brief. For a complex image, it may not be feasible to describe the image in 1 or 2 sentences. Additionally, alt text does not support lists or headings. Structured text is essential to make long text digestible for screenreader users. That is one of the reasons why alt text should be brief.

Additionally, alt text cannot contain links. Links could be used to direct screenreader users to additional information about an image. However, links can be placed in figure captions.

When alt text may not be sufficient due to length, formatting, or other concerns use:

**Adjacent text** is the most accessible and inclusive practice. Adjacent text has no length limit and supports any desired structure, formatting, and styling. Providing text and images together is an effective method to reinforce important information and emphasize key points. Note, if an equivalent description is available in adjacent text there is no need to populate the alt text field.

If adding a text description adjacent to the image is not feasible, provide the long description at the bottom of the page or in an appendix. Make reference to the location of the description in the alt text or provide a link to the description in the figure caption.

**Figure captions** are a text label associated with a visual. Figure captions are usually below or beside the graphic. Figure captions benefit all users by clearly identifying the image, its purpose, and its relation to the rest of the material. Figure captions can include citations, photo attribution, cultural context, historical or scientific information about the subject,

complex data from charts, etc. Unlike alternative text, figure captions have no length limit.

**Equivalent Data** for data visualizations is one of the few ways to provide chart or diagram data. Include table data or long text description in an appendix, note, or footer. Use figure caption to link to said data or include reference to available data in alt text field, for example “Refer to table 3 at the end of this chapter for more information about this chart”.

A best educational practice is to use images to reinforce information. Try to present information in text and add images to supplement and highlight key points and processes. By doing that, you may not need to describe complex images as the information is already provided in text format.

### Further Reading

Diagram Center advanced alt text guidelines are helpful and has an e-book of alt text samples organized by graphic type. Additionally, Diagram Center's training tool helps to better understand how to write alt text.

W3C Complex images – making sense for accessibility

Portland Community College has an excellent presentation on alt text for complex images.

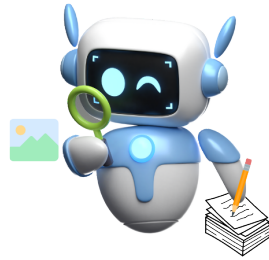
Read more about alt text for data visualization.

Consider textBOX Digital's Focus|LOCUS method for writing alt text that emphasizes context, scene setting, and storytelling.

Read more about describing complex images.

# AI Generated Image Descriptions

Generative AI chatbots have rapidly improved their ability to recognize and describe images. CoPilot, ChatGPT, and Gemini have shown to be useful at describing images and provide a starting point for writing text equivalents, **figure captions**, and **alt text**. For an introduction to alt text, consult the Alternative Text Quick Guide hosted earlier in this book.



When creating alt text consider the context and purpose of the image. When writing alt text focus on the type, the focus of the image, and the important details.

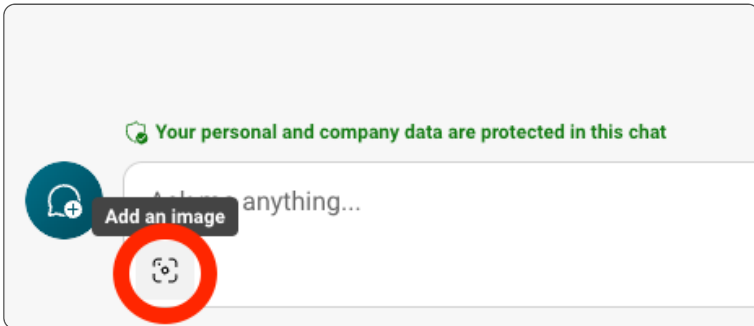
**On this page:**

| [AI Chatbots](#) | [Alt Text Assistant](#) | [Image Accessibility Creator](#)

## AI Chatbots

For generating alt text and image descriptions using chatbots such as CoPilot or Gemini:

Select the **Add an image** button to upload a file.



Options may look different depending on tool used.

Using specific prompting produces useful image descriptions:

**Copy and paste the following as your prompt:**

Using the uploaded image, act as a post-secondary instructor writing a title, image description, and alternative text for college and university level learning material.

Please provide:

1. Title: A concise, descriptive title (5-10 words)
2. Image description: Provide a general overview of what the image portrays before providing details. The image description should be objective, concise, and descriptive. Descriptions should be straight forward and factual, avoiding interpretations. For complex images, the detailed description may be one or more paragraphs and must describe the image in great detail. However, not everything needs to be described if it is not

important in the context of the image. The detailed description should be easily scannable and use headings, paragraph breaks, and lists as appropriate. Descriptions may utilize vivid terminology to describe various features like composition, shapes, size, texture, and color but always provide this information in a separate paragraph.

3. **Alternative text:** The alternative text output should be less than 150 characters, grammatically correct, while describing the essential visual elements of the image. Good alt text should identify the image type (when not a photo, such as a chart, map, painting, etc.), describe the most important information, and add details that contribute information or meaning.
4. **Text:** If the image or graphic contains text, add a section and transcribe all the text in the image.

Output the above 4 sections using headings, subheadings, and lists as appropriate. For number 3, Alternative Text add “If this description is sufficient, use it in the alt text field. If it is not, explore alternate means to provide the long description above.”

---

Adapted from Image Accessibility Generator – Teach Online

Interacting with a chatbot like CoPilot is an iterative process of prompt, response, re-prompt. When the chatbot provides an image description, indicate what was incorrect or ask the chatbot to focus more on a specific element. Asking to make a long description shorter often crops, rather than condenses,

the text to the requested length. Keep in mind, this may result in essential information being excluded. Always include a length parameter in your initial prompt if desired. Remember, use AI as a starting point to understand the main information and visual structure of an image and then edit the output for accuracy, clarity, and brevity. Read more about AI Prompting.

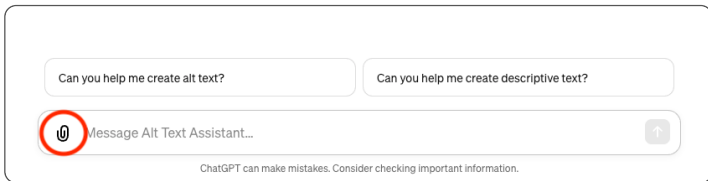
Note: Depending on your license, Microsoft products like PowerPoint and Word may not have CoPilot's ability to describe images. The AI generated image descriptions in those platforms are poor quality and should not be relied on.

## Alt Text Assistant

Alt Text Assistant is a custom interface for ChatGPT with predefined parameters to help write alt text and image descriptions.

Navigate to Alt Text Assistant:

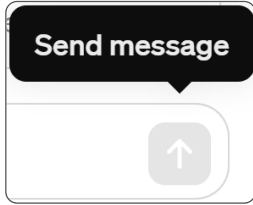
1. Select **Can you help me create alt text?** or **Can you help me create descriptive text?**



Alt text is best for basic images. Descriptive text is

necessary for complex images.

2. Select the paper clip icon to upload an image.
3. Select your image file.
4. Press **Enter** or click **Send Message** (up arrow icon) button on the right of the text field.



For further information on using CoPilot, Gemini, and ChatGPT consult the National Centre for AI Empowering Educators series.

## Image Accessibility Creator

Consider the Image Accessibility Creator to generate alt text. Upload an image and select **Create image details** to generate alt text. This tool allows users to add specific details about the image to ensure specifics are included or emphasized.

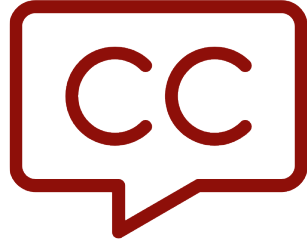
### Remember...

Always verify AI output for accuracy. Using AI to generate alt text and image descriptions is a great starting point but requires you, as the content creator and expert, to double check and refine what AI

generates. The intention is to use AI to reduce your workload without creating junk descriptions that will create additional work and confusion for users.

There are privacy concerns with AI platforms. We recommend using caution when inputting – or having your students input – private, personal, or sensitive information (e.g. resumes or other identifying data). AI relies on large language models that are incomplete and biased. To generate content, chatbots use predictive text and any output should be verified for accuracy.

# Closed Captioning Quick Start Guide



**Adding closed captions to your video helps all viewers but is essential for deaf and hard of hearing people.**

Getting started with captioning:

## **Use closed captions**

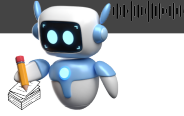
Closed captions are a text file attached to a video, allowing viewers to toggle on or off the captions. Open captions, or subtitles, are burned into the video and not user choice. Use subtitles for additional languages in a video.

## **Leverage AI**

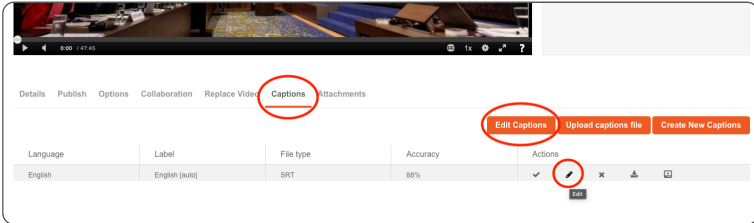
Advances in AI have greatly improved transcription of audio to text. Use AI to

generate captions, then edit for accuracy.

## Use Kaltura Mediaspace



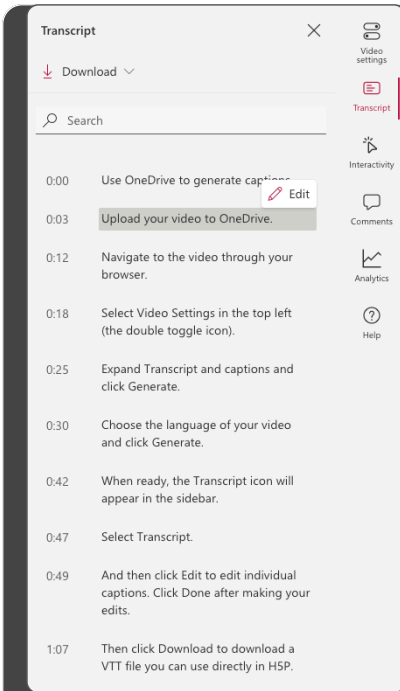
Media uploaded to Kaltura Mediaspace/My Media in Brightspace<sup>1</sup> automatically create machine-generated captions. Review and edit captions for accuracy.



## Use OneDrive

Videos uploaded to OneDrive will have captions automatically generated. Review and edit the captions for accuracy.

1. Media uploaded after October 2022 only



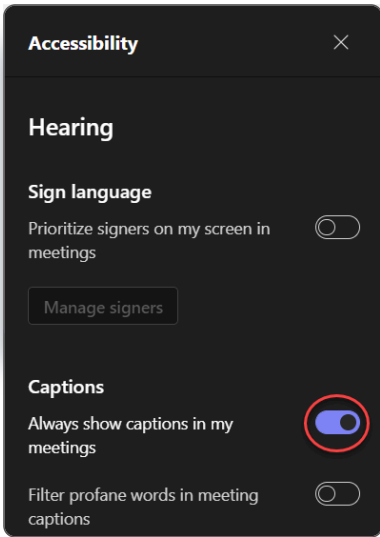
When moving a video file between platforms, such as uploading an MP4 file to Brightspace, the captions exist as a separate file which needs to be uploaded alongside the video file. For that, and other reasons, we recommend using Kaltura. Once a Kaltura video is captioned it is always captioned when embedded, linked to, or otherwise shared. This eliminates the need to keep track of multiple files.

## Live captions

In Teams:

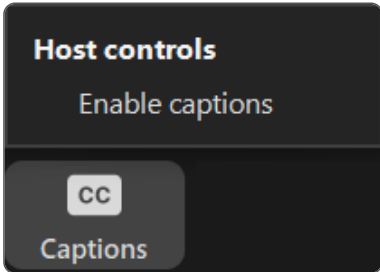
### Moving forward...

Add and edit captions for your videos. Prefer



captioned videos. A video is not finished until it is accurately captioned. For more information on captions and transcripts, move to the next page.

In Zoom:



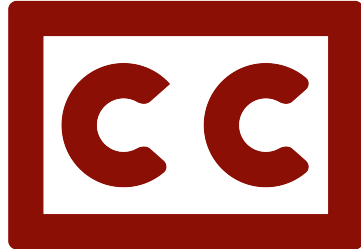
Note that automatic captions will not be accurate enough to meet accessibility standards, so plan to hire live transcribers and/or interpreters.

## Prefer videos with captions

When choosing existing videos to distribute or show, choose videos that have captions.

# Closed Captions

**Captions** provide a text equivalent of all audio elements in a video, presented visually in time with the video. Closed captions can be toggled on or off by the viewer. Open captions are 'burned' into the video and cannot be turned off.



Traditionally, we think of captions as an accommodation for viewers who cannot hear the audio in a video due to hearing loss. Statistics suggest 4-5% of the general population experience some form of hearing loss. That number increases to around 20% for people over age 60. However, 80% of 18 to 25-year-olds regularly use captions when watching video (Youngs, 2021).

## On this page:

[Captioning Best Practices](#) | [Kaltura](#) | [H5P](#) | [Further Resources](#)

### Captions are essential for:

- D/deaf and hard of hearing viewers
- Viewers experiencing a temporary barrier such as an ear infection
- Viewers experiencing a situational barrier such as being in a loud environment

## Captions also benefit:

- All viewers, regardless of access means because:
  - Captions aid comprehension, focus, and memory (Gernsbacher, 2015).
  - 90 percent of all students who use closed captions find them helpful for learning (Dello Stritto and Linder, 2017)
  - Captions ensure names and terminology are communicated exactly as they are spelled.
- Viewers watching a video with accents other than their own.
- User experience by allowing viewers to choose to turn on or off the captions.
- Creators by allowing them to index and search video via subtitle **timestamps**.
- **SEO**.
- Creators to easily locate a specific topic and create video chapters.
- Creators to convert audio content to text form

## Best Practices

Writing captions can be an intensive process. Consider the following best practices to write accurate captions:

### Closed Captions

- Use closed captions as they can be toggled on an off by

the viewer.

- Open captions are embedded into the video and cannot be “turned off”. Avoid open captions.

## Accuracy

Captions should be 99% accurate

- Machine-generated captions are often ~80% accurate
- Use machine-generated captions as a starting point and then manually edit

## Speaker Labels

- Establish identity of all speakers (whether on-screen or off-screen) by name or meaningful identifier
  - Use (Name) or (Speaker/narrator/identifier of some kind etc.) to identify different speakers.
  - By default, Kaltura uses [Speaker:] which that is acceptable as well.
- If speakers change off screen, use “-” to indicate the change in speaker
- Double check spelling of names via graphics in the video, the video description, or own research.

## Readability

Captions should have proper sentence case for readability. All uppercase can be used for screaming or shouting. Use proper syntax, punctuation, and capitalization (for proper nouns and names).

- Caption lines should end at natural linguistic breaks, such as a natural pause mid-sentence or the end of the sentence to create understandable, logical segments of speech.
- Keep subjects, phrases, and key terms in a single caption, where possible.
- If a complete sentence fits within one caption, it should. Extend the timing of the caption to match.

- Start a new caption with each new sentence.
  - Two very short sentences can be displayed in a single caption.

## Timing

Each caption should display at the same time the first word of the line is spoken.

- If there is an extremely quick sequence of information, fast dialogue, and/or large blocks of jargon and terminology, start the caption slightly before the speaker is heard.
- Captions should appear for at least 1 second but less than 10 seconds.
- Captions for non-speech audio and music should appear for a maximum of 5 seconds.
- Do not display more than 2 lines per caption frame.

## Sound Effects and Music

- Sound effects, music, and other audio should be mentioned in enclosed brackets.
  - Sound effects are any meaningful audio content that is not spoken.
  - Standard practice is to describe the sound in [sound].
    - [doorbell ringing]
    - [dog barking]
    - [ambient street sounds]
  - If music is known, provide [title by artist].
    - For unknown instrumentals, describe briefly, for example: “[soft piano music]”.
  - Music with lyrics, introduce the song with [title by artist] and then transcribe lyrics in sync with the video within a symbol, for example: “#song lyrics to a song#”.

## Content

- You may ignore “um” “ah” “uh-huh” etc.
- A relevant pause can be noted with “...”.
- A notable change in thought can be marked by “-”.

- Do not censor or edit the audio content. Transcribe it as is.
- Mark inaudible or muffled audio with “[Inaudible]” or “[Unclear]”.
- Include proper punctuation and syntax.

## Numbers

- Transcribe “four and a half kilometers” as “4.5km”, “9 o’clock” as “9PM”, “three dollars” as “\$3”, etc.
- Numbers one to ten can be written as words (one, two, etc.) except when used in units of measurement or currency.
  - Numbers above 11 should be written as digits.
  - Numbers over one million should be captioned as “1 million”, “3 billion” etc.
- Use % in place of “percent”.
- Dates:
  - A speaker saying “the second of June twenty fourteen” should be captioned as “2 June, 2014”.
  - A speaker saying “June the second twenty fourteen” should be captioned as “June 2 2014”.

## Kaltura Guide

### Ordering Captions

1. Navigate to your media on Langara College MediaSpace or in Brightspace via **My Tools > My Media**.
2. Select **Actions > Caption & Enrich**.
3. Click **Submit** button.
4. Within 30 minutes, the machine-generated captions should be completed, which then need to be edited for accuracy.



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*

*<https://pressbooks.bccampus.ca/accessibilityhandbook/?p=30#oembed-1>*

## Editing Captions

1. Navigate to your media on Langara College MediaSpace or in Brightspace via **My Tools > My Media**.
2. Select **Actions > Edit**.
3. Select the **Captions** tab.
4. Click **Edit Captions** button.
5. Edit captions for accuracy.
6. Click **Save**.
7. Adjust the caption accuracy slider.
8. Click **Save**.

[https://mediaspace.langara.ca/media/t/0\\_k6w1w799](https://mediaspace.langara.ca/media/t/0_k6w1w799)

## Upload Captions

1. Navigate to your media on Langara College MediaSpace or in Brightspace via **My Tools > My Media**.
2. Select **Actions > Edit**.
3. Select the **Captions** tab.
4. Click **Upload captions file** button.
5. Select file and complete required fields.
6. Click **Save**.



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*<https://pressbooks.bccampus.ca/accessibilityhandbook/?p=30#oembed-2>*

Downsub.com allows you to copy subtitles from a video on YouTube and upload them to Kaltura. Simply paste the YouTube URL on Downsub and then upload the .SRT file to Kaltura as outlined above.

### Learn more about Kaltura

Kaltura offers support for uploading caption or transcript files, manual captioning, and automatic captions.

Editing Kaltura captions.

Kaltura instructions for uploading a caption file to a video.

Kaltura instructions for managing and editing captions.

Information on Kaltura's captions & enrichment services.

Langara Education Technology step-by-step instructions on captioning Kaltura videos.

# H5P

H5P requires .VTT caption files. The below guide shows how to generate .VTT files and add them to H5P video elements.



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*here:*

*<https://pressbooks.bccampus.ca/accessibilityhandbook/?p=30#h5p-155>*

## Further Resources

Toronto Metropolitan University's guide to captioning and description.

WebAIM guide to captions, transcripts, and audio descriptions.

Described and Captioned Media Program's guidelines and best practices for captioning educational video.

BBC Subtitle Guidelines (the most extensive resource for captioning guidelines on the web).

## Works Cited

Dello Stritto, Mary Ellen and Katie Linder, "A Rising Tide: How Closed Captions Can Benefit All Students." *Educause*, 2017.

Gernsbacher, Morton An. "Video Captions Benefit Everyone." *Policy Insights from Cognitive Psychology*, vol. 2, no. 1, 2015.

Youngs, Ian. "Young viewers prefer TV subtitles, research suggests." *BBC*, 2021.

# Captioning and Transcription Tools

On this page:

[Captioning on Common Video Platforms](#) | [Find Captioned Videos on YouTube](#) | [Social Media Captions](#) | [Create Caption Files](#) | [Transcripts](#)

## Captioning on Common Video Platforms

OneDrive and SharePoint

1. Open a video file in OneDrive/SharePoint
2. Select **Video settings** in right hand toolbar
3. Select **Transcript and captions**
4. Click **Generate**
5. Select **Spoken language**
6. Click **Generate**
7. Once captions have been generated, select **Transcript** in right hand toolbar
8. Click **Edit** beside any caption that requires changes

To download subtitles:

1. Click **Download** in the **Transcript panel**
2. Select Download as .VTT

Zoom

Zoom supports live captioning and automatic transcription.

Transcription can be provided by a live transcriber in the meeting, a third-party service, or Zoom's automatic live transcription. If your Zoom meeting is recorded, you can upload the video file and add captioning just like you would to any other video.

## Teams

Microsoft Teams meetings support automatic transcription with speaker attribution.

1. Select the ... **More actions** button
2. Choose **Start Transcription**

Consider this guide for information on live transcription in Teams.

## YouTube

YouTube supports manual captioning, automatic captioning, and uploading a transcript or caption file.

Add subtitles and captions to YouTube content.

Manually add captions to YouTube content.

Edit or remove captions from YouTube content.

YouTube guide to automatic captioning. Note: YouTube auto captions are particularly inaccurate.

## Screenpal/Screencast-o-matic

Deluxe/Premier accounts can automatically generate captions and all accounts can manually add captions. Read Screencast-o-matic's guide to accessible video.

## Camtasia

Camtasia offers automatic captioning. Read this guide from Camtasia on the available captioning methods.

## Vimeo

Vimeo has support for uploading caption and subtitle files. Enterprise members have access to automatic captioning.

Vimeo captions and subtitles overview

Dailymotion

Dailymotion offers support for adding .SRT subtitle files to videos.

HTML 5

To add closed captioning to an HTML5 video player <video>:

1. Acquire or make a WebVTT caption file (.VTT).
  1. Use the auto captioning services available and edit to approach 99% accuracy.
  2. You can often download .VTT files from some media hosts.
  3. If not, use 3playmedia or happyscribe to convert the more common .SRT caption type to .VTT file.
2. Upload .VTT file to same folder as video.
3. Add a <track> element within your <video> tag.
  1. src – URL location of the .VTT file on server.
  2. label – title of the track as it displays in player (i.e. English).
  3. kind – captions, subtitles, descriptions are possible options.
  4. srclang – language of file.
  5. default – indicates which file is to be the default.

Mozilla's in-depth article on WebVTT is an excellent resource.

3playmedia code examples on HTML5 video captions is a good starting point.

## Find Captioned Videos on YouTube

An excellent way to ensure you are providing accessible videos

to learners is to choose sources that already have captions. On YouTube, you can filter search results to only display videos with captions. To do so:

1. After entering your search term, select the **Filters** button.
2. Select **Subtitles/CC**.
3. Double check that results display **Subtitles**.
4. Beware of videos with “English (auto-generated)” captions as auto-generated captions are less accurate with human-edited captions.



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*<https://pressbooks.bccampus.ca/accessibilityhandbook/?p=7677#h5p-157>*

## Social Media

**Instagram** supports captions on Stories and IGTV.

Captions can be added to stories using a sticker.

IGTV captions must be turned on in settings.

**TikTok** offers support for automatic captioning.

**Twitter** offers support for adding .SRT files to videos.

**Facebook** supports adding captions to Facebook video.

## Creating Caption Files

Caption files can be created using a text editor (like Notepad for Windows or TextEdit on MacOS) to create or edit .SRT files (.SRT and .VTT are the most common file formats for subtitles).

How to:

Create .SRT File

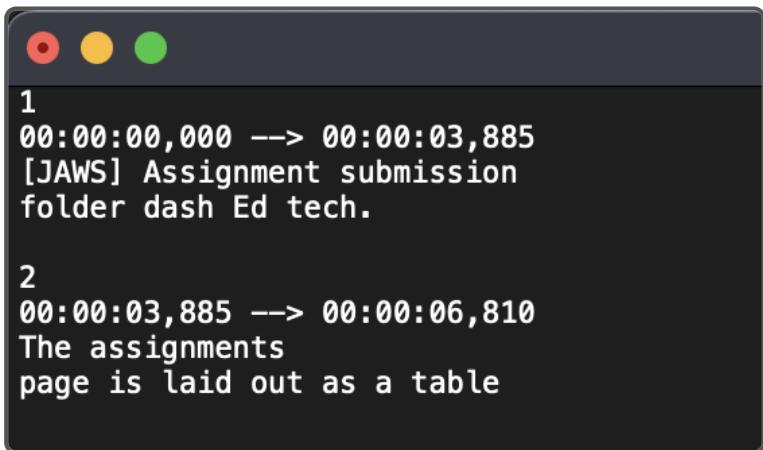
1. Open **Notepad** or **TextEdit** (macOS)
2. Type "1"
3. Press **Enter** to a new line
4. Enter beginning and end timecode, using this format
  1. hours:minutes:second,milliseconds  
→ hours:minutes:second,milliseconds
  2. Example: 00:00:00,00 → 00:00:05,443
5. Press **Enter**
6. Type your captions
  1. Limit to 2 lines of text per caption sequence
7. Press **Enter** twice to leave a blank line, indicating a new caption sequence
8. Type "2"
9. Press **Enter**
10. Entering beginning and end timecode
11. Press **Enter**
12. Type captions
13. Repeat
14. When complete, save your file using .SRT as the file extension.

Create .VTT File

1. Open **Notepad** or **TextEdit** (macOS)

2. Type “WEBVTT”
3. Press **Enter** twice
4. Enter beginning and end timecode, using this format
  1. hours:minutes:second.milliseconds  
-> hours:minutes:second.milliseconds
  2. Example: 00:00:00.000 -> 00:00:05.443
5. Press **Enter**
6. Type captions
  1. Limit to 2 lines of text per caption sequence
7. Press **Enter** twice to leave a blank line, indicating a new caption sequence
8. Repeat above
  1. You can number your caption sequences (by adding a number on the line above the timecode), but it is not required.
9. When complete, save file with .VTT file extension

Here is an example of the proper formatting of an .SRT file in TextEdit:



```
1
00:00:00,000 --> 00:00:03,885
[JAWS] Assignment submission
folder dash Ed tech.

2
00:00:03,885 --> 00:00:06,810
The assignments
page is laid out as a table
```

Consider this guide for manually creating and editing .SRT files.

Use HappyScribe's convert SRT to VTT tool or 3Play Media's caption converter tool if you need a different file format.

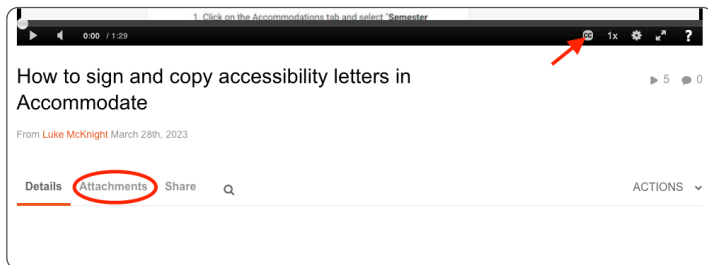
For instructions to upload caption files, consult the platform guides earlier in this chapter.

## Transcripts

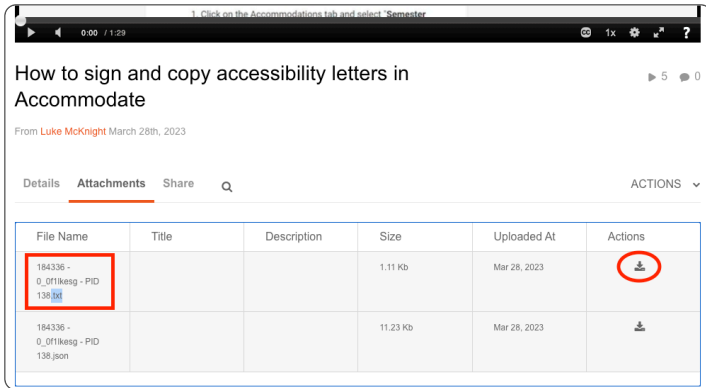
**Transcripts** are a text document containing all the audio content in media, including videos, podcasts, and audio recordings. Transcripts may also include additional information regarding visual elements and actions such as descriptions of what is on screen. Unlike captions, transcripts are not timestamped or synced with the media. A transcript is particularly useful to text to speech and screen reader users because many users set their software to read at a rate much faster than natural human speech. Transcripts can also be searched for words, names, and terminology.

Use Kaltura to generate a transcript of audio or video:

1. Upload media to Kaltura
2. Edit machine-generated captions
3. Navigate to media
4. Select **Attachments**



5. Choose the **Download** icon for the .txt file attached to the video



6. The .txt file downloaded will be a text equivalent of the closed captions but without timestamps.

## OneDrive

If you generate transcripts using OneDrive, follow the instructions earlier in this chapter to create captions. Then, download the generated .VTT and use Microsoft VTT Cleaner to remove timestamps and other code.

## Other Captioning and Transcription Tools

Use Word to transcribe either by recording directly in Word or uploading an audio file.

Transcribe audio to text using Dragon Naturally Speaking.

Audapolis is an open source transcript editor that automatically transcribes audio to text.

Mac OS supports dictation that could be used to develop a transcript.

Google Docs allows dictation that could be used to write a transcript.

Google Chrome now offers live captioning on any video. This

feature does not absolve content creators/providers from adding captions to video content, however, if encountering a video without captions on the wild web, this feature can be invaluable. This tool relies on the built-in captioning settings on your computer. To view or change these settings:

- Use subtitles and closed captioning on Mac
- Change Windows caption settings

# Tools



Use built-in tools and features to make your content accessible. Many platforms and software (Microsoft Office, Brightspace, WordPress, Pressbooks) include straightforward tools to make accessible content. Remember to:

- Use built-in tools for tables, lists, links, and styles
- Use **templates**
- Use **accessibility checkers**

By using tools, templates, and checkers and the best practices and tools introduced in this guide, you can create accessible content that includes everyone at the same time.

The following chapters will focus on specific softwares and content management systems, expanding on the core principles of accessibility while providing platform specific instructions.

# FAST Accessibility Check

When creating or updating content consider these questions.

## Function

### Ask:

Is the content written with the audience in mind?  
Does the content work on multiple devices and without using a mouse?

### Best practices:

1. Avoid PDFS.
2. Use readability scores to gauge reading level.
3. Use a read aloud tool like Word Read Aloud or TextAid to ensure content is read as intended.

## Appearance

### Ask:

Is the font easy to read?  
If I printed this in black and white, would content retain meaning?

### Best Practices:

1. Use sans-serif or basic serif fonts, of at least 11 point in documents, 16 point on webpages, and 18 in presentations.
2. Ensure colour contrast ratio of at least 4.5:1.
3. Information cannot be conveyed by colour alone.

## Structure

### Ask:

Were lists, headings,  
and columns  
created using built-  
in tools?  
Are tables only used  
for data?

**Best practices:**

1. Ensure headings are both visual (larger, bolded font) and coded (Heading 1, Heading 2, etc.).
2. Use numbered lists are used for steps in a process and bulleted lists for groupings of items.
3. Tables must have a header row or column.
4. Tables should not be used for layout.

## Text Equivalents

**Ask:**

If someone cannot see or hear content, would they perceive all essential information?

## Best Practices

1. Use descriptive link text, not bare URLs.
2. Add alternative text and/or image captions.
3. Include accurate closed captions on videos.
4. Provide accurate transcripts of audio.

### Moving forward...

Focus on creation and revision, not remediation. When you create new content or update existing material, focus on incorporating accessibility best practices. Do not worry about 'fixing' each one of your old documents. Aim to improve as you move forward.



# BRIGHTSPACE ACCESSIBILITY



# Brightspace Accessibility Quick Start Guide

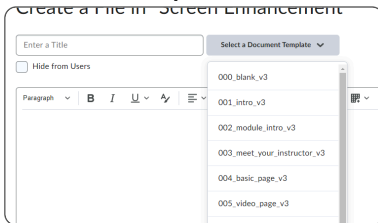


Use Brightspace features and tools to increase the accessibility of your content and work to ensure an inclusive and equitable experience for all learners.

Best practices to maximize Brightspace accessibility:

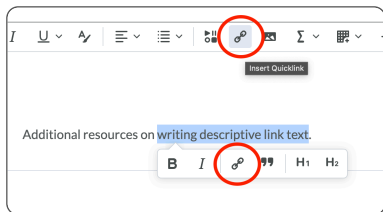
## Use templates

Brightspace templates include accessible **colour**, **structure**, and interactive elements. Choose an appropriate template in the **Select a Document Template** menu.



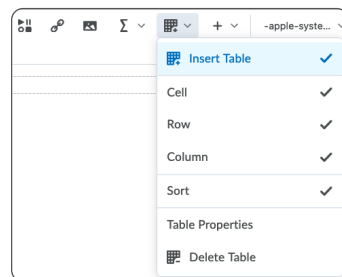
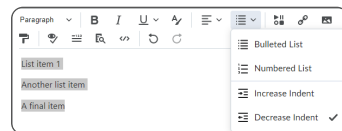
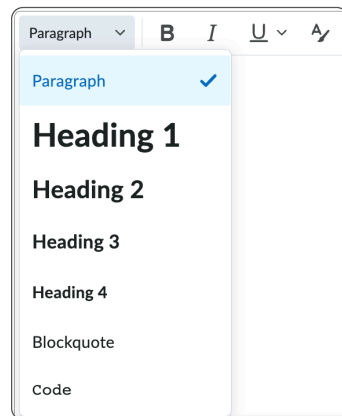
## Write descriptive linked text

Use **linked text** not bare URLs. Write a description of the link destination, highlight the relevant text, and use the **Insert Quicklink** button to add a link.



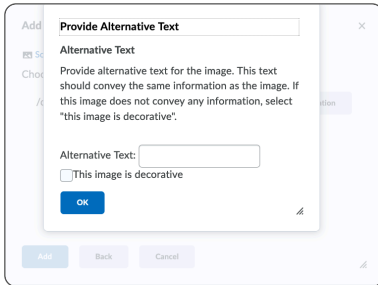
## Use tools for structure

Use built-in tools for **headings**, lists, and **tables**.



## Include alternative text

Add descriptions to the **Alternative Text** field of images that present information.



Mark **decorative images** using **This image is decorative**.

## Caption and transcribe media

Ensure videos have accurate **closed captions** and include **transcripts** of audio recordings.

## Run the Accessibility Checker

Use the **Accessibility Checker** to flag accessibility issues.



## Consider Accessibility Across Your Course

To make your course as accessible as possible, ensure you:

- Communicate clearly
- Have deliberate, consistent organization
- Choose the most appropriate file types
- Ensure any uploaded documents are accessible

For more information, read General Course Accessibility later in this book and consider the following video introduction:

[https://mediaspace.langara.ca/media/t/0\\_epcdfyfy](https://mediaspace.langara.ca/media/t/0_epcdfyfy)

### Moving forward...

Focus on creation and revision, not remediation. The next time you create a page or update an existing one, use the practices in this guide. Don't focus on going back and fixing every page you have. Focus on making your new content more inclusive and accessible.

**Move to the next page for step-by-step guides to making accessible Brightspace content.**

# Templates, Font, and Colour

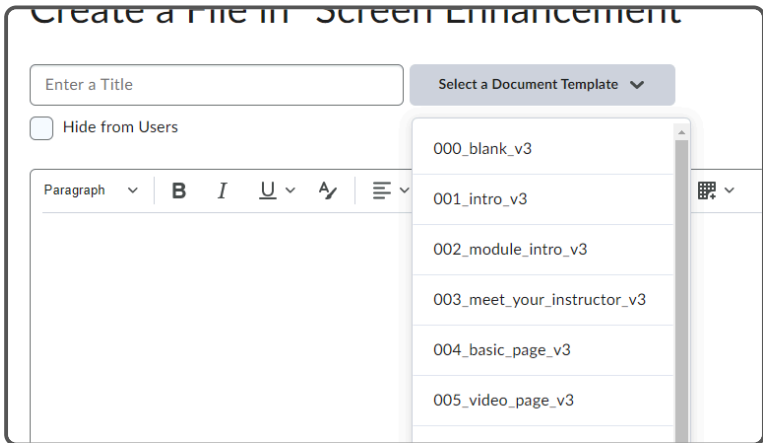
On this page:

| [Templates](#) | [Font](#) | [Colour Contrast](#)

## Templates

Create great-looking, responsive, and accessible content topic pages using the page layouts provided in the **template** package. The layouts are designed to be edited using the HTML Editor in the Learning Environment.

To access the templates, **Create a File** and then click on **Select a Document Template** menu next to the title text box.



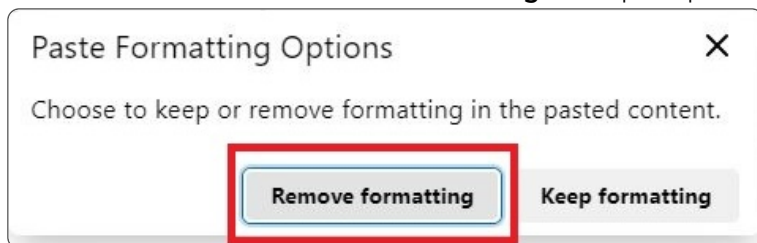
Choose the appropriate nnn\_x\_v3 template.

Be consistent: use the introductory template for all introductory pages, the video page for videos, etc.

Each Brightspace content page requires a title. Give each page a descriptive, unique title.

## Existing Content

If you have existing content you would like to convert into a Brightspace webpage, you can copy and paste directly from a Word document. Select **Remove formatting** when prompted.



If you encounter formatting errors when copy and pasted content into Brightspace, consider using HTML Cleaner to eliminate excess code while retaining look and layout. Copy and paste the HTML Cleaner results into the **Source Code** view in the Brightspace editor.

## Font

Use the built-in editor tools to change font. All font options are available on the Brightspace editor toolbar.



Prefer sans-serif fonts. Use a minimum font size of 16 pixels.

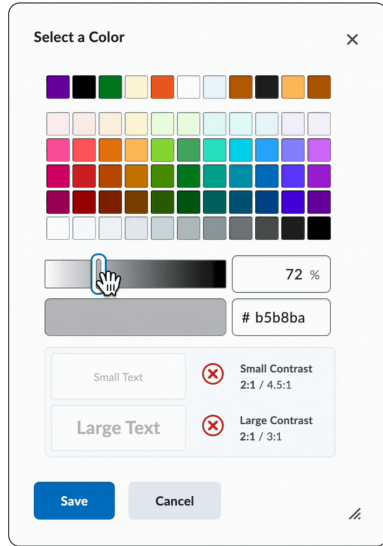
The Appearance chapter of this handbook has additional information on using accessible font.

## Colour Contrast

Contrast must be at least 4.5:1 for normal text (11-12 point) and 3:1 for large text (18 point +). Use the **Accessibility Checker** to verify.

To select font colours:

1. Highlight the text
2. Select the **Select Color** button in the toolbar
3. In the **Select a Color** dialogue, use the sliders to change your colour until the contrast is at least 4.5:1



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Remember the accessible colour best practices covered earlier in this handbook. Do not use colour alone to convey meaning or emphasis.

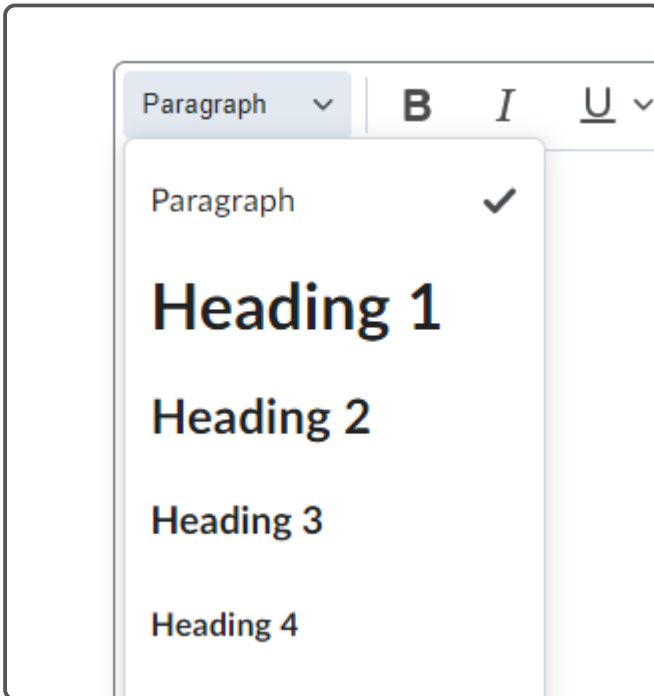
# Structure

On this page:

[Headings](#) | [Lists](#) | [Tables](#)

## Headings

Headings create structure to help users understand connections and topics. The Brightspace Editor offers tools to build proper heading hierarchies. Highlight text and choose the appropriate heading level.



Consider Heading 1 as the title, Heading 2 as section headings,

Heading 3 as sub-section headings, etc. As the heading level increases, the focus of content narrows.

Headings must be in sequential order. Do not skip a heading level when **increasing**, e.g., do not go from a heading 2 to a heading 4. Heading levels can be skipped when **decreasing**, for example when a subsection of a heading level 4 concludes, you can skip back to a heading level 2 to introduce a new section. Any type of content can follow any heading level.

If the heading levels are not in order, the Accessibility Checker will report **Heading order must be sequential**.

## Lists

- Use bullet lists for unorganized lists.
  - Lists where the sequence is not important.
1. Use numbered lists for items where sequence is important.
  2. Such as steps in a process.

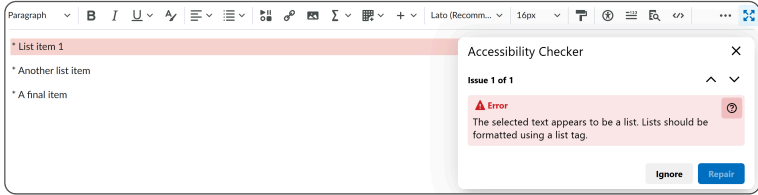
Review list best practices.

To make a properly formatted list in Brightspace:

The image shows a screenshot of the Brightspace editor interface. A red box highlights the text 'Another list item' and 'A final item' in the editor, with a callout box labeled '1 Highlight text to add to list'. Another red box highlights the 'List' menu in the editor's toolbar, with a callout box labeled '2 Open the List menu'. A third red box highlights the 'Bulleted List' and 'Numbered List' options in the list menu, with a callout box labeled '3 Select Bulleted List or Numbered List'. The editor toolbar also shows options for Paragraph, Bold, Italic, Underline, and Text Color.

Do not manually insert symbols or use the **Tab** key to create

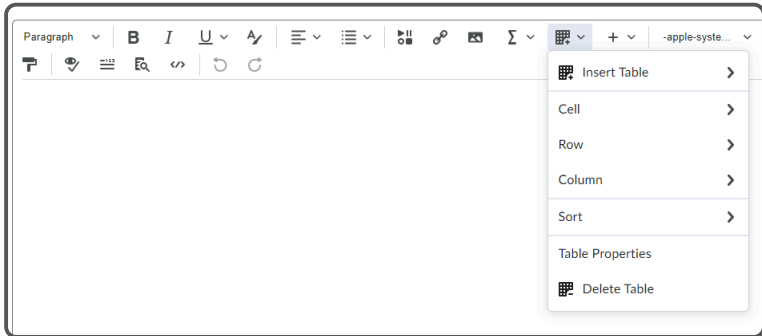
indents. The **Accessibility Checker** may note improperly formatted lists



## Tables

Properly formatted tables are accessible to text-to-speech and screen reader software.

Use the built-in tool to create a table.



Here are some common errors the Accessibility checker will flag in table formatting:

1. **Tables must have captions.**

How to fix: set a brief descriptive text to indicate the content of the table. The simplest way is via the Accessibility checker tool which will prompt for a caption. This will add `<caption>` to within the `<table>` element.

2. **Tables must have at least one header.**

How to fix: the simplest way is via the Accessibility checker tool which will prompt you to choose table header to “Header Row” or “Header Column”, which will change the selected data cells `<td>` to header cells `<th>`.

3. **Table headers must be associated with cells.**

How to fix: Set header scope to “Row” or “Column” for simple table header, which will add scope attribute (`<th scope="row">` or `<th scope="col">`) to associate header cells and data cells.

The Brightspace accessibility checker will flag table errors and provides detailed instructions to make tables accessible.

# Alternative Text, Closed Captions, Hyperlinks and External Content

On this page:

[Alternative Text](#) | [Closed Captions](#) | [Hyperlinks](#) | [Uploaded Content](#)

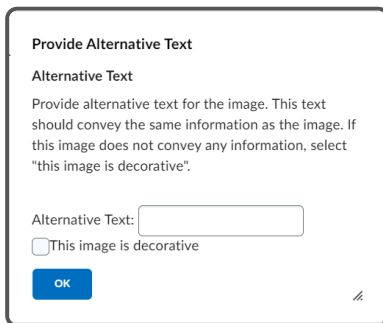
## Alternative Text

Alternative text is a text description of visual information.

To add an image, select the **Image** tool on the Brightspace Editor toolbar.



When adding an image, you will be prompted to add alternative text:

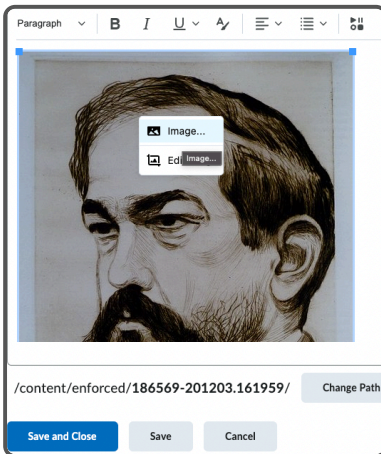
A screenshot of a dialog box titled "Provide Alternative Text". The dialog box contains the following text: "Alternative Text", "Provide alternative text for the image. This text should convey the same information as the image. If this image does not convey any information, select 'this image is decorative'." Below this text is a text input field labeled "Alternative Text:". Underneath the input field is a checkbox labeled "This image is decorative". At the bottom left of the dialog box is a blue "OK" button. At the bottom right is a small icon of a pencil.

Enter a concise description in the **Alternative Text:** field. Mark images that do not convey information as decorative by checking **This image is decorative** and **screen reader software** will ignore the image. Note: this method limits alt text to

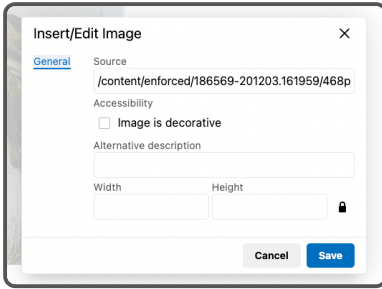
200 characters.

Use images and text to reinforce and support each other. Presenting information in multiple formats is an excellent way to present material. As well, if visual information is presented in text, the image can be marked as decorative.

If you have an existing image without alt text, **right-click** on the image and select **Image:**



Enter alt text in **Alternative description** field and click **Save**:



Note: adding alt text using this method does not impose a character limit.

numerous decorative images as this will unnecessarily clutter the content pages.

Read more about alternative text.

The Accessibility Checker will display “**Images must have alternative text**” if alt text is not added. Alt text can also be added from inside the accessibility report panel.

Consider why each image has been included. Some images may be a useful way to break up blocks of text and reinforce information. However, avoid adding

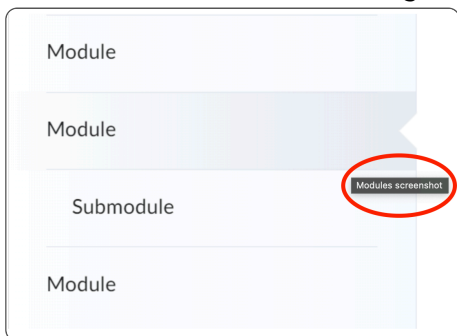
## Image Titles

Expand to learn about image titles

By default, Brightspace will create an image title from the alternative text.<sup>1</sup> The title appears in a tooltip box when the

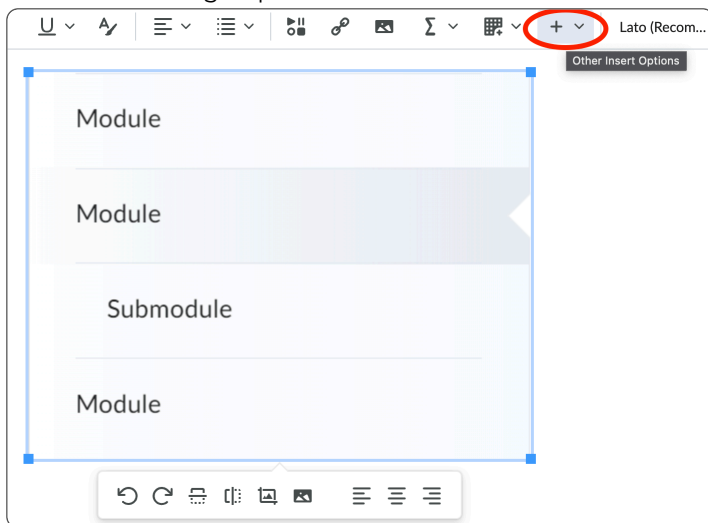
1. The authors do not believe this to be best practice and have asked Brightspace to address this unexpected behaviour.

mouse cursor hovers over an image in Brightspace:

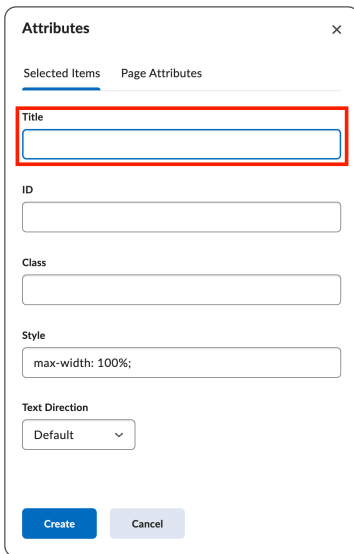
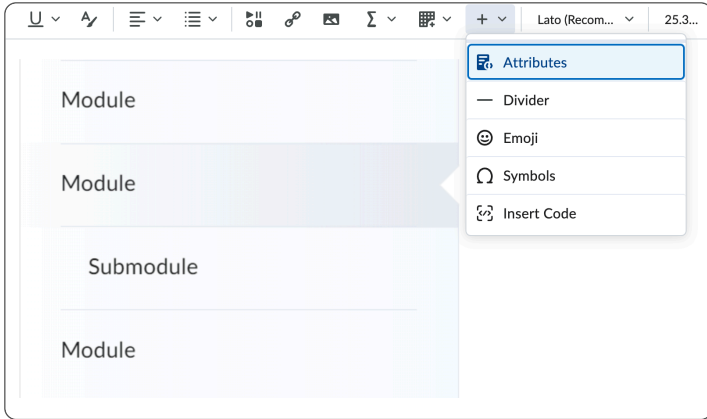


To modify the title of an image, and in turn the tooltip:

1. Select the image and open the **Other Insert Options** menu on the Brightspace Editor toolbar.



2. Select **Attributes**.



3. In the **Attributes** window, type a title in the **Title** field and click **Create**.

## Figure Captions

Brightspace supports adding **figure captions** to images. The most straightforward method to add figure captions is to copy

from the Images template. For more, consult these instructions on using image templates in Brightspace.

## Closed Captions

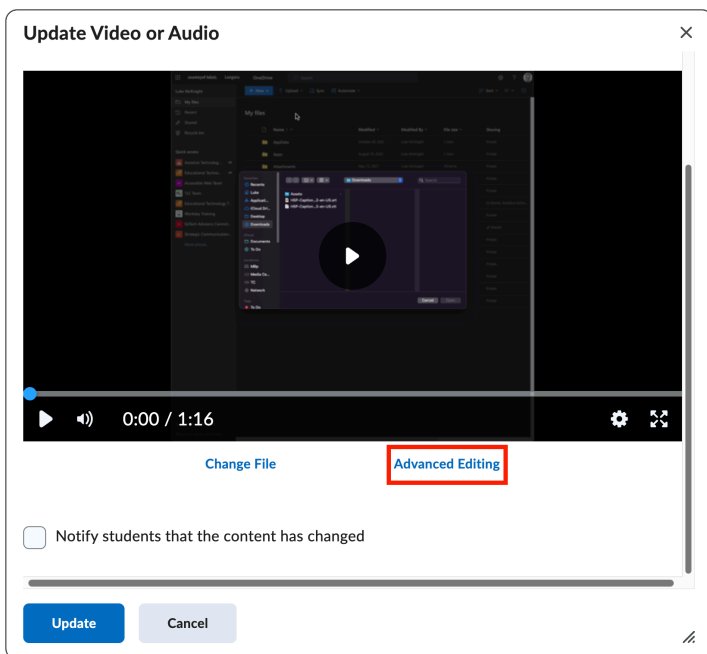
Embedded or linked videos must be **close captioned**. Audio recordings should have a transcript attached. Ensure media does not automatically play. Use Kaltura instead of Brightspace's built-in video player for easier captioning, sharing, and versioning.

Captioning uploaded video files (not recommended)

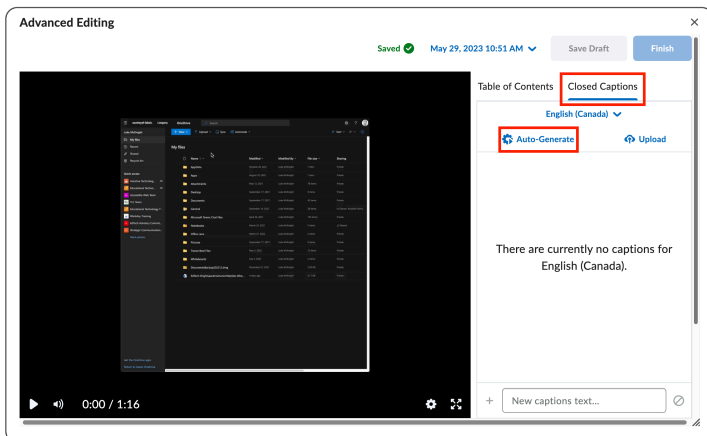
For easier captioning, sharing, and versioning consider hosting video files on Kaltura Mediaspace. Should you require assistance captioning a video file, Kaltura Mediaspace is the preferred platform as caption editors will not be able to access video files inside Brightspace.

However, to caption videos uploaded to Brightspace:

1. Navigate to the video file and select **Edit Video**.
2. Scroll down and select **Advanced Editing**.



3. Move to the **Closed Captions** tab and choose **Auto-Generate**.



4. Once captions are generated, edit for accuracy and select **Finish**. Wait for the changes to process and then close the dialog window by selecting the Close this dialog x in the

top right. Select **Submit** to finalize any changes .

For more information, consult the closed captioning chapters earlier in this handbook.

## Descriptive Hyperlinks

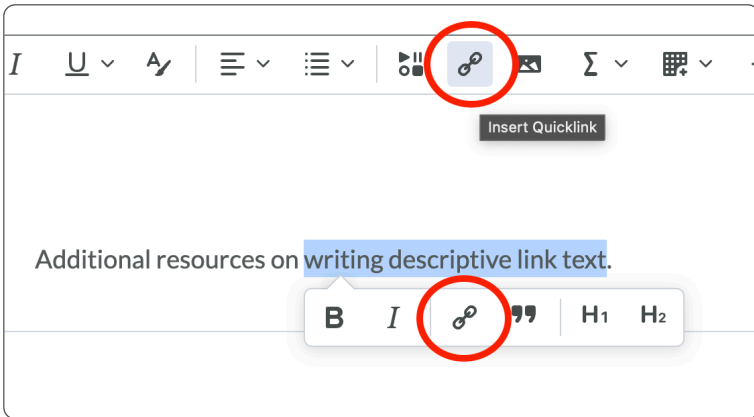
When linking to a website, use meaningful hyperlink text. Linked text should be descriptive, concise, unique and visually distinct. Do not use bare URLs. To learn more about writing link text, consult the accessible links chapter of this guide.

Use default styling of blue font and underlined text for links.

Consider the accessibility of the resource you are linking to. Also, indicate that you are linking to a video, file, or interactive element.

### Adding Hyperlinks in Brightspace

1. Highlight your descriptive text.
2. Select the link icon (looks like a small chain).
3. Or, press **Control (Command on macOS) and K**.
4. Paste the URL in the dialog that appears.



Additionally, you can insert a link via the format toolbar:

1. Choose the **Insert Quicklink** button and select **URL**.
2. Paste the URL in the appropriate field and add your descriptive text in the **Title** field.
3. Select **Insert**.

Before linking to external content, consider the accessibility of the resource. Try to choose the most accessible resource available. The University of Washington Disabilities, Opportunities, Internetworking, and Technology centre suggests avoiding PDFs and providing PDFs only as a secondary source of information.

## Uploaded Content

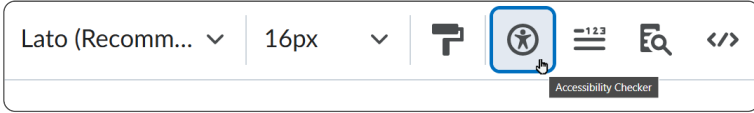
Uploaded documents (Word, PowerPoint, etc.) must be checked for accessibility.

# Formatting and Styles to Avoid

The following formatting and object types are not communicated to assistive technology or present significant barriers to some users and should be avoided:

- Strikethrough
- Highlighting
- Dropcap
- Word Art, Smart Art, text effects
- Ungrouped related shapes
- Watermarks
- Symbols, except for the following safe characters:
  - @ (the at symbol)
  - & (ampersand)
  - / (slash)
  - © (copyright)
  - ® (registered)
  - ™ (trademark)
  - ¶ (paragraph)
  - • (bullet)
  
  - \$ (dollar)
  - € (Euro)
  - £ (British pound)
  - ¥ (Yen)
  - % (percent)
  - ½ (one half)
  - ¼ (one fourth)
  - ¾ (three fourths)
  - ° (degrees)

# Accessibility Checker



The **accessibility checker** may catch common accessibility issues in your content and offer suggestions to help you fix the issues. The accessibility checker is available on the HTML editor toolbar in Brightspace.

To use the accessibility checker:

1. Open your Brightspace page and select **Edit HTML**.
  1. Click the three dots **More Actions** button if you do not see a second row on the editor toolbar.
2. Open the **Accessibility Checker**.
3. Follow the checker prompts to make changes.
  1. There may be options or additional information depending on type of issue.

Consider this video demonstration:

[https://mediaspace.langara.ca/media/t/0\\_6t32l7q7](https://mediaspace.langara.ca/media/t/0_6t32l7q7)

## Accessibility Review

Consider the following manual and automated checks to maximize the accessibility of your Brightspace content:

| Accessibility Consideration   | Best Practices   |
|---|--|
| <p><b>Prefer HTML</b>, Word documents, and PowerPoint files. Use accessibility checkers in Brightspace, Word, and PowerPoint.</p> <p><b>Avoid PDFs</b> as they are exceedingly difficult and time-consuming to make accessible.</p> | <ul style="list-style-type: none"> <li>• Use <b>Upload/Create &gt; Create a File</b> to create HTML pages.</li> <li>• Use <b>Upload/Create &gt; Upload Files</b> to add Word and PowerPoint documents.</li> </ul>  |
| <p>Use font size 16 minimum and prefer sans-serif fonts.</p>  | <p>Use the provided templates.</p>   |
| <p>Use headings.</p>  | <p>Add headings using the Styles menu. Apply headings in sequential order without skipping a heading level.</p>  |
| <p>Use numbered lists for steps in a process and bulleted lists for groupings of items.</p>   | <p>Use the <b>List</b> menu in the Brightspace editor.</p>   |
| <p>Provide meaningful text descriptions of links destinations. Do not include bare URLs or unclear link text such as “click here” or “read more.”</p>   | <ol style="list-style-type: none"> <li>1. Type a description of the link destination</li> <li>2. Highlight the text</li> <li>3. Select <b>Insert Quicklink</b> in the Brightspace editor</li> <li>4. Select <b>URL</b> and paste the URL in the <b>URL*</b> field</li> <li>5. Click <b>Insert</b></li> </ol> |
| <p>Ensure adequate colour contrast and do not use colour alone to differentiate or emphasize.</p>   | <ul style="list-style-type: none"> <li>• The Brightspace accessibility checker will flag inaccessible colour contrast.</li> <li>• Use colour and a symbol or text based cue to differentiate information.</li> </ul>   |

| Accessibility Consideration                                | Best Practices  |
|--|---|
| Provide alternative text.                                  | <ul style="list-style-type: none"> <li>• Add a description of the image when adding images to HTML pages.</li> <li>• Check <b>This image is decorative</b> for images that are not necessary to understand information or present the same information that is already available in text format.</li> </ul> |
| Tables are only used to represent data.                    | <ul style="list-style-type: none"> <li>• Do not use an invisible table for alignment or layout purposes.</li> <li>• Tables must have header rows and/or columns. Avoid blank, merged, and split cells.</li> </ul>   |
| Math content must be accessible.                           | Use EquatIO or the Brightspace Equation Editor to create accessible math and notation.  |
| Caption videos and transcribe audio.                       | <ul style="list-style-type: none"> <li>• Use MediaSpace to host video content. Edit automatically generated captions and use <b>Insert Stuff &gt; My Media</b> to add video content.</li> <li>• Use Word's transcription tools to provide a text equivalent of audio content.</li> </ul>                    |
| Any external learning tools and activities are accessible. | Look for accessibility information on the platform or vendor's webpage. Prepare an alternative activity or assessment in the event of an inaccessibility.   |

## Checker Results

The accessibility checker tool checks for a number of issues. Below is a summary of what is checked and how well the Brightspace checker does in flagging issues:

| Element checked     | Effectiveness of check   |
|---------------------|--|
| Colour contrast     | <p><b>Strong</b><br/>Can recognize contrast errors (both for regular and large size text) and provides shortcut to improve contrast.<br/>Cannot determine if colour is used as sole indication of importance or emphasis.</p>  |
| Accessible links    | <p><b>Weak</b><br/>Does not check for bare URLs or descriptive link text.<br/>Notes adjacent links directed to the same URL with a shortcut to repair.</p>   |
| Alternative text    | <p><b>Moderate</b><br/>Marks images that do not have alt text nor are marked as decorative.<br/>Cannot identify whether the Alt text is appropriate or even meaningful.</p>  |
| Accessible headings | <p><b>Strong</b><br/>Recognizes text that has been formatted to appear as a header but is not tagged as such ("This paragraph looks like a heading. If it is a heading, please select a heading level").<br/>Flags headings out of sequential order ("Headings must be applied in sequential order. For example: Heading 1 should be followed by Heading 2, not Heading 3").</p> |
| Accessible lists    | <p><b>Strong</b><br/>The checker notes text that appears to be a list but is not properly coded as a list, such as a list created manually using symbols and suggests creating a semantic list.</p>  |
| Accessible Tables   | <p><b>Strong</b><br/>Notes lack of table caption.<br/>Asks for table summary on complex tables.<br/>Notes when tables do not have header cell(s).<br/>Does not flag merged or split cells as these can be made accessible in HTML.</p>   |

Note that the Brightspace Accessibility Checker does not check for captioned media.

Read more about the Brightspace Accessibility Checker.

## Preview Tool

Select the Preview tool on the second row of the editor toolbar to view how the page will appear to students. Use this as a last step to ensure that on top of being accessible, your page appears as you want.



# General Course Accessibility

The Accessibility Checker can identify common issues in Brightspace files, announcements, and descriptions. However, it is equally important to ensure uploaded files are accessible and that your online course is designed to be accessible and usable.

## **Well-designed online course material:**

**Communicates effectively** | **Is well-organized with deliberate structure** | **Uses appropriate file types**

Making intentional choices with your online course material enhances the learner experience by promoting efficiency, fostering independence, reducing anxiety and confusion, and improving communication.

Consider the following best practices for accessible and user-friendly online course design:

## **Communication**

Make communications easy to find. Display communications prominently on the course home page, in module descriptions, and activity instructions. Ensure instructions come before an interaction, not after it.

Include clear, concise instructions about activities to help learners ensure they have completed all necessary steps. Clear, direct language assists learners to complete activities with maximum independence.

Use consistent language in instructions. For example, always

use the same date format and the same terms for the same basic actions, such as “move to the next page.”

Clear communication, particularly instructions, help learners work through material and activities without having to repeatedly ask for clarification. Remember, your course may be only one of several a student is in. Unclear, vague, or otherwise confusing communications will only lead to additional overwhelm and less time for learning. Open SUNY Course Quality Review offers additional information about instructions.

## Descriptions


Use topic and module descriptions to provide learners with instructions and overviews at the start of each module. Consider including:


- What will be covered in that module.
- How the material connects to prior learning and the overall course.
- Any deliverables or activities due.


Descriptions allow you to introduce material the same way you would explain a handout distributed in a physical classroom. Descriptions reduce confusion, helps reinforce expectations, and helps with time management.

Add dates and restrictions...

**Add a description...**

[Upload / Create](#) 

[Existing Activities](#) 

 [Bulk Edit](#)

Click on **Add a description...**, add your content in the editor window and select **Update** to post.

# Signposts

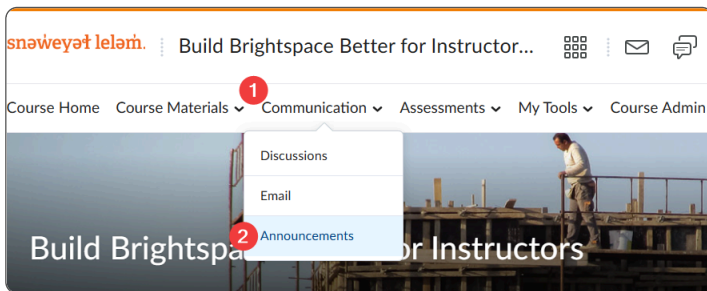
Think of signposts as the ‘You are here’ indicators on a map. They help learners orient themselves in your course.

Signposts can be:

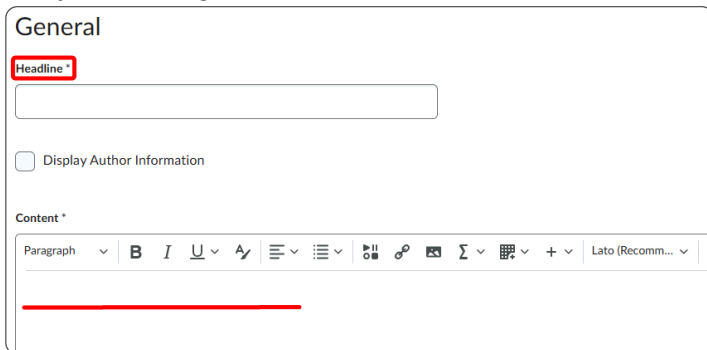
- Clear, descriptive labels for links, pages, and files.
- Cues to guide learners where to click next.
- Announcements and reminders about dates and deadlines.

To add an Announcement:

1. Open the **Communication** menu and select **Announcements**.



2. Select **New Announcement**.
3. Provide a brief, descriptive title in the Headline field and add your message and information in the content field.



The content field allows for rich text formatting including lists, images, links, and videos.

4. When you are done crafting your message, run the **Accessibility Checker** and select **Publish**. Your message will now appear on the course homepage.

For more information, consult Brightspace's announcements documentation.

## Links and Multiple Ways

Multiple ways to navigate provides learners the opportunity to move between material and activities seamlessly. Consider this example:

'Please review the EdTech contact information.' Without a link to clarification about where to find the information, learners won't be able to follow your instruction. As better practice, add links, such as: 'please review the EdTech contact information.'

When you mention something like a resource, reading, activity, assessment, etc. in an announcement, description, or content page, provide a link to that content. That saves learners time searching for what you mentioned. Don't turn your course into a scavenger hunt.

To provide multiple ways:

Create Activities at the Module level

At the module level open the Upload / Create menu to create new Assignments, Discussions, Quizzes, and other activities.



Activities created this way automatically place activities

in the flow of learning.

Add Existing Activities

At the module level, use the Existing Activities menu to add

an existing Assignment, Discussion, Quiz, or other Brightspace activity.



Adding activities to the flow of content means

learners don't have to search for them.

Provide links in content

Within an Announcement, Description, or Brightspace web page use the Insert Quicklink button to provide multiple ways.



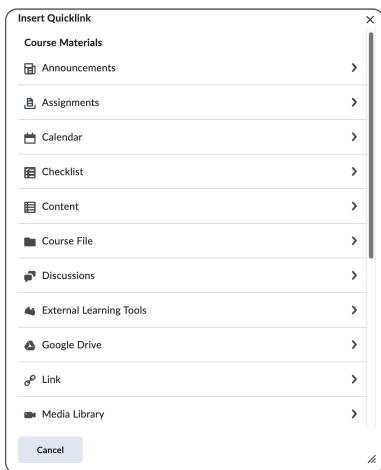
Internal links are excellent navigational waypoints to

help learners find content and engage with relevant material.

Use the **Insert Quicklink** tool to link to activities and content within a Brightspace course.

Use Insert Quicklink to create links to:

- Activities such as Assignments, Discussions, and Quizzes.
- Content such as other Brightspace webpages and media
- External content such as websites, library resources, and databases.



Ensure the linked text is concise, unique, and descriptive.

For external links:

1. Paste the URL in the Link field.

Insert Quicklink

← ▾

Link \*

https://

Text

Open in \*

New window  Current window

Insert

2. Write a brief description in Text field.
  1. General practice suggests having links open in a New window for external links.

Do not modify the default appearance of links. Only use underlined text for links.

Include Reminders

In addition to providing links, consider including reminders about how to find tools and activities in Brightspace. For example, for submitting an assignment remind learners to “open the Assessments menu and choose Assignments then select the appropriate assignment. Follow the instructions in the assignment to submit.”

## Naming Convention

Use a **consistent naming convention**. All content such as links, files, activities, and pages should have easy-to-understand, self-describing, unique, and meaningful names. Be consistent

when naming material, such as using the prefix “Topic n” for each module.

### Weekly

Use a sequential structure to match the weeks of the semester. A weekly module structure creates a predictable rhythm students can count on and helps them match the course calendar to their personal calendars.

However, don't just label modules Week 1, Week 2, etc. Why? Well, if your class is on Tuesday, but the first day of the semester is a Wednesday, the first time your class meets is in Week 2. That's going to get confusing.

To create a strong weekly structure, consider the formula:

#### **Sequence + Title + Timeframe.**

For example, “1: Introduction to naming conventions (September 9-13)”, “2: Renaming Brightspace files (September 16-20)”, etc.

### Topic

If your Modules are not associated with a specific week of the semester, drop the date range from the above example. But, to ensure progress and flow are explicitly indicated, use:

#### **Sequence + Title**

For example, “1: Introduction to naming conventions”, “2: Renaming Brightspace files”, etc.

### Deliverables

For courses build around major projects or assessments, create modules to group content related to each major artifact produced. Name Modules with:

#### **Type + Sequence + Due Date**

For example, “Project 1: Research Proposal (Sept 30)”, “Project 2: Literature Review (Oct 15)”, “Project 3: Final Report (Dec 6).”

### Assessments

Consistently naming assessments helps you stay organized

and reduces confusion by guiding students. Consider naming assessments with:

**Type** of assessment (i.e. Quiz, Essay, Presentation, etc.)  
+ **sequence** i.e. 1, 2, 3m etc. (where applicable)  
+ **informative name**, title, or theme.

For example, “Reflection 1: First Impression”, “Reflection 2: Careful Exploration”, etc.

When learners can find information and activities easily, learners can spend more time learning the material, not finding it. Easy to find material means you will receive less questions about where things can be found.

Content

To effectively name content such as documents, web pages, links, and other media consider:

**Title**, theme, or topic + (**file** format).

For example:

- “Accessibility Handbook for Teaching and Learning (Ebook)”
- “Course Outline: Basket Weaving Spring 2025 (PDF)”
- “World’s blankiest blank 7 (Video, 3:43)”

(You might consider adding a prefix of “Require reading” or “Suggested viewing.”)

Naming content with informative titles informs students of what to expect, draws connections between material, and offers an invitation to open the content.

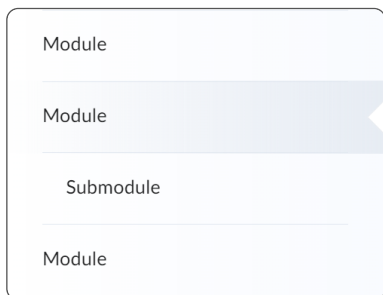
## Organization

The organization of your content is essential to student success. Making deliberate efforts to improve the organization of your Brightspace content will help your learners:

1. Find what they need.
2. Understand what they find.
3. Use what they learn.

Well-organized content allows learners to focus on the material you want them to learn, not spending excess time locating information or interpreting what they are supposed to do. Better organization is key to an accessible, inclusive, and useful online experience.

## Structure

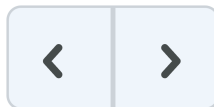


A Brightspace course is typically organized into modules. Modules are like folders. The modules may be organized by weeks or topics covered in the course.

Submodules are subfolders of modules; each submodule is nested inside a module. Modules and submodules are populated with material such as Brightspace content pages, links to external resources, media, or documents.

**Avoid submodules** as they interrupt the flow of content.

Try viewing your course as a student and use the **Next** and **Previous** buttons to navigate through your course. Consider how submodules affect flow of information. Keep your



module structure as flat as possible by avoiding submodules. Where necessary, include clear instructions that additional material is located in a submodule.

Use clear and consistent navigation, including navigational cues such as announcements and links, to guide students. Make it easy for learners to find and engage with the materials you want them to focus on.

Consistency is essential to create an effective Brightspace course. Consistent layout and patterns:

- Helps students develop efficient, predictable routines to find material and activities.
- Reduces cognitive load through familiarity.
- Builds trust in your course as reliable.
- Allows learners to focus on learning the material, not constantly relearning the interface.

For example, post all your readings in the same location, such as the relevant module, every week.

Organize content in a logical sequence that scaffolds understanding.

Chunk content using

- Headings
- Lists
- Different pages or documents for different topics

Reduce visual distractions such as decorative images, coloured backgrounds, and unnecessary graphics. While aesthetic design is important, excessive decoration will only distract learners from material.

## File Types

Brightspace can host material in a variety of formats. Consider the following best practices:

**Limit uploading documents that would function more efficiently as a web page.**

- Create web pages using the **Upload / Create** menu and select **Create a File**.
- Word Documents and PowerPoint Presentations can be added to Brightspace via the **Upload / Create** menu and the **Upload a File** option.

**Avoid PDFs.**

- PDFs are not designed to be read on screen.
- PDFs have significant accessibility and user experience concerns.
- The University of Washington Disabilities, Opportunities, Internetworking, and Technology Centre suggests avoiding PDFs and providing PDFs only as a secondary source of information.

**Avoid uploading video and audio directly into modules.**

- Host content on Kaltura MediaSpace and embed media in Brightspace web pages.
- Ensure videos have closed captions and audio files have text transcripts.

No matter the content type, ensure files have unique, descriptive titles.

## Expertise

You don't need to be an expert in accessibility or using Brightspace. When you have a question, ask. Search the web for resources and engage with your educational technology or teaching and learning centers.

# Additional Resources

D2L article on using the Brightspace Accessibility Checker.

Meeting web content accessibility standards.

Accessible courses and course material.

UW DOIT Center tips for accessible courses.

SUNY Online Course Quality Review Rubric.

# WORD ACCESSIBILITY



# Word Accessibility Quick Start Guide



Word tools and features were designed to create accessible documents by default. When used as intended, Word creates documents that are accessible with no additional steps, hacks, or workarounds required.

Top tips for Word accessibility:

## Use tools for structure

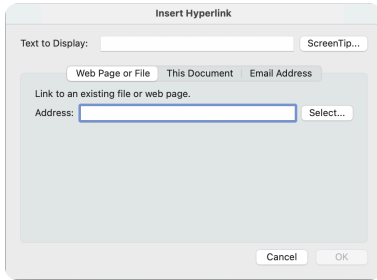
Use built-in tools for **headings**, lists, and **tables**.



## Write descriptive linked text

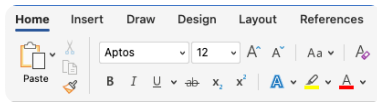
Insert **descriptive links** instead

of bare URLs.



## Choose readable fonts

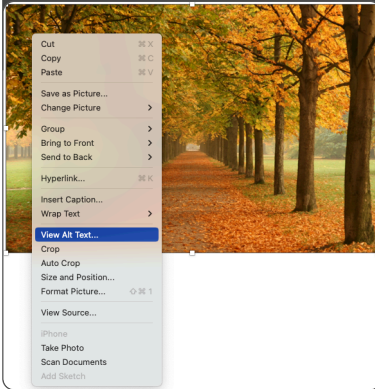
Use sans-serif or plain serifs, size 12 or larger.



## Provide alternative text

Add descriptions to the **Alt Text** field of images that present

information.



## Use the Accessibility Assistant

On the Review tab, select **Check Accessibility** to flag accessibility issues.

Check **Mark as decorative** for images that do not contain information.

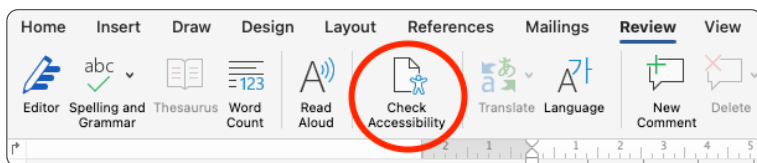
## Write in plain language

Use Word's Editor **Document Stats** to measure language

complexity.

| Readability Statistics     |      |
|----------------------------|------|
| <b>Counts</b>              |      |
| Words                      | 105  |
| Characters                 | 653  |
| Paragraphs                 | 12   |
| Sentences                  | 2    |
| <b>Averages</b>            |      |
| Sentences per Paragraph    | 1    |
| Words per Sentence         | 16.5 |
| Characters per Word        | 5.6  |
| <b>Readability</b>         |      |
| Flesch Reading Ease        | 33.7 |
| Flesch-Kincaid Grade Level | 12.6 |
| Passive Sentences          | 0%   |

OK



## Moving forward...

Focus on creation and revision, not remediation. The next time you create a document or update an existing one, use the practices in this guide. Don't focus on going back and fixing every document you have. Focus on making your new documents better.

**Move to the next page to continue reading about**

**Word accessibility** and learn how to make accessible Word documents.

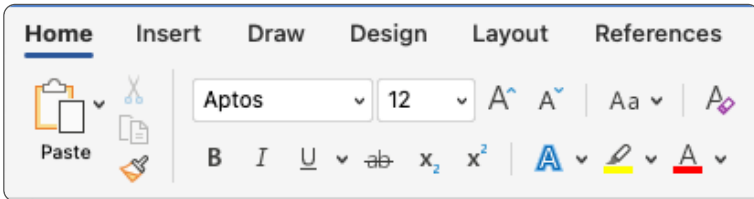
# Document Properties, Plain Language, and Fonts

A few initial steps to Word accessibility include using plain language, choosing accessible fonts, and setting document properties.

**On this page:**

[Accessible Font](#) | [Plain Language](#) | [Document Properties](#)

## Accessible Font



Choose readable fonts to aid people with low vision, dyslexia, and other processing disorders to read content.

Best practices for fonts:

- Use sans-serif fonts like Aptos, Arial, Calibri, Helvetica, or Montserrat.
- Use simple serif fonts, such as Cambria, Sitka, and Times New Roman.
  - Avoid exaggerated serifs, scripts, and novelty fonts.
- Use size 12 or greater
  - Size 9 is acceptable for foot/endnotes or figure

captions.

- Left-align text for languages that read left to right.
- Use at least 1.5 line spacing.

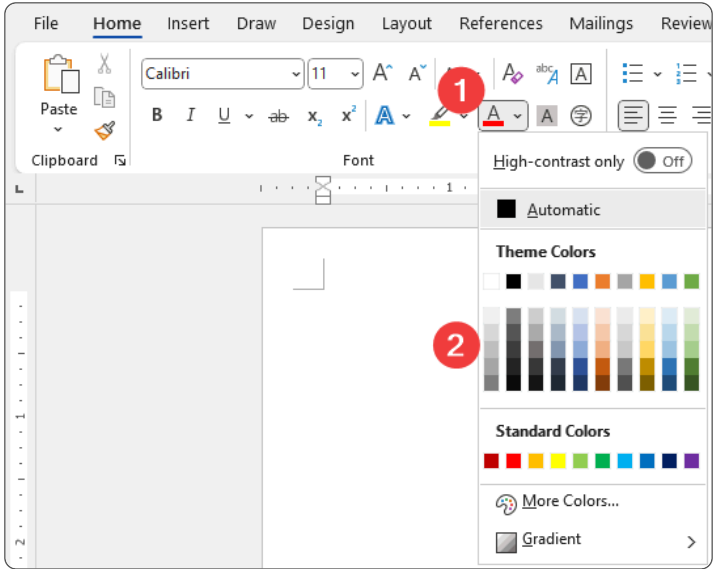
The Appearance chapter of this handbook has additional information on using accessible font.

## Font Colour

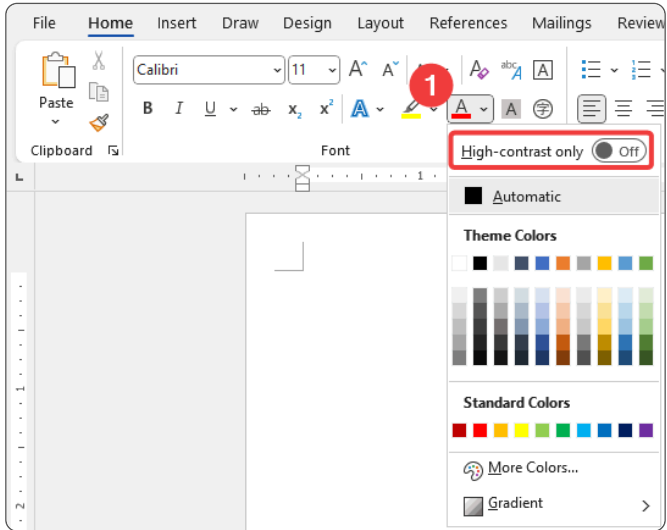
For readers that have colour vision deficiency or low vision, ensure text has sufficient **contrast**. Good contrast makes text easier to read for everyone. Font must have a contrast ratio of at least 4.5:1 against the background. For example, black text on a white background has a contrast ratio of 21:1. Langara Orange (#F15A22) has a contrast ratio of 3.37:1, well below the accepted minimum.

To set font colour:

1. Navigate to the **Home** tab.
2. Select **Font Colour**.



1. Select an appropriate colour or click **Automatic**.
2. Toggle on **High-contrast only** to only display colours with sufficient contrast.



Visit the accessible colour chapter of this Pressbook for more information.

## Text Alignment

To set text alignment:

- Set alignment in the Paragraph tools on the **Home** tab.
- Avoid justified alignment as it can create excessive blocks of white space when zoomed and can create 'rivers of white space' which are gaps that appear to run through a paragraph due to coincidental alignment of spaces.

## Text Spacing

To set spacing:

- Do not use Tab, Enter, or Space to change spacing between paragraphs or layout of bullet points:
  - Navigate to **Home > Line and Paragraph Spacing > Line Spacing Options**
    - The **Paragraph** dialogue has spacing options on the **Indents and Spacing** tab
- Use **Insert > Page Break** to create page breaks
  - Do not create manual spacing using Return or Space keys
- Do not use Tab, Space, or text boxes to create columns
  - Go to **Layout** tab > **Columns**. Additional options are available by selecting **More Columns...**

## Using Visual Style to Convey Meaning

Do not use visual style alone to convey information. Visual style could include:

- Italics
- Bold
- Underline
- Spatial positioning or text spacing
- Colours

Please use visual styling but include at least a second indicator, such as written instructions. Review the use of colour recommendations discussed earlier in this book.

## Plain Language

| Readability Statistics     |      |
|----------------------------|------|
| <b>Counts</b>              |      |
| Words                      | 105  |
| Characters                 | 653  |
| Paragraphs                 | 12   |
| Sentences                  | 2    |
| <b>Averages</b>            |      |
| Sentences per Paragraph    | 1    |
| Words per Sentence         | 16.5 |
| Characters per Word        | 5.6  |
| <b>Readability</b>         |      |
| Flesch Reading Ease        | 33.7 |
| Flesch-Kincaid Grade Level | 12.6 |
| Passive Sentences          | 0%   |
| OK                         |      |

Use the Editor tool to check **reading level**. Navigate to **Home > Editor** and select **Document Stats**. Aim for a Flesch-Kincaid Grade Level of 7-9 for general content. Learn more about plain language.

*Word Readability Statistics window*

## Document Properties

The document title is announced to assistive technology and is more informative (and pleasant to hear) than the file name.

Adding a plain language title to the metadata allows continued adherence file naming conventions. Ensure the language code matches the language of the presentation. Other fields are useful but not required.

## Document Title

Setting a title in a document's metadata means screen reader software will read that title in place of a potentially unclear file name. If you use a file naming convention, some filenames could be quite cumbersome and unpleasant when read aloud. Best practice is to use the document's heading as a title.

To add a document title:

1. Navigate to **File > info**.
  1. On MacOS: **File > Properties > Summary** tab.
2. Enter a descriptive title in the **Title** field.

This cannot be done in Office Online.

## Document Language

To set document language to match content:

1. Click language on Status Bar at bottom of document screen or via **Tools > Language**
2. You can set a different language for different parts of your document:
  1. Select desired text.
  2. Via **Review** tab, select **Language**.
  3. Select appropriate language.

# Structure

Content that relies solely on visual styling to communicate purpose or function may exclude users of assistive technology. Assistive technology such as screen readers and text-to-speech tools require specific markup to convey meaning. For example, a proper heading should include larger, bolded font to stand out to sighted readers, but must be properly created to provide the equivalent meaning to all readers. Ensure headings, lists, and tables are created using the proper tools.

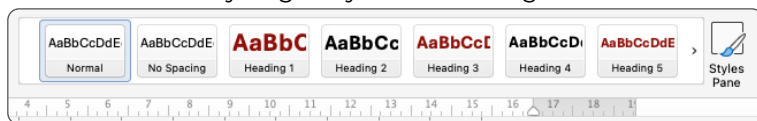
**On this page:**

[Headings](#) | [Tables](#) | [Columns](#) | [Text boxes](#) | [Lists](#)

## Headings

**Structured** documents are essential for assistive technology, but helps all readers navigate documents efficiently and understand relationships between topics. Brief but descriptive headings help all users navigate quickly to information they need, understand the purpose of various sections, and break up large blocks of text to increase readability.

Use the Word Styles gallery to set headings.



Press **Control Alt** (**Command Option** on macOS) **1**, **2**, or **3** to set heading 1, 2, or 3.

Begin with a heading 1 as the broadest, most important level, such as a title. Heading level 2 should be for major sections and

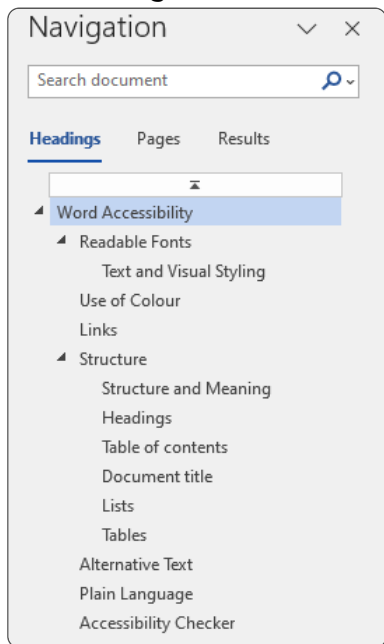
heading level 3 as subsections of the preceding heading 2 and so on.

Headings must be in sequential order. Do not skip a heading level when **increasing**, e.g., do not go from a heading 2 to a heading 4. Heading levels can be skipped when **decreasing**, for example when a subsection of a heading level 4 concludes, you can skip back to a heading level 2 to introduce a new section. Any type of content can follow any heading level.

\*Note, in Word the Title style should not be used as it only visual styling and does not convey meaning to assistive technology. Use a heading 1 for your title.

Verify heading structure via

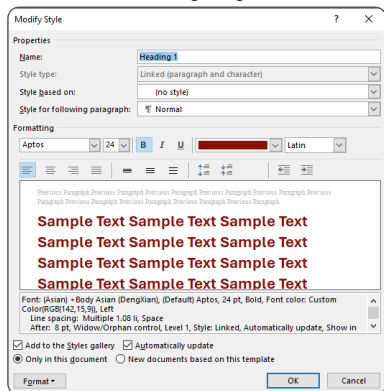
### View > Navigation.



Click and drag headings to move heading and all text under that heading in the

document.

To modify the appearance of headings, right-click on a style and click **Modify Style**.



Modify the formatting of the style. Select **New documents based on this template** to set the new style for all new documents. Learn more about customizing or creating new styles in Word.

a document. In Word, it is possible to create multiple headings of the same level with distinct visual styling.

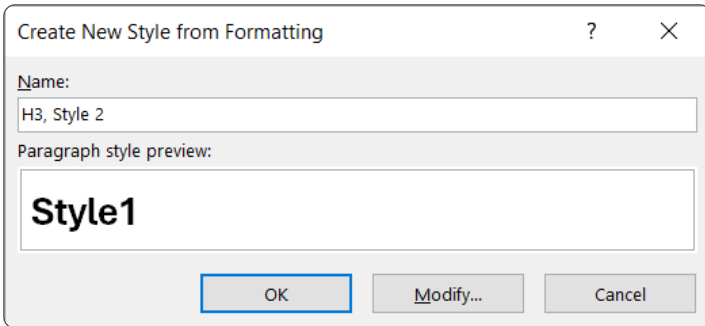
To create multiple visual heading styles:

1. Open the Styles gallery and click on **Create a Style**.
2. Name the new style.

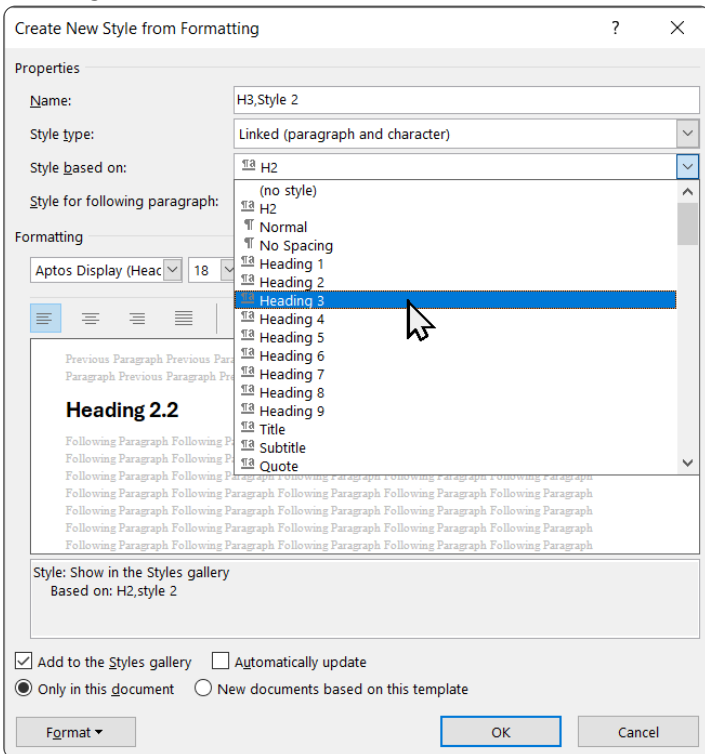
Word allows for multiple visual styles for the same heading level.

### Multiple Heading Styles

Use the same visual style for all headings of the same level. For example, all heading level 2s should have the same distinct style and all heading level 3s should have a distinct style and so on. However, there may be unique circumstances where a document will need multiple styles for the same heading level. For example, a sidebar with a coloured background may require a heading level 3 to have a different font colour than a heading level 3 that appears in the main body of



3. Click **Modify...**
4. In the **Create New Style from Formatting** window open **Style based on:** and choose existing equivalent heading level.



5. Modify the style by setting font, size, and colour.
6. Click **Ok**.

Do not drastically change the style as visual readers benefit from similar visual styles to understand hierarchy and document structure.

Learn more about customizing or creating new styles in Word.

## Table of Contents

If your document is more than 8 pages, include a table of contents to provide an overview and assist users to skip to specific parts of a document.

Navigate to the **References** tab and select **Table of Contents**. Word will use the document's heading structure to automatically generate a table of contents. Each section in the table of contents links to the relevant part of the document.



## Tables

**Tables** are useful for organizing data (data can be numbers or text). A table Properly built and formatted tables are accessible.

To insert a table in Word:

1. Move to the **Insert** tab.
2. In the **Table** group, choose **Insert Table**.
3. Indicate number of columns and rows and press **Ok**.
  1. You can add columns and rows later.

Set a header row/column:

1. Click anywhere in your table.
2. Select **Table > Table Design** tab > click **Header Row** (and/ or **First Column**, if column is a header) checkbox.
3. Select **Banded Rows** or **Banded Columns** for a landscape document.
4. Select the header row then navigate to **Table Layout**, select **Repeat Header Rows** to repeat headers across page breaks.
5. Accessible tables in Word can only have one header row, one header column, or both.

Right-click on table and select **Table Properties** for advanced table options via the table properties dialogue.

In some instances it may make sense to add alt text to a table as a summary. To do so:

1. Navigate to **Table Properties**
2. Select the **Alt Text** tab
3. Add a **Title** and a **Description**
4. Click **Ok**

## Table Best Practices

- Tables must have a header and/or column row.
- A concise, descriptive table title helps with context and organization
- Do not use nested, merged, split, or unnecessary blank cells
- Ensure cells have adequate padding and margins
- Do not use coloured cells or text alone to indicate meaning
- Do not use tables with invisible borders to format layout
- Office accessibility checker does not note table errors
  - Click in the top left cell, then use the **Tab** key to see

ensure your table reading order is logical and consistent

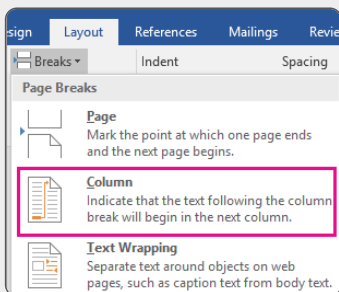
Learn more about creating accessible tables in Word.

## Tables are for data, not structure

A table is a systematic arrangement of numbers, words, other data organized into sets of rows and columns. Tables are used to show relationships between data. Tables should never be used to create a desired layout, such as using an invisible table to create columns. Word has a built-in tool to create columns.

## Columns

Use the **Columns** tool to create column layouts in Word. Type content in Word and navigate to **Layout** and select **Columns**.



Choose the desired number of columns. It is recommended to create and format content before applying column layouts to avoid excess work and potential issues. Word will automatically apply

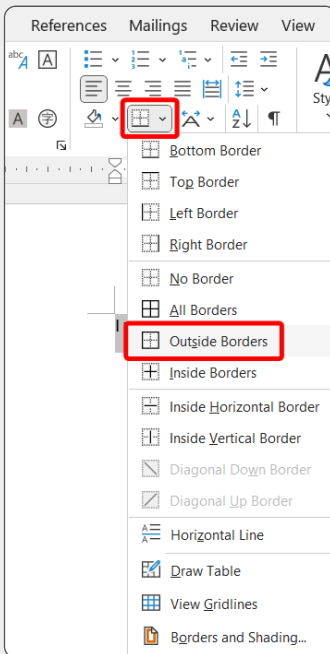
columns breaks, but it is possible to manually insert column breaks.

To learn more about columns in Word, read [columns](#)

dialog box and adjusting column widths on the Microsoft Support website.

Do not use invisible (without cell borders) tables to create columns. These will be read as tables to assistive technology and confuse users.

## Text boxes



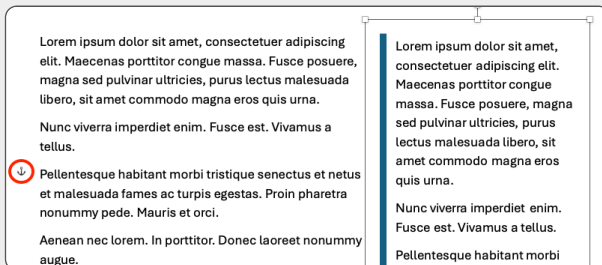
Do not use single cell tables to create a text box; tables are for data, not layout. To create an accessible text box, use border tools. Select the text and on the **Home** tab, select **Borders** and choose **Outside Borders**. Choose **Borders and Shading** to customize the appearance of the text box, including shading, shadows, colours, and line style.

Word's **Insert > Text box** can be used to create

textboxes provided it is anchored to a paragraph. This means that wherever the anchor is placed the text box will be read before that paragraph. Word for Windows has predefined text box styles, but text boxes can be customized in appearance and location. Ensure you select **Fix Position on Page** in the **Shape Format > Wrap Text** menu.

To place the anchor:

1. Click and drag the anchor icon and place it beside the paragraph the text box is to be read before.



2. Place the anchor as the absolute last step in the process to ensure proper reading order.
3. Verify reading order by navigating to the **Review** tab and opening **Immersive Reader**. In this view, verify the textbox appears in the desired sequence.

## Lists

Use the list tools to create lists. Creating lists using asterisks or dashes will not inform assistive technology that the content is part of a list. Lists are useful for steps in a process or grouping items. It is important that everyone is made aware of the presence of a list.

- Use bullet lists for unorganized lists
- Lists where the sequence is not important

1. Use numbered lists for items where sequence is important

2. Such as steps in a process

To create a list in Word:

1. On the **Home** tab.
2. Select **Bullets, Numbering, or Multilevel List.**



The dropdowns accompanying each style offer more list options and customization.

3. To verify a list has been properly created: Press **Enter** after a list item and a new bullet or number should automatically appear on the next line.

### Additional Structure

To ensure accessible structure avoid repeated tabs, spaces, or returns. Instead:

- Change spacing before and after paragraphs via **Home > Line Spacing Options.**
- Manually create a line break by pressing **Shift** and **Enter.**
- Of repeatedly pressing Enter, use **Insert > Page Break.**
- Of repeatedly pressing Tab or Spacebar, navigate to **Home > Increase/Decrease Indent** or use the indent markers on the horizontal ruler (**View >**

**Ruler).**

# Alt text, Images, and Links

Include text alternatives for visual elements such as images and use hyperlinks in place of bare URLs.

**On this page:**

[Text Equivalents](#) | [Captions and Transcripts](#) | [Hyperlink Text](#)

## Text Equivalents

As discussed in the alternative text chapter of this guide, visual information needs a text equivalent. In Word, the text equivalent of visual information can be included in:

- Text adjacent to an image. Presenting text with visuals that reinforce and support one another is a great practice and ensures everyone can access the information.
- Figure captions.
- The **alt text field** of a graphic.

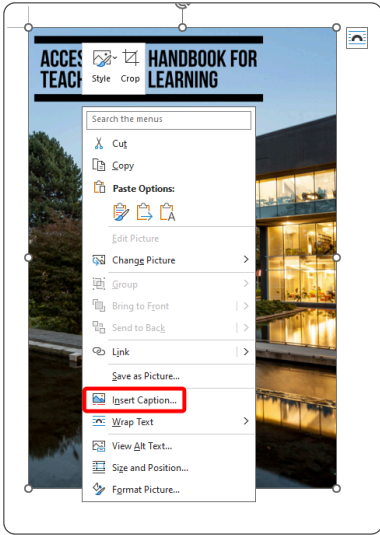
## Figure caption

If equivalent information is not presented in text adjacent to a graphic, add a figure caption. Figure captions are accessible to all readers of a document.

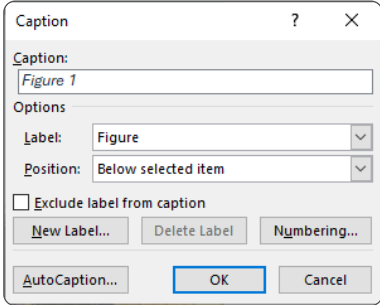
To add a figure caption to an image:

Right-click on the image select

**Insert Caption...**



Type a caption and set options.  
Click **OK**.



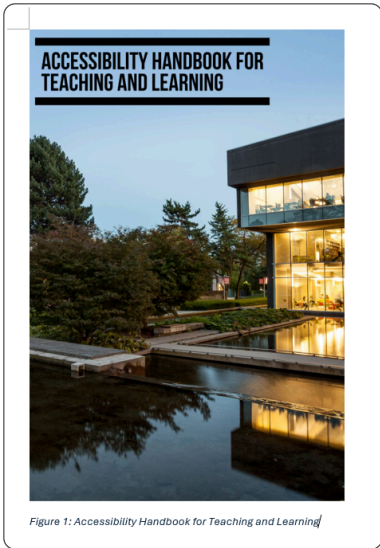


Figure 1: Accessibility Handbook for Teaching and Learning

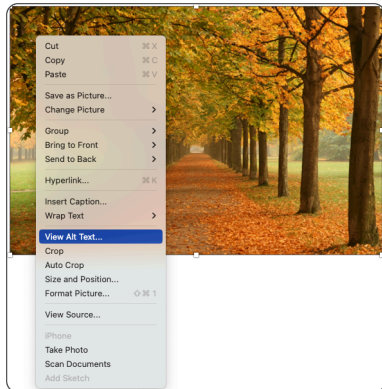
The figure caption will appear below the image. In the **Alt Text** pane for the image, check **Mark as Decorative**. Read more about how to insert a caption for a picture from Microsoft support.

## Alt Text

In instances where a figure caption is not preferred, use the alt text field to add a description of the information present in a graphic. The alt text field is only read by **screen reader software** to provide visual information in accessible format.

To add alt text in Office programs:

1. **Right click** on an image and select **View Alt Text...**
2. Enter a description in the dialogue box.
3. If a graphic is purely decorative, check **Mark as Decorative**.



To add alt text in Office online programs:

1. Select the image
2. Navigate to the **Picture** tab
3. Select **Alt Text** and enter your description in the **Description** field.
4. If the image is purely decorative, leave the **Description** field blank.

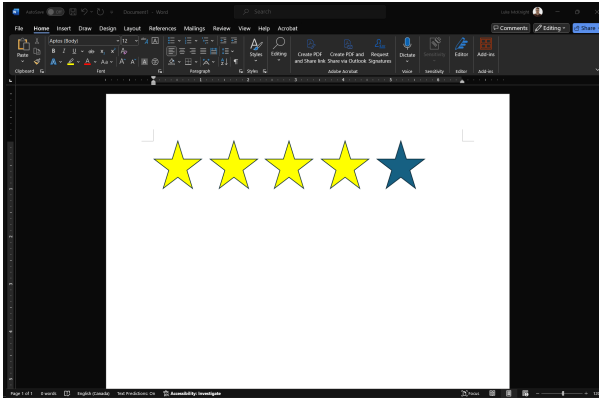
The Office **Accessibility Checker** will flag images that do not have alternative text. In the Accessibility pane, **Missing object description** will appear as an error. Do not rely on the automatically generated alt text, it is rarely useful.

Add alternative text to simple charts but also include **table** data for complex charts and data sets. Best practice is to include table data adjacent to the chart, but linking to the data elsewhere in the document is also an effective method. The alt text field does not support links, but a link can be added to a figure caption. Ensure the link text explains the destination.

## Grouped Shapes

A group of shapes, such as the stars in the demonstration below, must be grouped to provide meaningful alt text. To group images in Word:

1. Select the first object.
2. Hold **Control** (**Command** on macOS) and click on the remaining objects.
3. On the **Shape Format** tab select **Group > Group**.
4. Add Alt Text to the grouped shape.



*Animation demonstrating how to group shapes in Word*

Read more about how to group or ungroup shapes, pictures, or other objects.

Review this Pressbooks' alternative text chapter and read Microsoft guides for adding alt text to images, SmartArt, shapes, and charts and how to make Word documents accessible.

## Graphs and Charts

Do not include photos of charts or graphs, insert them properly via **Insert** tab > **Chart** dropdown.

A concise and meaningful title or caption helps all readers. Add alt text to graphs and charts but also include **table** data for complex charts and data sets. Best practice is to include table data adjacent to the chart, but linking to the data elsewhere in the document is also an effective method. Ensure the link text explains the destination.

Do not rely on colour alone to distinguish data. Use symbols or different line styles. Include a legend.

Apply data and axis labels by selecting your graph or chart and navigating to **Chart Design** tab and selecting **Add Chart Element** dropdown.

Provide alternative formats, such as a table of data plotted via chart

- For a chart or graph, provide data in table form beside the element. If size and spacing is a concern, place the data in another sheet and provide a link near the floating element.

Visuals must use **In line with text** wrapping style to be accessible. Click on your image and choose **Picture** tab or the **Layout Options** button and choose **In line with text**. Microsoft offers detailed instructions on text wrapping.

## Videos and Audio Recordings

Ensure embedded media has text equivalents. Videos must have **closed captions** and audio must have a **transcript**.

## Hyperlinks

When linking to a website, document or other part of a document, use meaningful hyperlink text. Linked text should be descriptive, concise, unique and visually distinct. Do not use bare URLs. To learn more about writing link text, consult the accessible links chapter of this guide.

Use Word's default styling of blue, underlined text for links.

To add a link in Word:

1. Select the text you want to link
2. Right-click and select **Hyperlink** or press **Control** (**Command** on macOS) and **k**
3. Verify the **Text to Display** text
4. Paste the destination URL in the **Address** box

You may have existing documents that contain bare URLs. To update existing, bare URLs to accessible links:

1. Right-click on the bare URL
2. Select **Edit Hyperlink...**
3. In the **Text to display** field, type a brief description of link destination.
4. Click **Ok**.

Read more about hyperlink text in Word.

# Formatting and Styles to Avoid

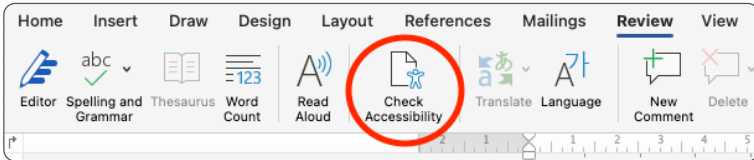
The following formatting and object types are not communicated to assistive technology or present significant barriers to some users and should be avoided:

- Strikethrough
- Highlighting
- Dropcap
- Word Art, Smart Art, text effects
- Ungrouped related shapes
- Watermarks
- Symbols, except for the following safe characters:
  - @ (the at symbol)
  - & (ampersand)
  - / (slash)
  - © (copyright)
  - ® (registered)
  - ™ (trademark)
  - ¶ (paragraph)
  - • (bullet)
  
  - \$ (dollar)
  - € (Euro)
  - £ (British pound)
  - ¥ (Yen)
  - % (percent)
  - ½ (one half)
  - ¼ (one fourth)
  - ¾ (three fourths)
  - ° (degrees)

# Accessibility Assistant

Use Word's Accessibility Assistant, a built-in **accessibility checker** to check for common issues. Note, these tools may not catch all possible accessibility issues.

Navigate to the **Review** tab and click **Check Accessibility**.



1. Select **Review** tab
2. Choose **Check Accessibility** button
3. The **Accessibility Assistant** panel will open and show issues
  1. Select each issue to see it highlighted in the document
  2. Select the arrow next to each warning to see further information

To see real time accessibility status:

1. At the bottom of the Accessibility Assistant panel select the **Settings** button.
2. In the Settings window, check the **Show accessibility status for the Accessibility Assistant in the Status Bar** checkbox.
3. Click **Accessibility: Investigate** in the status bar at the bottom of the window to open the Accessibility Assistant pane. **Accessibility: Good to go** indicates no violations of the automated checker's rules.



*One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.bccampus.ca/accessibilityhandbook/?p=2491#oembed-1>*

In the Accessibility settings window, check **Show accessibility status inline with the document** to toggle on a real-time, inline accessibility checker. When content is added to Word



that violates accessibility checker rules, a small human form icon will appear on the line of the offending content.

## Checker Results

Like any automated tool, Word's Accessibility Assistant will not catch all accessibility issues. Here is a summary of what it does look for and how well it catches those issues:

| Element checked              | Effectiveness of check   |
|------------------------------|--|
| Hard-to-read text contrast   | <p><b>Strong</b><br/>Evaluates the contrast ratio between font and background and offers suggestions to ensure sufficient contrast.</p>  |
| Missing alt text             | <p><b>Moderate</b><br/>Flags images that do not have alt text or where the alt text is the image file name. Cannot identify if alt text is appropriate or meaningful. The built-in image description generator is poor and should not be used.</p> |
| Image or object not inline   | <p><b>Strong</b><br/>Flags images that are not inline. Offers shortcut to place object in line or mark image as decorative.</p>  |
| No headings in document      | <p><b>Weak</b><br/>Flags documents over 10 pages that have no headings, however almost all documents regardless of length benefit from headings. Tool does not consider proper heading hierarchy.</p>  |
| Missing table header         | <p><b>Strong</b><br/>Flags tables that do not have properly marked up table header cells.</p>  |
| Use of merged or split cells | <p><b>Strong</b><br/>Flags tables that include merged or split cells.</p>  |

## **Additional elements not automatically checked:**

The Word Accessibility Assistant does not assess links, font size and style, proper use of lists, or if media has captions or transcripts.

Read more about checking for accessibility issues with the Office Accessibility Checker and learn about Office Accessibility Checker rules and messages.

# Sharing and Exporting

**On this page:**

**Sharing** | **Export to PDF**

Best practice is to share material in advance of a presentation, meeting, or class.

- Sharing allows users to check for barriers beforehand and customize their experience.
- All users can take additional, in-depth notes and understand terminology and names with greater comprehension.

## Sharing

Upload your document to Brightspace, share via OneDrive, or email a copy. Avoid exporting your Word document to PDF as there is additional and precise work required to make a PDF accessible.

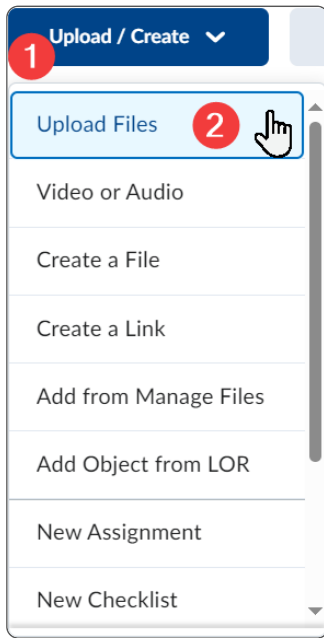
Sharing a Word document allows users to customize the appearance (font size, background colour) and easily have the document read aloud to them without changing the content of the document.

There are a number of options for sharing a Word document:

### **Share for collaboration via OneDrive/SharePoint.**

Learn how to share a Word document.

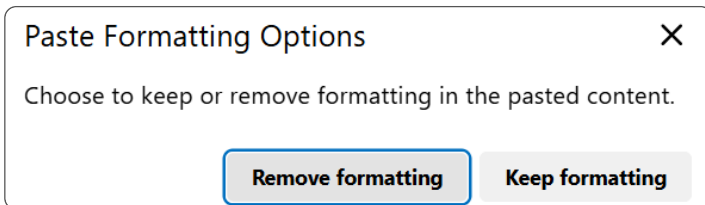
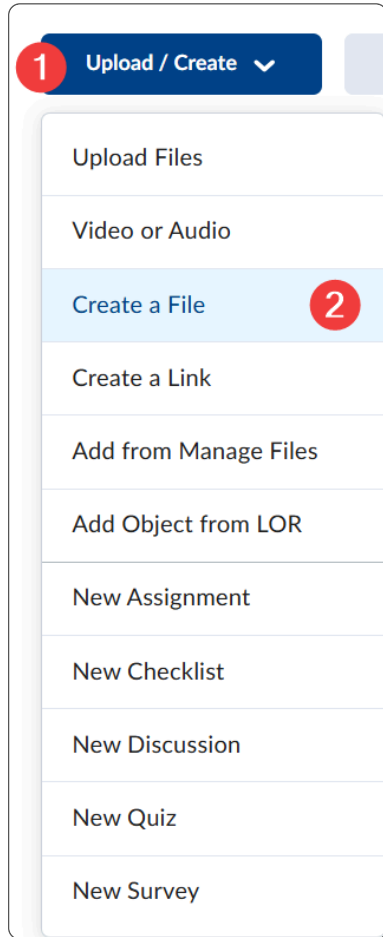
## Share a copy via Brightspace.



Upload a document to Brightspace Content via **Upload/ Create > Upload Files**.

Content from a Word document can be copied and pasted into a Brightspace HTML page. To create a Brightspace HTML page:

1. Select **Upload / Create**.
2. Choose **Create a File**.
3. Provide a brief, descriptive title.
4. If using templates, open **Select a Document Template** and choose **000\_Blank\_v3**.
5. Copy your entire Word document (Control or Command on macOS and c).
6. Paste content in Brightspace editor and choose **Remove formatting**.



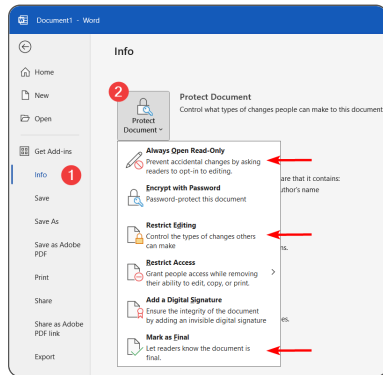
If you are not using Template styles, or want to mimic the styles of your Word document, choose **Keep formatting**. Note that some fonts and styles may not copy over exactly

and may require manual adjustments.

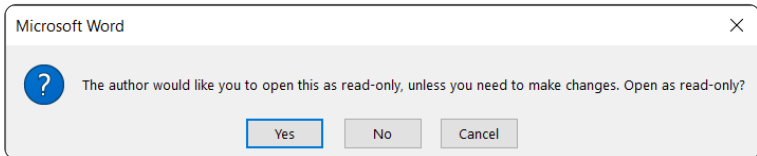
7. Verify your content and select **Save and Close**.

## Share with Always Open Read-Only enabled.

Select **File > Info > Protect Document** and choose **Always Open Read-Only**.



Selecting **Always Open Read-Only** will prompt users to opt-in to editing the document:



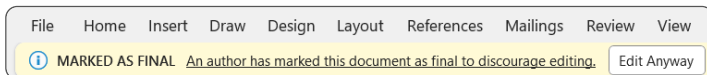
Learn more about making a document read only.

## Mark as Final

A document can be marked as final to inform readers the document is in a complete form and is not to be edited.

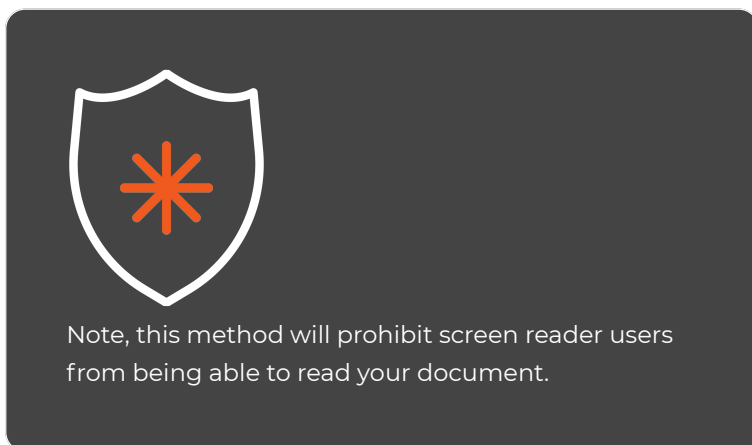
1. Select **File** and choose **Info**.
2. Open the **Protect Document** menu and select **Mark as Final**.

- Documents will indicate to users the document has been **MARKED AS FINAL**



## Read Only

To completely lock a document, use **Restrict Editing**.



- Go to the **Review** tab.
- In the Protect group, choose **Restrict Editing**.
- The **Restrict Editing** pane will open.
  - Select the **Allow only this type of editing in the document**:
  - Choose **No Changes (Read only)** from the menu.
    - You may also allow comments, tracked changes, or filling form fields
  - Set any exceptions for specific users
  - Click **Yes, Start Enforcing Protection**
  - You will be prompted for a password or User authentication.

To make changes or turn off editing restrictions:

1. Navigate to the **Review** tab.
2. Select **Restrict Editing**.
3. In the **Restrict Editing** pane, click **Stop Protection**.
4. Enter password if prompted.

Learn more about protected documents and watch the following video demonstration:



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## Export to PDF

The best way to use PDFs is sparingly.

The knowledge and time needed to make accessible PDFs rarely justifies the use of PDFs. PDFs require significant coding to make accessible, do not reflow content to fit different size monitors, and should be used only when necessary.

Do not use **File > Print > Save as PDF** as that method does not retain any document structure and requires significant time and expertise to make an accessible file.

If you absolutely must create a PDF and have Acrobat installed:

1. Open **File > Save as Adobe PDF**
2. In the save dialogue, select **Options** and ensure the following are checked:
  1. **Enable Accessibility and Reflow with tagged Adobe PDF**
  2. **Create Bookmarks**
  3. **Convert Word Headings to Bookmarks**
3. Click **Ok** and then **Save**.

Without Acrobat installed:

1. Open **File > Save as** or **Export**.
2. Enter file name and select save location.
  1. (Windows) Select **PDF** in **Save as type** list.
    1. Choose **Options** and select **Document structure tags for accessibility** check box.
    2. Select **Ok**.
  2. (MacOS) Select **PDF** from **File format** drop down.
    1. Select **Best for electronic distribution and accessibility (uses Microsoft online service)** radio button.
    2. Select **Save**.

For more information about PDFs, read [The People v. PDF](#).

# Additional Resources

Use this Word Accessibility Checklist (PDF, 206 KB) to check your documents.

Microsoft outlines best practices to make documents accessible.

WebAIM guide to creating accessible documents in Word.

Contact [assistivetech@langara.ca](mailto:assistivetech@langara.ca) for further information or assistance.

Better practice is to build your documents with accessibility in mind. Incorporating the methods in this chapter will ensure your documents are more accessible to everyone with no extra work for you.

# POWERPOINT ACCESSIBILITY



# PowerPoint Accessibility Quick Start Guide

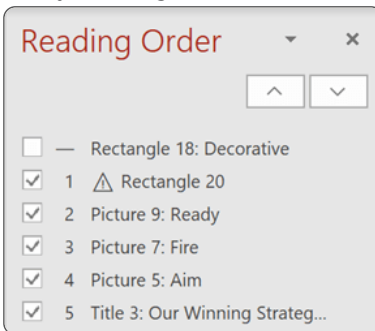


PowerPoint tools and features were designed to create accessible presentations by default. When used as intended, PowerPoint creates presentations that are accessible with no additional steps, hacks, or workarounds required.

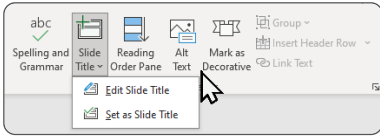
Top tips for PowerPoint accessibility:

## Use structure and layouts

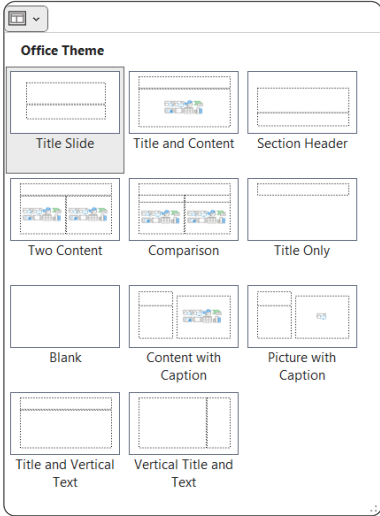
Verify reading order.



Ensure slides have titles.

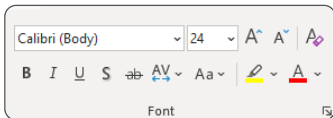


Use layouts with content placeholders.



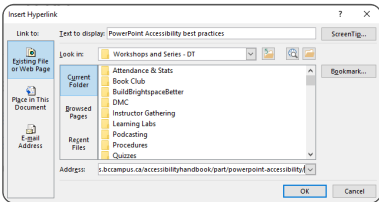
## Choose accessible fonts

- Use simple serifs or sans-serifs in size 18 or larger.
- Use black text on a light backgrounds (or vice-versa).



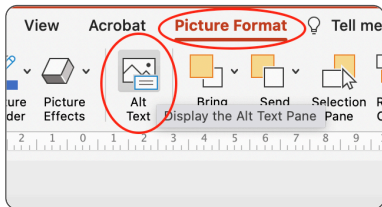
## Write descriptive linked text

Create **descriptive links** instead of bare URLs.



## Provide alternative text

Add descriptions to the **Alt Text** field of images that present information.

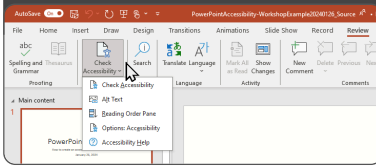


## Check Accessibility

On the **Review** tab select **Check Accessibility** to flag and

fix accessibility issues.

## PowerPoints ≠ PDFs



Share your PowerPoint via Brightspace, OneDrive, or email. Exporting to PDF will undo much of the work

done to make the presentation accessible. Additionally, PDFs are not designed to reflow to fit user screen dimensions, are no more secure than other document types, and present significant challenges regarding currency and versioning.

### Moving forward...

Focus on creation and revision, not remediation. The next time you create a presentation or update an existing one, use the practices in this guide. Don't focus on going back and fixing every presentation you have. Focus on making your new presentations better.

**Move to the next page to continue reading about PowerPoint accessibility** and learn how to make accessible presentations.

# Document Properties and Accessible Fonts

This chapter will introduce some first steps to making PowerPoint presentations accessible.

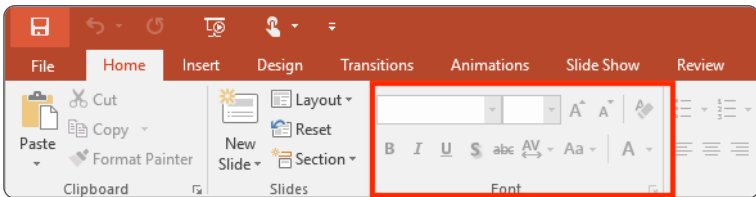
**On this page:**

**Accessible Font** | **Document Properties**

## Accessible Font

Choose accessible font

- Use font size 18 minimum
- Prefer sans-serif fonts. Do not sure decorative fonts.
- Left-align text
- Use built-in tools for spacing and alignment



The Appearance chapter of this handbook has additional information on using accessible font.

Consider this dyslexia “simulation.” More accessible font choices, particularly font and spacing, have a huge impact for readers with dyslexia.

"Dyalexia, pelviusosry kowwn as **word benndiliss**, is a lernniag dtsaiiliby ('lenraing dctfliufiy' in teh UK) that affects eiehr reading or wtining.

Diferent poplee are acftfeed to difenrfet dregees. Pemrlobbs aym ilcndue diffitlucies in spelnilg wdros, redanig qliucky, wrntiig wdros, "snudniog otu" words in the head, pronnunciog wodrs when rdaeing aould adn undnrnsiandteg waht noe rdaes. Otefn teshe difficuliets era first niteocd at school. Teh diffiultecs aer iuvnlrotany, dna popele wtih this ddeoristr have a nomral drisee to leran."

[Dyilexa – Wikipidea](#)

"Teh eon argenumt orf accessitiliby that dseon't teg mdae naerly often egounh is who eradarxrintoily better it mkeas smoe ppleoe's lievs. wHo many otroptinpieus do we hvae to dcaratimllay irpomve peolpe's lievs just by dniog ruo job a lltite betetr?"

Stvee Kurg, [Dno't Make Me Think, Revisited](#)

## Font Colour

- Use **accessible colours**.
  - Font must have a contrast ratio of at least 4.5:1 against the background.

To set font colour:

1. Navigate to the **Home** tab.
2. Select **Font Colour**.
3. Choose a colour that contrasts well against the background, such as black text on a light background or white text on a black background.

Do not use colour alone to convey meaning or importance.

1. Select **View > Greyscale** to see if your information relies on colour alone.
2. Select **Back to colour view** to return to original colour scheme view.

Visit the accessible colour chapter of this Pressbook for more information.

## Text Alignment

To set text alignment:

- Set alignment in the Paragraph tools on the **Home** tab.
- Avoid justified alignment as it can create excessive blocks of white space when zoomed and can create 'rivers of white space' which are gaps that appear to run through a paragraph due to coincidental alignment of spaces.

## Document Properties

The document title is announced to assistive technology and is more informative (and pleasant to hear) than the file name. Adding a plain language title to the metadata allows continued adherence file naming conventions. Ensure the language code matches the language of the document. Other fields are useful but not required.

## Document Title

To add a document title:

1. Navigate to **File > info**.
  1. On MacOS: **File > Properties > Summary** tab.
2. Enter a descriptive title in the **Title** field.

This cannot be done in Office Online.

## Document Language

To set document language to match content:

1. Click language on Status Bar at bottom of document screen or via **Tools > Language**
2. You can set a different language for different parts of your document:
  1. Select desired text.
  2. Via **Review** tab, select **Language**.
  3. Select appropriate language.

# Structure of Slides

On this page:

[Slide Layouts](#) | [Tables](#) | [Lists](#)

## Slide Layouts

Providing **structure** to documents is essential for assistive technology, but help all readers navigate your documents efficiently and understand relationships between topics.

### Slide Titles

Ensure slides have a title placeholder (most default layouts do). Slides must have a “Click to add title” placeholder to create a properly coded title. Manually adding a text box and increasing the font size does not make a proper title. If you find many of your slides do not have title placeholders, review the slide masters and add title placeholders.

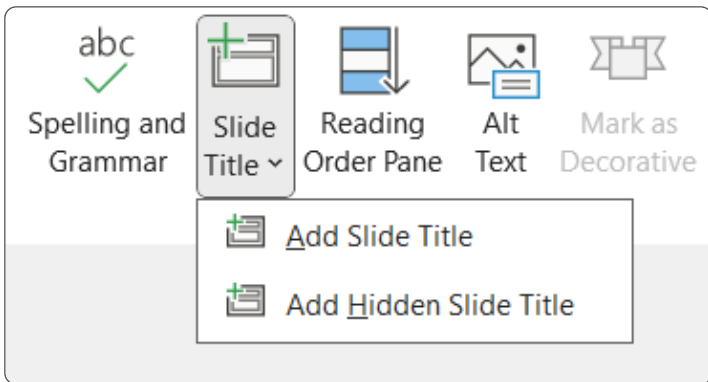


Ensure each slide has a descriptive, unique title. Effective titles help orient all users and provides structure to draw connections and enhance understanding. Titles allow all users to efficiently navigate your presentation.

For slides that contain media, such as a full-size image, chart, or other graphic or video, consider “hiding” the slide title.

To hide a slide title:

1. Move to the **Accessibility** tab.
2. Open the **Slide Title** menu and choose **Add Hidden Slide Title**.



3. Or click and drag an existing slide title out of the frame of the slide.

How to title a slide from Microsoft support.

If the information of a slide continues to a second slide, best practice is to name your slides “Example Title 1 of 2” and “Example Title 2 of 2.”

## Slide Structure

Using textboxes as titles does not provide structure. Textboxes are read in the order they are added.

To change slide layout:

1. Select **Home**
2. Click **Layout**
3. Select appropriate layout and fill placeholders as needed.
4. Layouts provide semantic structure and are pre-formatted with proper reading order.



*One or more interactive elements has been excluded from this version of the text. You*

*can view them online here:*

*<https://pressbooks.bccampus.ca/accessibilityhandbook/?p=2533#oembed-1>*

## Reading Order

The reading order of slides is essential for screen reader and

text to speech users. Ensure reading order matches visual order.

Check the reading order of each slide to ensure it will be read logically by assistive technology.

On Windows:

1. Select **Review** tab > **Check Accessibility** button > **Reading Order Pane**
2. Drag and drop elements to their proper reading order
  1. Rearranging items does not change their position on the slide
3. Click through list to ensure reading order matches visual layout



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<https://pressbooks.bccampus.ca/accessibilityhandbook/?p=2533#oembed-2>

Avoid adding textboxes to slides for anything other than plain text. Instead, modify slide layouts and add proper placeholders.

To ensure accessible structure avoid invisible tables, text boxes, and repeated tabs, spaces, or returns. Instead:

- Create columns using **Layout** > **Columns**.
- Change spacing before and after paragraphs via **Home** > **Line Spacing Options**.
- Manually create a line break by pressing **Shift** and **Enter**.
- Of repeatedly pressing Enter, use **Insert** > **Page Break**.
- Of repeatedly pressing Tab or Spacebar, navigate to **Home** > **Increase/Decrease Indent** or use the indent markers on

the horizontal ruler (**View > Ruler**).

## Tables

**Tables** are useful for organizing data. Properly built and formatted tables are completely accessible.

### Table Best Practices

- Tables must have a header and/or column row.
- A concise, descriptive table title helps with context and organization
- Do not use nested, merged, split, or unnecessary blank cells
- Ensure cells have adequate padding and margins
- Do not use coloured cells or text alone to indicate meaning
- Do not use tables with invisible borders to format layout
- Office accessibility checker does not note table errors
  - Click in the top left cell, then use the **Tab** key to see ensure your table reading order is logical and consistent

To insert a table in PowerPoint:

1. **Insert** tab
2. **Table**
3. **Insert Table**
4. Indicate number of columns and rows and press **Ok**
  1. You can add columns and rows later

Set a header row/column:

1. Click anywhere in your table.
2. Select **Table > Table Design** tab > click **Header Row** (or **First Column**, if column is a header) checkbox.
3. Select **Banded Rows** or **Banded Columns** for a landscape document.
4. Select the header row then navigate to **Table Layout**, select **Repeat Header Rows** to repeat headers across page breaks.
5. Accessible tables in Word can only have one header row, one header column, or both.

Right-click on table and select **Table Properties** for advanced table options via the table properties dialogue.

In some instances it may make sense to add alt text to a table as a summary. To do so:

1. Navigate to **Table Properties**
2. Select the **Alt Text** tab
3. Add a **Title** and a **Description**
4. Click **Ok**



## Lists

Properly formatted lists organize information and makes your presentations accessible.

- Use bullet lists for unorganized lists
  - Lists where the sequence is not important
1. Use numbered lists for items where sequence is important
  2. Such as steps in a process

To create a list in PowerPoint:

1. On the **Home** tab
2. Select **Bullets, Numbering, or Multilevel List**
  1. The dropdowns accompanying each style offer more options and customization.

Lists can be converted to SmartArt. There are some additional steps to make SmartArt accessible.

# Images, Media, and Links

On this page:

[Text Equivalents](#) | [Images and Graphics](#) | [Closed Captions and Transcripts](#) | [Hyperlink Text](#)

## Text Equivalents

As discussed in the alternative text chapter of this guide, visual information needs a text equivalent. In PowerPoint, the text equivalent of visual information can be included in:

- Text adjacent to an image. Presenting text with visuals that reinforce and support one another is a great practice that ensures everyone can access information.
- The **alt text field** of a graphic.
- Figure captions.

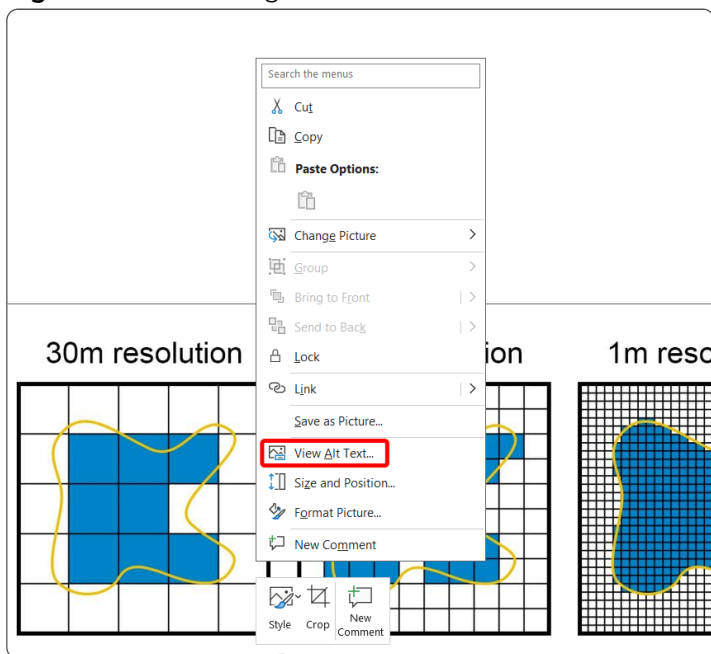
Assistive technologies employ **alternative text** (alt text) attached to images to inform users of the context and purpose of images and visual elements. Alt text is a text alternative to visual content to ensure all users can access information.

## Alt Text

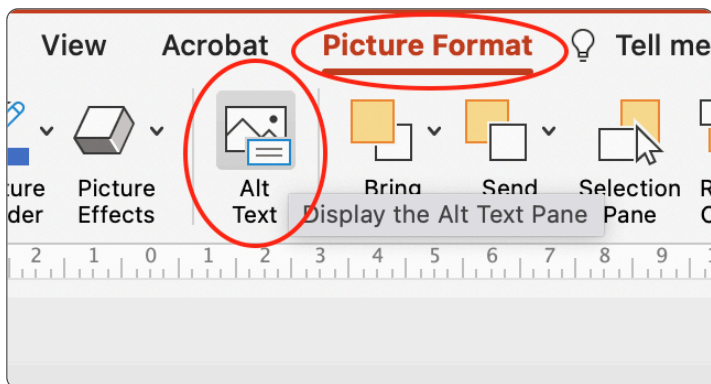
Use the alt text field to add a description of information present in a graphic. The alt text field is only read by **screen reader software** to provide visual information in an accessible format.

To add alt text in PowerPoint:

1. **Right click** on an image and select **Edit Alt Text...**



2. Or, select the image, move to the **Picture Format** tab and click **Alt Text**



3. Enter a description in the dialogue box.

## Alt Text ✕

How would you describe this object and its context to someone who is blind or low vision?

- The subject(s) in detail
- The setting
- The actions or interactions
- Other relevant information

*(1-2 sentences recommended)*

Generate alt text for me

Mark as decorative

4. If a graphic is purely decorative, check **Mark as Decorative**.

To add alt text in PowerPoint online:

1. Select the image
2. Navigate to the **Picture** tab
3. Select **Alt Text** and enter your description in the **Title** field.
4. If the image is purely decorative, leave the **Title** field blank.

## Figure Captions

Bizarrely, despite being Microsoft's primary visual presentation medium, PowerPoint does not support adding figure captions. Instead, Microsoft recommends inserting a text box and grouping it with the graphic.

From Microsoft:

1. Use **Insert > Text Box** to draw a box near the picture. (See add a text box for additional details.)  
Text Box button in the Text group
2. Click inside the text box and type the text you want to use for a caption.
3. Select the text. On the **Home** tab, use the **Font** options to style the caption as you want.
4. Use Ctrl+click to select the picture and text box, and then on the **Picture Format** tab, in the **Arrange** group, select **Group > Group**  
On the Picture Format tab, the grouping options are in the Arrange section.

Ensure textbox and graphic are in correct reading order. If a graphic has a descriptive caption it can be marked as decorative in the alt text panel.

---

The Office **Accessibility Checker** will flag images that do not have alternative text. In the Accessibility pane, **Missing object**

**description** will appear as an error. You can select the drop down menu and choose **Add a description** or right-click on the image and choose **View Alt Text...** Do not rely on the automatically generated alt text, it is rarely useful.

Review this Pressbooks' chapter on Alternative Text for more information.

Add alternative text to simple charts but also include **table** data for complex charts and data sets. Best practice is to include table data adjacent to the chart, but linking to the data elsewhere in the document is also an effective method. Ensure the link text explains the destination.

For more information, consult the following Microsoft support resources:

Add alternative text to a shape, picture, chart, SmartArt graphic, or other object

Add alt text to visuals in PowerPoint

Video: Improve image accessibility in PowerPoint

## Images and Graphics

Apart from adding effective **alt text** to images, there are a few additional considerations for visual elements in PowerPoint presentations.

Take note of groups of images:

1. Click and drag to select the images or hold **Control** and click each image
2. Right-click and select **Group > Group**
3. Right click on grouped image and select **Edit Alt Text...**



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*

*<https://pressbooks.bccampus.ca/accessibilityhandbook/?p=2535#oembed-1>*

Group or ungroup shapes, pictures, or other objects.

## Graphs and Charts in PowerPoint

- Do not include photos of charts or graphs, insert them properly via **Insert** tab > **Chart** dropdown
- A concise and meaningful title or caption helps all readers
  - Add alt text to graphs and charts but also include **table** data for complex charts and data sets. Best practice is to include table data adjacent to the chart, but linking to the data elsewhere in the document is also an effective method. Ensure the link text explains the destination.
- Do not rely on colour alone to distinguish data. Use symbols or different line styles. Include a legend
- Apply data and axis labels by selecting your graph or chart and navigating to **Chart Design** tab and selecting **Add Chart Element** dropdown
- Provide alternative formats, such as a table of data plotted via chart
  - For a chart or graph, provide data in table form beside the element. If size and spacing is a concern, place the data in another slide or document and provide a link near the chart or graph.

## Closed Captions and Transcripts

Ensure embedded media has text equivalents. Videos must have **closed captions** and audio must have a **transcript**.

To add captions to a video in PowerPoint they must be in .VTT format (3Play Media offers a free .SRT to .VTT conversion tool).

To add a .VTT caption file:

1. Navigate to slide with video and select the video
2. Via the **Playback** tab, click **Insert Captions**, and select **Insert Captions**
3. Select caption file and click **Insert**

However, best practice is to embed a video or link to the video hosted elsewhere. This will keep the size of the PowerPoint file down and provide for easier, more equitable distribution.

Review closed captions best practices.

## Hyperlink Text

When linking to a website, use meaningful hyperlink text. Linked text should be descriptive, concise, unique and visually distinct. Do not use bare URLs. To learn more about writing link text, consult the accessible links chapter of this guide.

Use PowerPoint's default styling of blue font with underlined text for links.

To add links in PowerPoint:

1. Select the text you want to link
2. Right-click and select **Hyperlink** or press **Control**

(**Command** on macOS) and **K**

3. Change the **Text to Display** text if necessary
4. Paste the destination URL in the **Address** box

You may have existing presentations that contain bare URLs. To update existing, bare URLs to accessible links:

1. Right-click on the bare URL
2. Select **Edit Hyperlink...**
3. In the **Text to display** field, type a brief description of link destination.
4. Click **Ok**.

More information on hyperlink text in PowerPoint can be found [here](#).

# Formatting and Styles to Avoid

The following formatting and object types are not communicated to assistive technology or present significant barriers to some users and should be avoided:

- Strikethrough
- Highlighting
- Dropcap
- Word Art, Smart Art, text effects
- Ungrouped related shapes
- Watermarks
- Symbols, except for the following safe characters:
  - @ (the at symbol)
  - & (ampersand)
  - / (slash)
  - © (copyright)
  - ® (registered)
  - ™ (trademark)
  - ¶ (paragraph)
  - • (bullet)
  
  - \$ (dollar)
  - € (Euro)
  - £ (British pound)
  - ¥ (Yen)
  - % (percent)
  - ½ (one half)
  - ¼ (one fourth)
  - ¾ (three fourths)
  - ° (degrees)

# Additional PowerPoint Tools

Consider the following tools in PowerPoint to enhance the accessibility of your presentations.

**On this page:**

**Templates** | **Slide Numbers** | **Live Subtitles** | **Transitions and Animations** | **Decorative Image Attribution** | **Notes SmartArt**

## Templates

Templates have pre-formatted fields such as “title” or “body” which are conveyed to assistive technology to provide context and structure.

Microsoft guide to finding accessible templates for Office products.

Do not insert additional text boxes. Change slide format using built-in tools. Navigate to **Home** > **New Slide** > Select new slide based on required style and format.

To create a custom layout, use **Insert Placeholder** via **View** > **Slide Master** > **Insert Placeholder** and selecting the appropriate content type.

Consider this Microsoft guide to customize slider masters for more information.

## Slide Numbers

Accessible slide numbers are useful navigational aids for all users.

1. Navigate to **Insert**
2. Choose **Slide Numbers**
3. Follow prompts and select **Apply** or **Apply to All**.

You can also add slide numbers to a Slide Master. To avoid possible reading order issues, add slide numbers as a last step.

## Presentation Subtitles

PowerPoint has options for captioning your presentation. Read the Microsoft guide to presenting with automatic captions in PowerPoint (note that automatic captions are not accurate enough to fulfill a required accommodation). Use this method for an in-person presentation:

1. Navigate to **Slide Show** tab and choose **Subtitle Settings**
2. Set **Spoken Language** and **Subtitle Language**
3. Leave subtitle position as **Below Slide**

If recording your screen, do not enable subtitles. These subtitles will be recorded as part of your video and cannot be edited or turned off by viewers.

## Slide Transitions and Animations

- Avoid automatic slide transitions
  - Use simple transitions in place of complex transitions
- Use simple animations
- Ensure content does not blink or flash more than 3 times per second
  - Flashing and blinking content can cause seizures

## Decorative Image Attribution

When adding an image attribution (copyright license etc.) to a decorative image, ensure the caption is also marked as decorative. If it is not, assistive technology would not announce the image, but would read the succeeding attribution text. This would lead the reader to believe they may have missed an important image.

To add a caption to a decorative image in PowerPoint:

1. Move to **Insert** and select **Insert Textbox**.
2. Place the textbox under the image and type your caption.
3. **Control (Command on macOS)** and click, or click and drag over, the image and the textbox.
4. Right-click the image and select **Group > Group**.
5. Or, on the **Home** tab, select **Arrange > Group > Group**.
6. Select your new group and copy (right-click > **Copy** or **Control [Command on macOS] and c**).
7. On the **Home** tab, choose **Paste > Paste Special**.
8. Choose **Picture (PNG)** and select **Ok**.
9. Right-click on newly grouped image and select **Edit Alt Text...**
10. Check **Mark as decorative**.
11. Remove old image and textbox.

## Notes

Notes can be accessible and provide additional information or context.

Notes is the best location for a transcript of your entire presentation (if applicable).

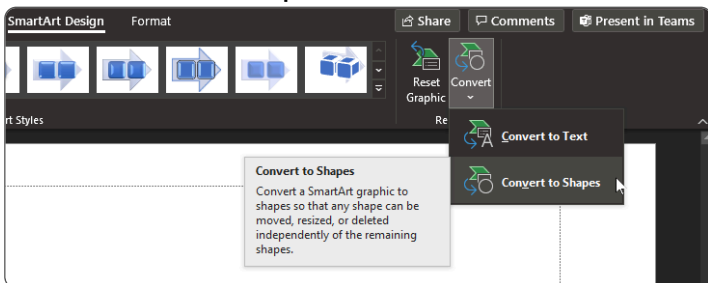
Notes can also be used to include extended descriptions of images and graphics.

If you are using the Notes field for speaker notes and do not wish to share your notes remove all notes before sharing.

## SmartArt

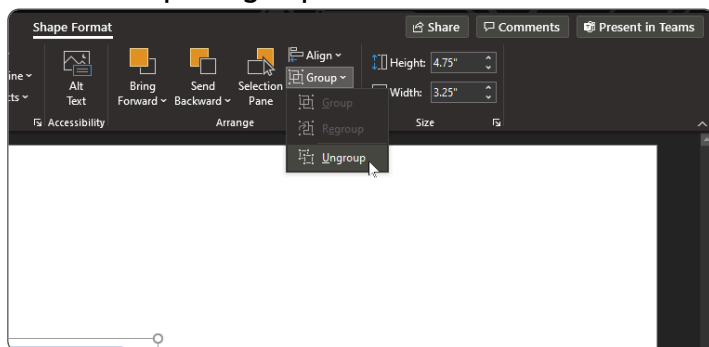
SmartArt can be an effective tool to make lists more visually appealing. To make SmartArt accessible, one additional step is required.

1. Once you have created SmartArt, navigate to the **SmartArt Design** tab.
2. Select **Convert**.
3. Choose **Convert to Shapes**.



4. Select the **Shape Format** tab.

5. Choose **Group > Ungroup**.



6. This makes the objects independent and machine readable.
7. Add alt text (the exact text included in the graphic) to each item.
  1. Note, some SmartArt will include an arrow or other shape behind the objects. Select such objects, right-click and choose **Edit Alt Text...** and chose **Mark as decorative**.

There is an additional method to make SmartArt accessible by providing a text alternative. Begin by making a list in plain text:

1. Copy list content with right-click > **Copy** or press **Control (Command on macOS) c**.
2. On the **Home** tab click **Convert to Smart Art** and choose your desired SmartArt design.
3. Move to the **Insert** tab and select **Textbox**.
4. Paste your plain text list from step 1 into the textbox.
5. Move the textbox outside the slide frame.
6. Verify textbox is read immediately after SmartArt in the **Selection Pane** (via **Arrange** on the **Home** tab).
7. Right-click the SmartArt, select **View alt text...** and check **Mark as decorative**.

# Accessibility Assistant

Use PowerPoint's Accessibility Assistant, a built-in **accessibility checker** to check for common issues. Note, these tools may not catch all possible accessibility issues.

To use the Accessibility Assistant:

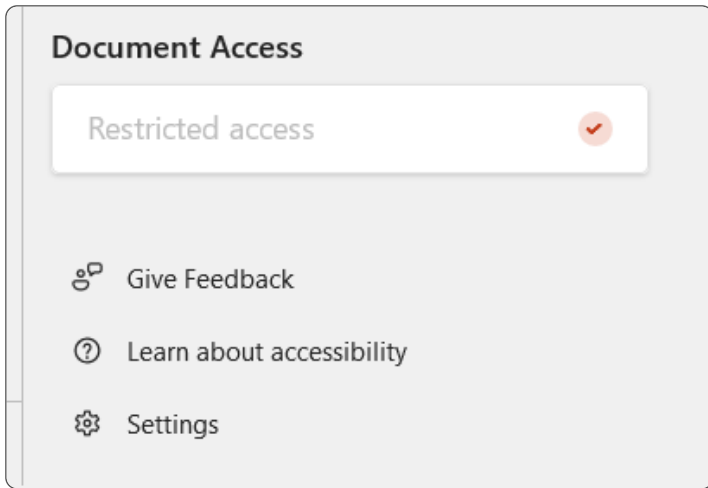
1. Select **Review** tab.
2. Choose **Check Accessibility** button.
  1. The **Accessibility Assistant** panel will open and show issues.
3. Select each issue to see it highlighted in the document.
  1. Select the arrow next to each warning to see further information (Windows only).



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*  
<https://pressbooks.bccampus.ca/accessibilityhandbook/?p=2540#oembed-1>

To see real time accessibility status:

1. At the bottom of the Accessibility Assistant panel select the **Settings** button.



2. In the Settings window, check the **Show accessibility status for the Accessibility Assistant in the Status Bar** checkbox.
3. Click **Accessibility: Investigate** in the status bar at the bottom of the window to open the Accessibility Assistant pane. **Accessibility: Good to go** indicates no violations of the automated checker's rules.
4. Additionally, check **Show accessibility status for each slide** to toggle on a real-time, inline accessibility checker. When content is added that violates the PowerPoint accessibility checker rules, a small human form icon will appear beside the slide thumbnail.





## Checker Results

Like any automated tool, PowerPoint's Accessibility Assistant will not catch all accessibility issues. Here is a summary of what it does look for and how well it catches those issues:

| Element checked                               | Effectiveness of check  |
|---|---|
| Check reading order                           | <p><b>Strong</b><br/>Evaluates the order of all objects on each slide to ensure correct reading order for assistive technology. Possible false positives based on rigid Z pattern (top-left, top-right, bottom-left, bottom, right) assumption.</p> |
| Missing alt text                              | <p><b>Moderate</b><br/>Flags images that do not have alt text or where the alt text is the image file name. Cannot identify if alt text is appropriate or meaningful. The built-in image description generator is poor and should not be used.</p>  |
| Hard-to-read text contrast                    | <p><b>Moderate</b><br/>Can evaluate the contrast of text against the background inside shapes or shaded textboxes (including tables), but not text against slide background.</p>  |
| Missing audio or video subtitles              | <p><b>Moderate</b><br/>Evaluates inserted video files for attached caption file. May produce false positive as the tool is unable to check if embedded or linked videos have captions.</p>  |
| Missing slide title/<br>Duplicate slide title | <p><b>Strong</b><br/>Automatically flags slides that do not have properly coded titles. Assists users to convert uncoded titles. Flags slides with duplicate titles.</p>  |
| Missing table header                          | <p><b>Strong</b><br/>Flags tables that do not have properly marked up table header cells.</p>   |
| Use of merged or split cells                  | <p><b>Strong</b><br/>Flags tables that include merged or split cells.</p>   |

| Element checked         | Effectiveness of check   |
|-------------------------|--|
| Default section name    | <b>Strong</b><br>Flags sections named “Default” and includes a shortcut to rename Sections.      |
| Duplicate section names | <b>Strong</b><br>Flags sections with duplicate names and includes a shortcut to rename Sections. |

## Additional elements not automatically checked:

The PowerPoint Accessibility Assistant does not assess links, font size and style, or proper use of lists and SmartArt.

Read more about checking for accessibility issues with the Office Accessibility Checker and learn about Office Accessibility Checker rules and messages.

# Sharing and Exporting

On this page:

[Read-Only and Restrict Editing](#) | [Remove Speaker Notes](#)  
[Export to Video](#) | [Export to PDF](#)

Best practice is to share material in advance of a meeting, presentation, or class.

- Sharing allows users to check for barriers beforehand and customize their experience.
- All users can take additional, in-depth notes and understand terminology and names with greater comprehension.

Avoid preset slide timings that advance slides automatically so that viewers can choose how much time to spend on material.

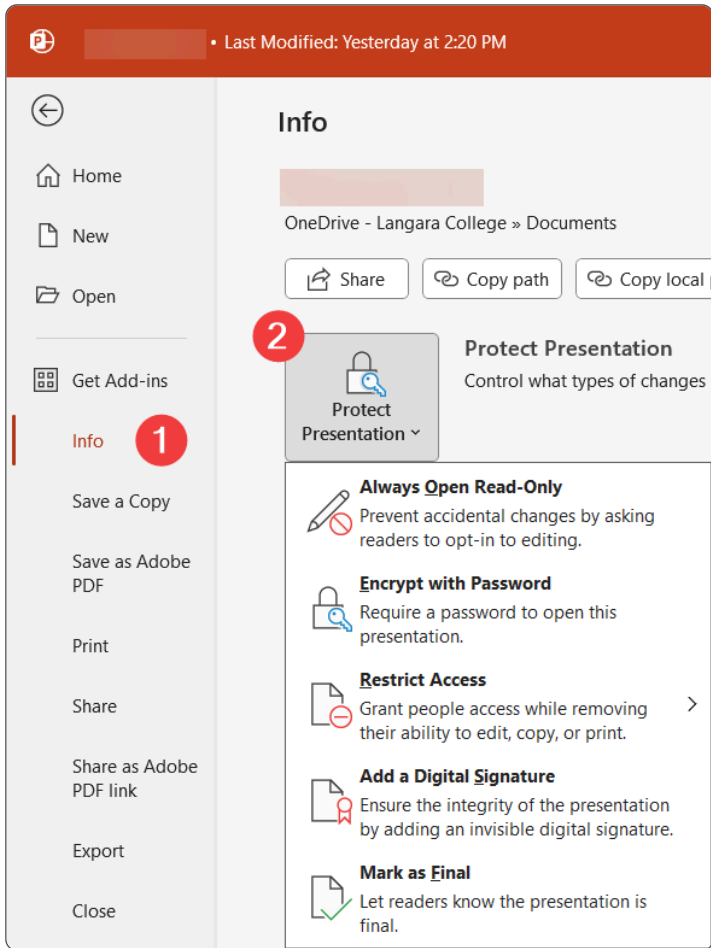
## Read-Only and Restrict Editing

### Read-Only and Marked as Final

You may wish to share your document as Read-Only or Final.

To do so:

1. Navigate to **File > Info**
2. Open the **Protect Presentation** menu



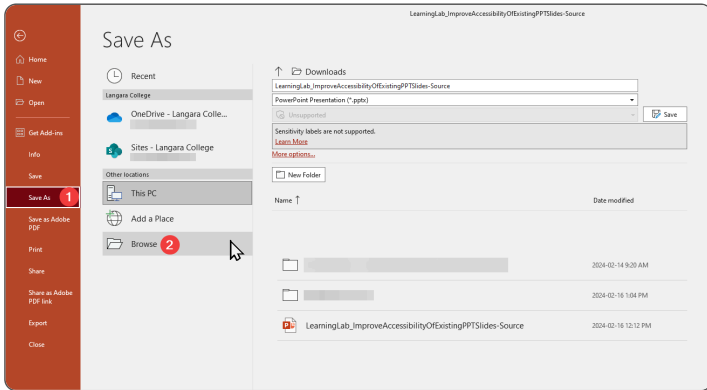
3. Select **Always Open Read-Only** to prompt users to opt-in to editing or **Mark as Final** to display a message reminding users the presentation is not to be edited.

## Restrict Editing

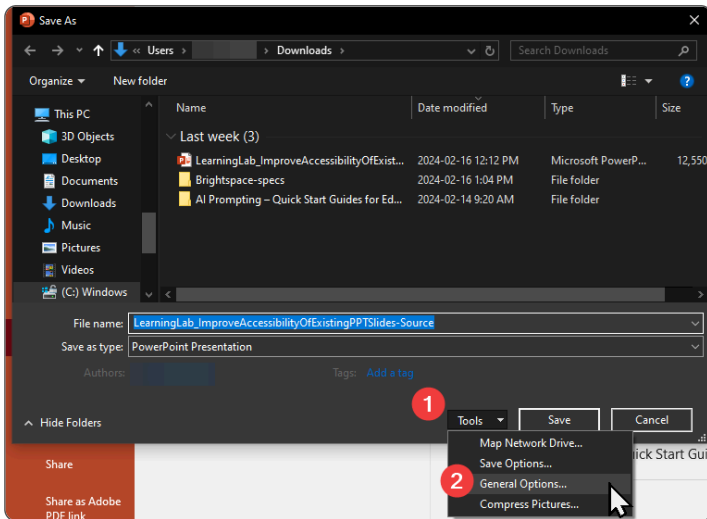
If you are concerned about the content of your PowerPoint

being changed, you can restrict editing so other users can only access the file as read-only.

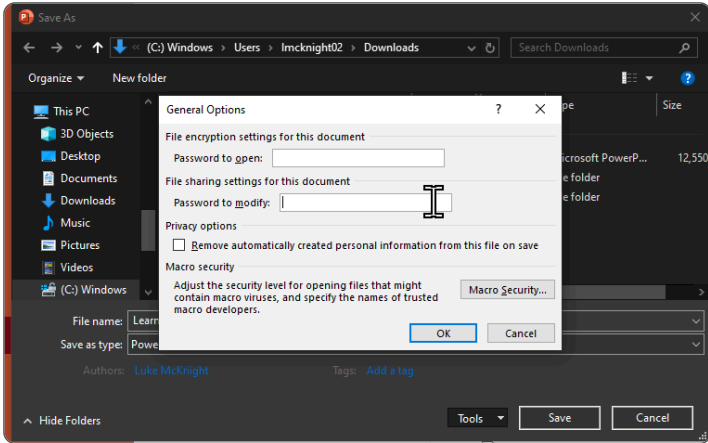
1. Select **File > Save As** and click **Browse**



2. Choose a local save location and open the **Tools** menu and open **General Tools...**



3. Set a password in the **Password to modify:** field, click **OK** and confirm the password.



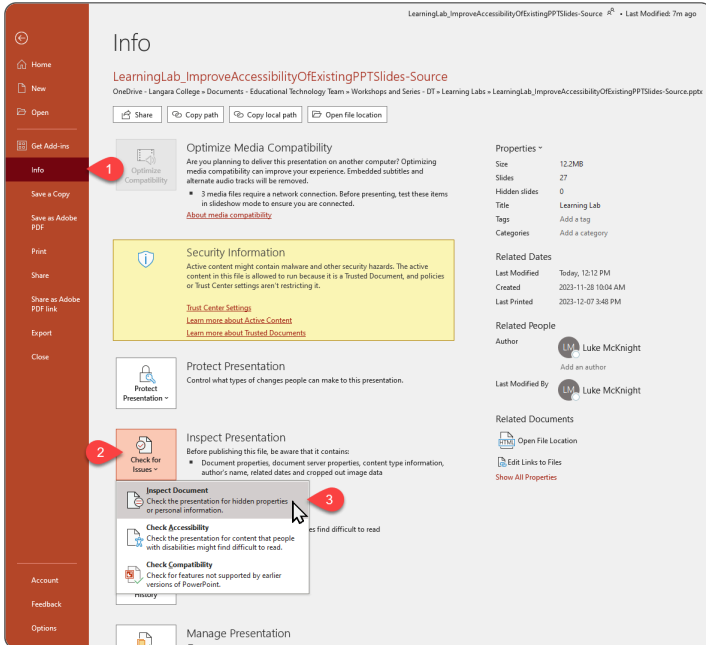
4. Click **Save**.
5. Distribute your PowerPoint. Users will be notified that they can only open a read-only version of the file.

## Remove Speaker Notes

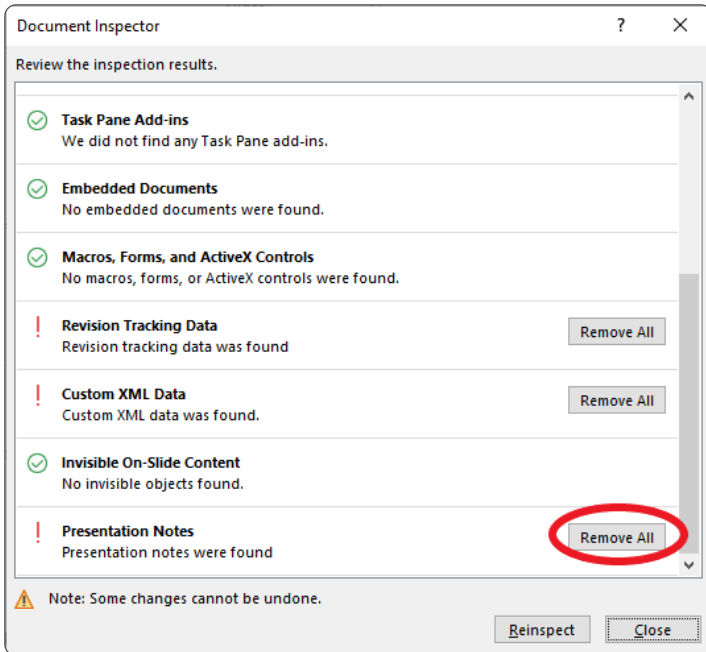
### Windows

To remove your speaker notes before distribution, first make a copy of your PowerPoint for distribution, then:

1. Select **File > Info**.
2. Click **Check for Issues** button beside Inspect Presentation
3. Select **Inspect Document**



4. Click **Inspect** in the new window.
5. Once the operation is complete, click **Remove All** beside **Presentation Notes**.

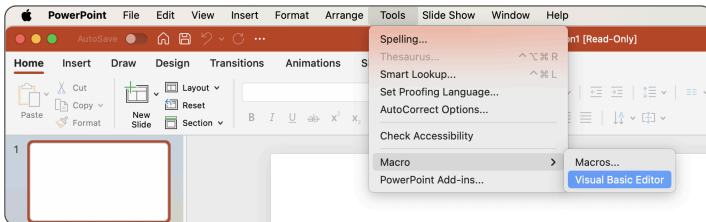


6. Click **Close** when done.
7. Save and distribute this note-free copy.

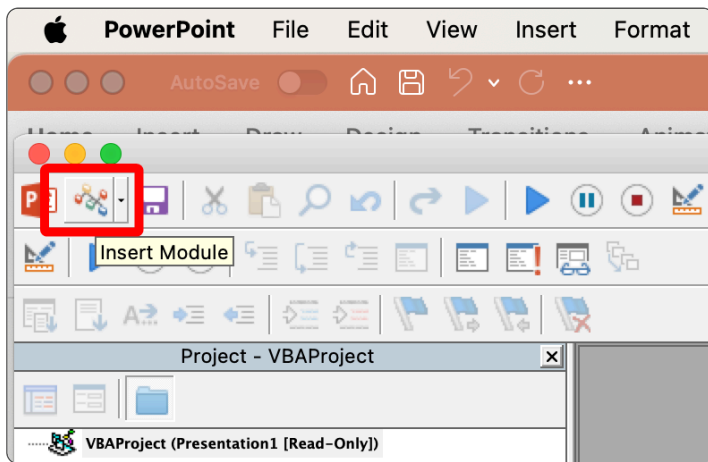
## macOS

To remove your speaker notes before distribution, first make a copy of your PowerPoint for distribution, then:

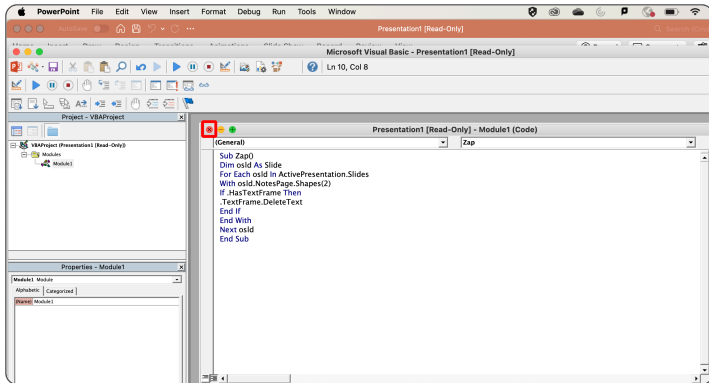
1. Open the **Tools** menu.
2. Select **Macros** and then **Visual Basic Editor**.



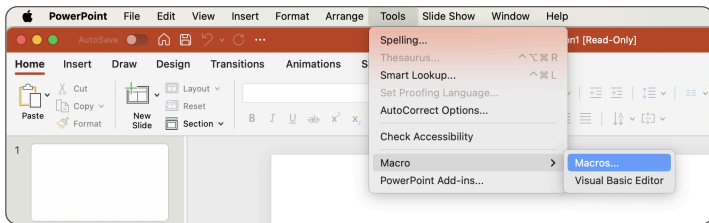
3. Select **Insert Module**.



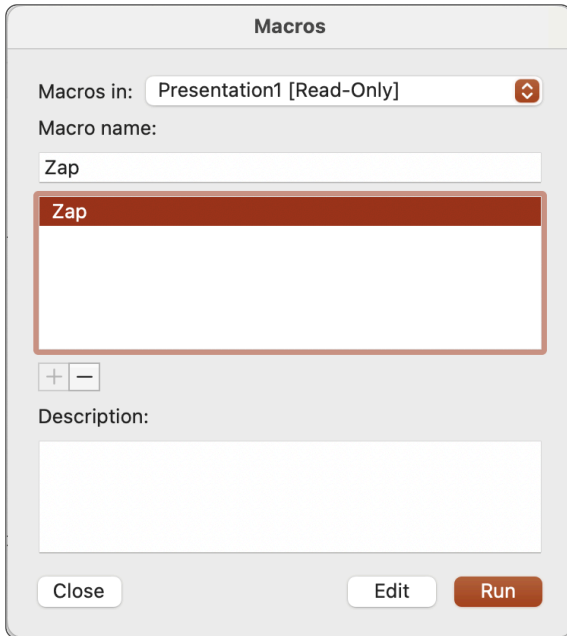
4. In the new window that appears, paste:  
Sub Zap()  
Dim osld As Slide  
For Each osld In ActivePresentation.Slides  
With osld.NotesPage.Shapes(2)  
If .HasTextFrame Then  
.TextFrame.DeleteText  
End If  
End With  
Next osld  
End Sub  
Then click the red X to close the window.



5. Close the Microsoft Visual Basic window.
6. Open the **Tools** menu.
7. Choose **Macro** and then **Macros...**



8. In the new window, choose **Zap** and click **Run**.



Any content in the Notes field will be removed. This process cannot be undone, except if restoring from a previous save.

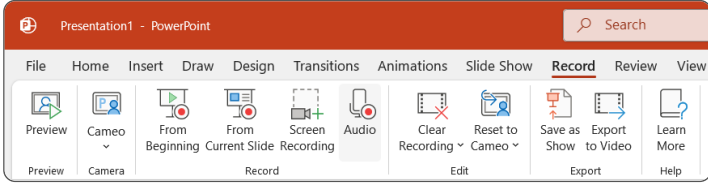
## Export as a Video

One often overlooked method to share a PowerPoint is as a video. One common educational use case is adding an audio recording over slides (e.g., lecture material). This can be done 1 of 2 ways:

### Record Audio

Another method is to record or insert audio for specific slides. To record audio for a slide:

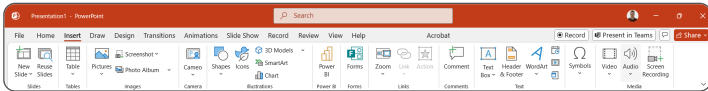
1. Navigate to the slide.
2. Move to the **Record** tab and select **Audio**.



3. Record your audio, click stop, and then **OK** to add the audio to the slide.

Alternatively, you can insert an existing audio recording to a slide:

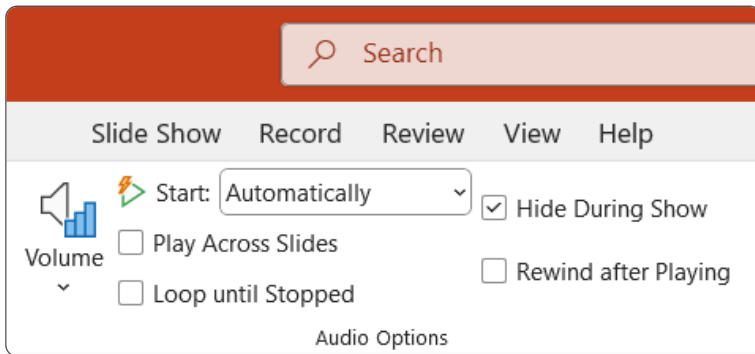
1. Navigate to the slide.
2. Move to the **Insert** tab and select **Audio**.



3. Choose **Audio on my PC** and select the appropriate file (.MP3, .M4A, .WAV)

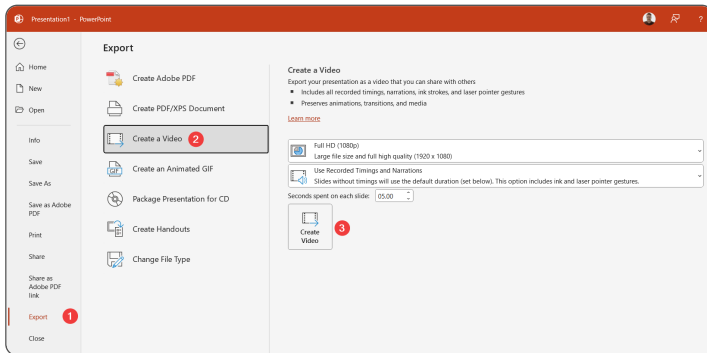
Recording or adding an audio file to a PowerPoint slide adds a speaker icon to the slide which contains the audio player controls. Select the speaker icon and move to the **Playback** tab. For video export purposes, ensure **Start** is set to **Automatically**

and check **Hide During Show** to hide the icon on the slide.



To export to video, open the **File** menu:

1. Choose **Export**.
2. Choose **Create a Video**.
3. Click the **Create Video** button.

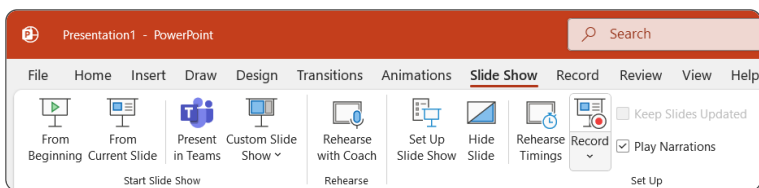


4. Choose file location and select **Save**.

## Record Slide Show

To record the entirety of your slide show including animations, transitions, audio, and timing use PowerPoint's Record feature.

Via the **Slide Show** tab, choose **Record**.



Once setup, click record and when finished recording click stop. Then follow the prompts to export your video.

## Video Hosting

Best practice is to host the video online using Kaltura Mediaspace. For more information, refer to the Kaltura Mediaspace/My Media guide.

## Export to PDF

The best way to use PDFs is springly.

The knowledge and time needed to make accessible PDFs rarely justifies the use of PDFs. PDFs require significant coding to make accessible, do not reflow content to fit different size monitors, and should be used only when necessary.

Do not use **File > Print > Save as PDF** as that method does not retain any document structure and requires significant time and expertise to make an accessible file.

If you absolutely must create a PDF and have Acrobat installed:

1. Open **File > Save as Adobe PDF**
2. In the save dialogue, select **Options** and ensure the following are checked:
  1. **Enable Accessibility and Reflow with tagged Adobe PDF**
  2. **Create Bookmarks**
  3. **Convert Word Headings to Bookmarks**
3. Click **Ok** and then **Save**.

Without Acrobat installed:

1. Open **File > Save as Export**.
2. Enter file name and select save location.
  1. (Windows) Select **PDF** in **Save as type** list.
    1. Choose **Options** and select **Document structure tags for accessibility** check box.
    2. Select **Ok**.
  2. (MacOS) Select **PDF** from **File format** drop down.
    1. Select **Best for electronic distribution and accessibility (uses Microsoft online service)** radio button.
    2. Select **Save**.

For more information about PDFs, read [The People v. PDF](#).

# Additional Resources

Microsoft Support website guide to making PowerPoint accessible.

WebAIM guide to PowerPoint accessibility techniques.

Read Understanding PowerPoint Accessibility, University of Colorado Boulder

Microsoft Support video on accessible colours and styles in PowerPoint.

Download the Accessible PowerPoint Template sampler to start with accessible templates.

Microsoft outlines best practices to make documents accessible.

Once you have an accessible presentation, learn more about inclusive content delivery.

Present from PowerPoint Live in Microsoft Teams

Present Live: Engage your audience with Live Presentations

Contact [assistivetech@langara.ca](mailto:assistivetech@langara.ca) for further information or assistance.

# VIDEO ACCESSIBILITY



# Video Accessibility

When recording a video ensure everyone can engage and understand with the content. Plan for accessibility from the start because it requires more time and effort to fix things later.



**On this page:**

[Plan and Script](#) | [Audio Descriptions](#) | [Recording Setup](#)  
[Captions and Transcripts](#) | [Accessible Video Players](#)

## Plan and Script

Always begin a video project with a plan and a script. Even a brief video or screencast will be easier to create from a script. Consider the purpose of the video, subject, length, and resources required. Write a simple script including the actions you will take and what you plan to say. This script does not need to be followed rigidly but will be a helpful guide. Try to use plain language. Explain complex terms, jargon, abbreviations, and acronyms. Write for the intended audience.

To significantly enhance the accessibility of your video content, consider adding **integrated descriptions** to your script. By incorporating audio descriptions of visual information, all viewers are included.

## Audio Descriptions

To enhance accessibility for all viewers, important visual

elements in your video must be included in the audio. One method to achieve this is called **audio description**: an additional audio track narrating visuals and actions. Often included are descriptions of surroundings, speakers' appearance, body language, and any other non-audio information. The description is added during pauses in dialogue and included as an optional audio track. Audio description is usually indicated with an AD or D))) logo or icon. Audio description requires a separate script and recorded audio track and some video players do not support multiple audio tracks.

Key principles of described video Include:

- Describing what is on screen
- Prioritizing essential information
- Using the present tense
- Remaining consistent with names of speakers and places

Descriptions should not:

- Explain or elaborate beyond what is visually apparent
- Interpret
- Add opinion
- Censor
- Summarize

At this time, described video is rare and not legally required.

## **Integrated Description**

Integrated description is an intentional practice to describe visuals aloud as part of the video's natural flow. This accessibility-focused practice benefits not only blind and low vision viewers and viewers with cognitive disabilities impacting their ability to read, but all viewers. The audience might be watching on their phone, while multitasking, or

watching on a lower bandwidth. Integrated description helps

all viewers follow along, particularly if a video includes demonstrations or instructions. As well, integrated description may help reduce audience members' cognitive load as it reduces the need to split their attention between visual and audio elements. With integrated description, each mode reinforces the other. By describing visual material, you ensure the entire audience can understand your content.

To include integrated descriptions in your script, consider the following best practices.

Be specific by referring to:

### **Size, position, or unique characteristics**

- “The bookshelf is about six feet high, and is 75% full of books.”
- “I’m going to click on the close button in the top right of the window.”

### **Navigational features**

- Regions (sidebar, navigation menu, footer, etc.)
- Navigational way points like breadcrumbs or pagination

### **Labels**

- Slide numbers
- Figure labels
- Question numbers
- Buttons
- Menus

- Links
- Headings

Learn the specific names of common components.

### Relative terms

Once a specific location is identified, use relative terms. For example:

- “To the left of the search box”
- “Under the Personas heading”
- “Below figure 1.”

Work on the assumption that readers and assistive technology read in a Z pattern starting at the top left.

### Describe actions

Deliberately announce actions, such as:

- “open the format menu”
- “click the Save button”
- “select checkbox”
- “highlight the text”

### Identify yourself and other speakers by name

of information.

When relevant, spell names and complex words out letter by letter.

### Avoid:

- Sensory-only instructions that rely on sight or colour.
- Vague references like “here” or “there” as most users will not know where you are referring to. By being specific and direct you will become a more thorough and precise speaker, enhancing your authority and audience satisfaction.

Briefly summarize or explain visual elements, including long blocks of text. Avoid reading text word for word, instead aim to summarize without extraneous detail to ensure all important information is conveyed in audio format.

- Write descriptions and practice reading them to maintain the flow of your presentation.
- Include relevant information about the relationships and hierarchy

A great accessibility practices audio descriptions can also provide additional detail, context, and information for all viewers that will lead to greater engagement and understanding. Don't wait until you think you have someone with a disability in your audience. Add integrated description to videos and presentations today.

Aim to be concise and direct while including all relevant information. Specificity aids accessibility and viewer understanding. In addition, precise language enhances the audience's sense of the speaker as an authority on the subject. Most importantly, incorporate integrated description into your script from the start.

## Recording Settings

When recording audio, such as narration or voiceover:

- Ensure there is no background noise.
- Use a dedicated microphone (not a built-in laptop microphone) when possible.
- Not only will this improve audio clarity for viewers, but will also improve the machine-generated first draft of your captions.

For camera recordings:

- Record in at least 720p resolution.
- Use a neutral, consistent background.
- Ensure adequate lighting.

- Avoid shadows and backlighting

When recording your screen:

- Remove clutter.
- Silence notifications.
- Record only main content.

If screencasting or filming a whiteboard, remember to:

- Avoid using colour alone to convey meaning.
- Use sufficient colour contrast.

Avoid flashing content

- Avoid content that flashes more than 3 times per second. Flashing content can cause seizures.
- If flashing content is essential, provide a warning at the start of the video.

## Captions and Transcripts

Captions are a text equivalent of a video's audio displayed synchronously with the video content. Rely on automatic captioning tools to create a draft of captions. Edit captions with proper grammar, ensuring names and terminology are correct. Verify that captions are synced with the audio.

Closed captions can be toggled on and off by each viewer. Open captions are part of the video file and cannot be toggled on and off. Prefer closed captions except for foreign language subtitling. Refer to the closed captioning resources in this book for more information.

A transcript is a text version of multimedia content. Some platforms automatically generate transcripts alongside captions. Transcripts can include additional information such

as descriptions of action, setting, and other visuals in the video. Integrated description, as discussed above, deliberately includes this information and eliminates the need for additional work when creating a transcript.

By thoroughly and accurately planning and scripting your video you will already have a transcript. Any edits needed to a machine-generated caption file will also be made easier by referring to the script.

## Accessible Players

An accessible video player supports closed captions, transcripts, is keyboard accessible, and does not autoplay. Support for an additional audio description track is a bonus, but not required. Kaltura, H5P, and Brightspace all have accessible media players.

### Further Reading

Consider AMI guides to described video for advanced techniques.

W3 provides a brief guide to integrated description.

Deque's blog on accessible speaking best practices covers presenting more broadly.  
Providing Spoken Descriptions of Visual Content.

# Kaltura MediaSpace Quick Start Guide

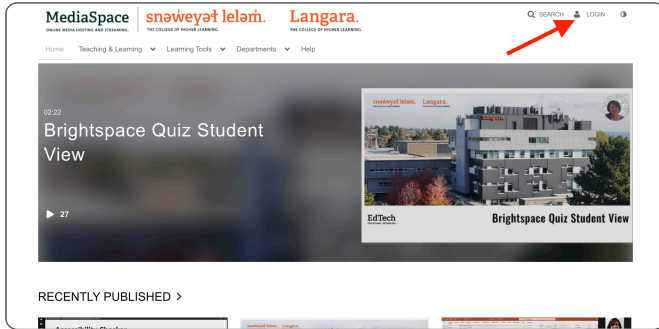


Kaltura MediaSpace is an online media hosting/streaming service similar to YouTube. You can use MediaSpace to upload, edit, and share your media with other users, and for inserting media into your Brightspace courses.

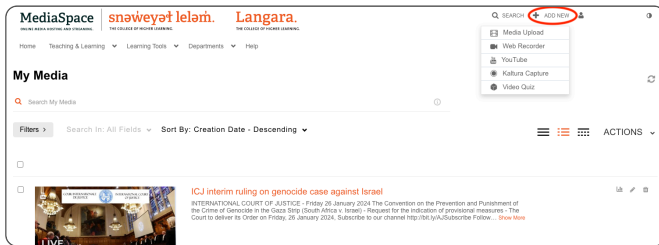
Kaltura can be accessed either from within your Brightspace course under **My Tools > My Media**, or by visiting the Langara MediaSpace website.

## Using MediaSpace

1. Navigate to [mediaspace.langara.ca](https://mediaspace.langara.ca) and select **Login**.
2. Use your Langara email and password.



### 3. Select **Add New**.



### 4. Choose appropriate type:

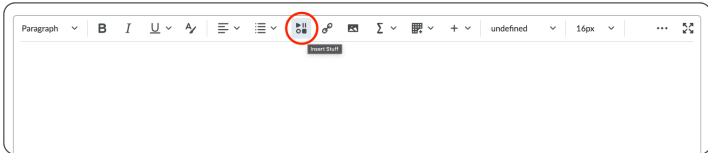
1. **Media Upload** allows you to upload a file, like an .mp4 or .mov
2. **Web Recorder** is a browser based tool allowing you to record audio, webcam, and screen
3. **YouTube** allows you to copy public videos from YouTube to Kaltura MediaSpace
4. **Kaltura Capture** is a desktop (Windows and macOS) software that records audio, webcam, and screen
5. **Video Quiz** allows users to take an existing video and add interactive elements

For more information on using MediaSpace, visit [How to Use MediaSpace – Help with Student Learning Tools](#).

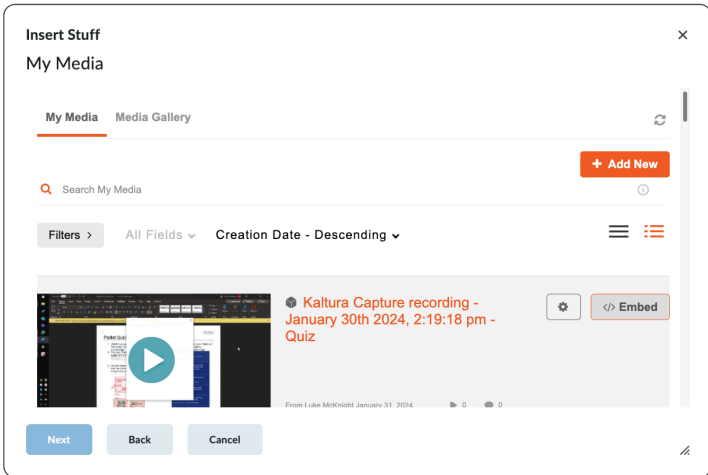
# Brightspace My Media

To add Kaltura media in Brightspace:

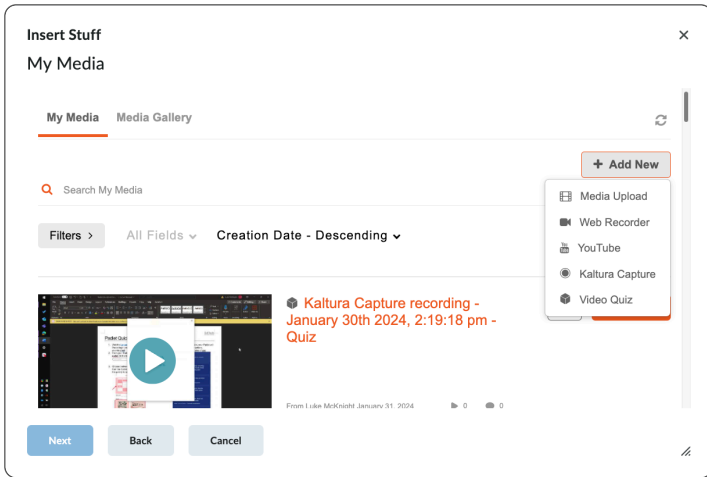
1. Select **Insert Stuff**



2. Select an existing video (adding to MediaSpace or My Media) by click **Embed**.



3. Or, create a new video using **Add New**.



4. The **Add New** options in My Media are the same in MediaSpace.
  1. Refer to add new options list.

For more information on captions, consult Closed Captioning Quick Start Guide.

Videos are not finished until they are accurately captioned. New uploads to MediaSpace will automatically trigger a request for machine-generated captions. Verify spelling, terminology, and accuracy of those captions.

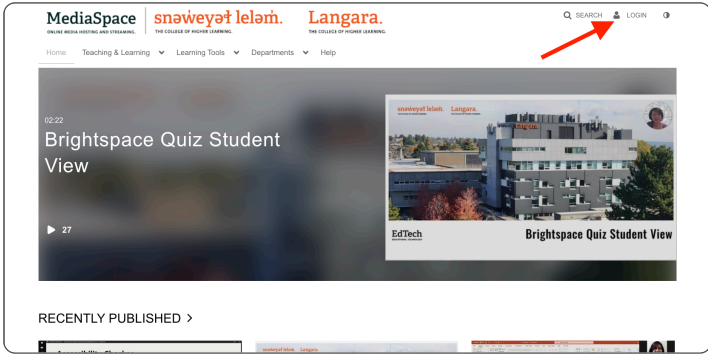
# Adding YouTube to MediaSpace Quick Start Guide



Kaltura MediaSpace allows users to copy public YouTube videos for educational purposes. Uncaptioned YouTube videos must be copied to Kaltura MediaSpace to be captioned.

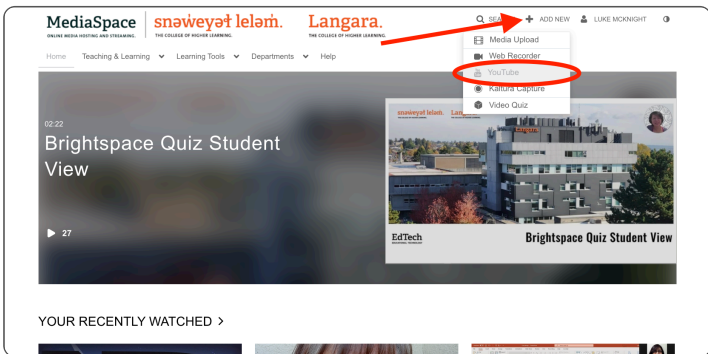
## Step 1: Login to MediaSpace

1. Navigate to MediaSpace at [mediaspace.langara.ca](https://mediaspace.langara.ca)
2. Login using your Langara email and password

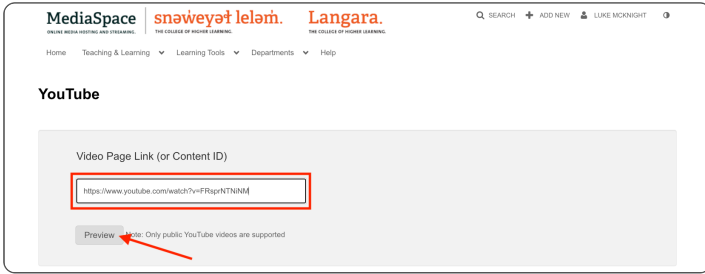


## Step 2: Add new media

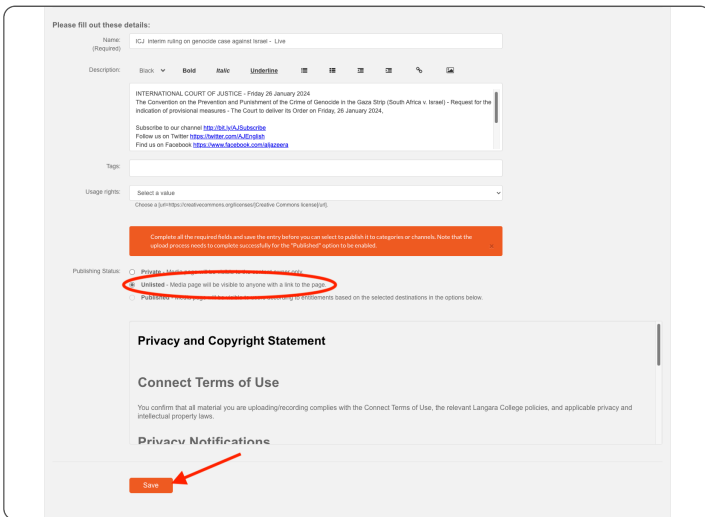
1. Click **+ Add New** and choose **YouTube**



2. Paste the YouTube URL in the textbox and click **Preview**.



3. Once the page refreshes, scroll down to verify the information.
4. Select **Unlisted** or **Published** to trigger a request for machine-generated captions. Leaving a YouTube import as **Private** will not trigger a caption request.
5. Click **Save**.



For more information on captions, consult Closed Captioning Quick Start Guide.

Videos are not finished until they are accurately captioned. New uploads to MediaSpace will automatically trigger a request for machine-generated captions. Verify spelling, terminology, and accuracy of those captions.

# Captioning Kaltura Videos Quick Start Guide



Videos uploaded to MediaSpace after October 2022 will have machine-generated captions automatically added. For videos uploaded before that date, you can manually order machine-generated captions. All machine-generated captions must be edited for accuracy.

## On this page:

[Ordering Captions](#) | [Editing Captions](#) | [Editing Captions in Word](#)

Captions are a synchronous text equivalent of the audio content in a video. Closed captions are toggled on or off by the viewer in the video player interface.

Closed captions are an accessibility requirement and essential for viewers that are deaf or hard of hearing. In addition, closed captions benefits:

- Viewers for whom the video's language is an additional language

- Viewers in noisy or loud locations where they cannot listen uninterrupted or at a comfortable volume
- Viewers new to the subject matter who are unfamiliar with the unique terminology, jargon, or important names
- Neurodivergent users who have trouble focusing or following along

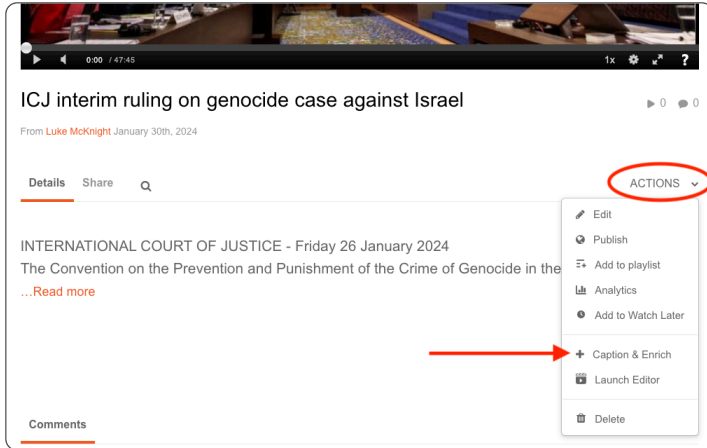
Captions help learners with:

- Accuracy when taking notes on a video
- Greater information retention and comprehension through both listening and reading
- Better engagement with content

Statistics indicate that around 5% of the general population has some form of hearing loss. However, studies suggest that 80% of 18 to 24-year-olds regularly watch videos with captions turned on. Captions are not simply an accessibility requirement; they are an excellent learning tool.

## To order captions

1. Navigate to your media on Langara College MediaSpace or in Brightspace go to **My Tools > My Media**
2. Open the **Actions** menu



3. Select **Caption & Enrich**
4. Click **Order** and then **Submit**

ICJ interim ruling on genocide case against Israel

From Luke McKnight January 30th, 2024

Details Share 🔍 ACTIONS ▾

Existing Requests + Order

| REQUEST DATE ▾     | SERVICE | FEATURE  | LANGUAGE | STATUS       |
|--------------------|---------|----------|----------|--------------|
| January 30th, 2024 | Machine | Captions | English  | ● Processing |

Order Captions & Enrichment Services

Be advised that in order to caption this item, a copy of your media item will be sent to a U.S. server. Once the captions have been created, the copy will be deleted.

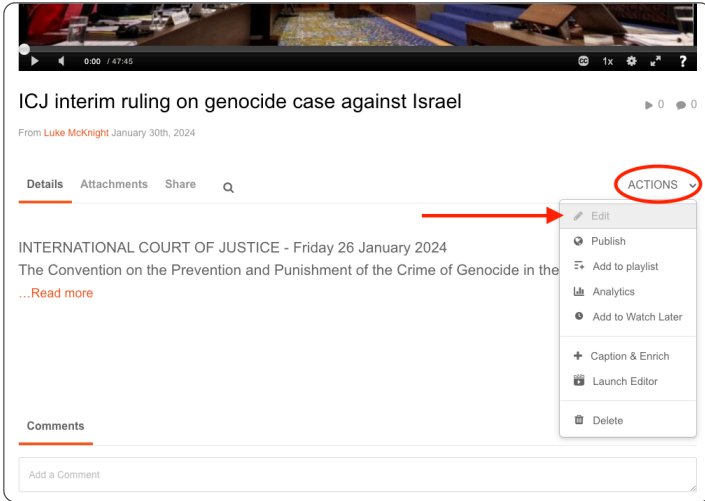
Service:  Source Media Language:

Feature:

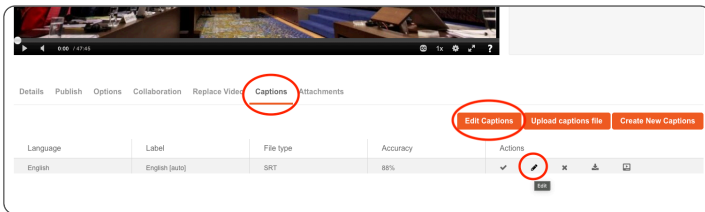
Submit

## Editing Captions

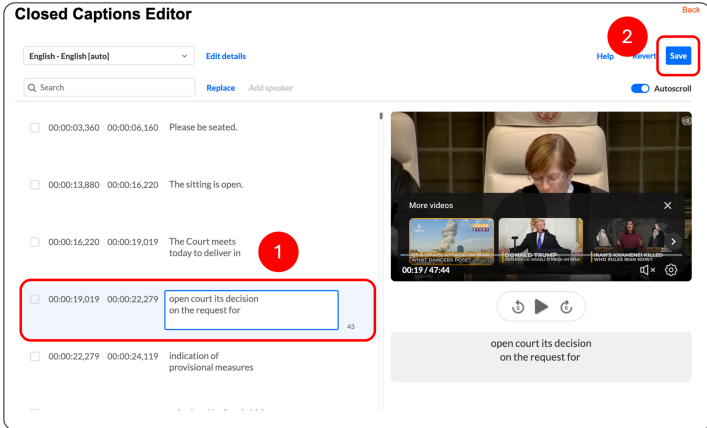
1. Navigate to your media on Langara College MediaSpace or in Brightspace go to **My Tools > My Media**
2. Open the **Actions** menu and select **Edit**



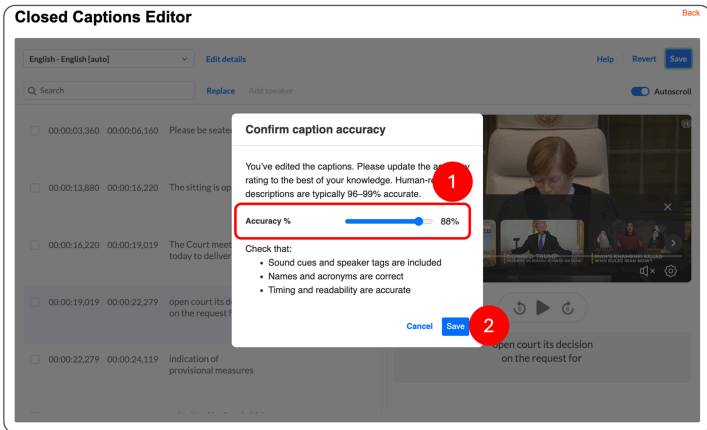
3. Navigate to the **Captions** tab and select **Edit Captions** or **Edit** beside the desired caption file



4. Edit captions for accuracy, especially focusing on spelling of names and terminology



5. Click **Save**
6. Adjust the caption accuracy slider



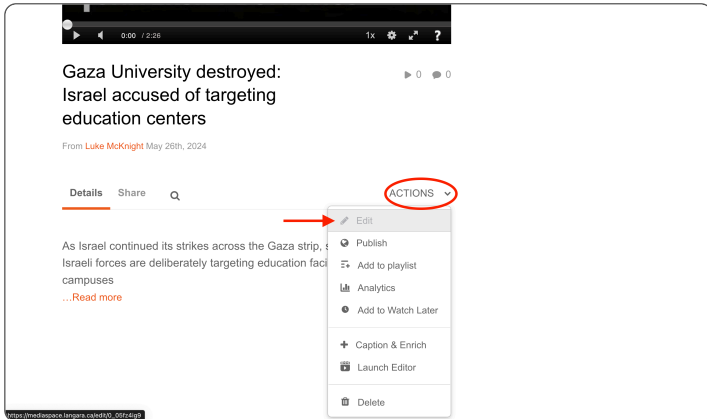
7. Click **Save**

## Edit Captions in Word

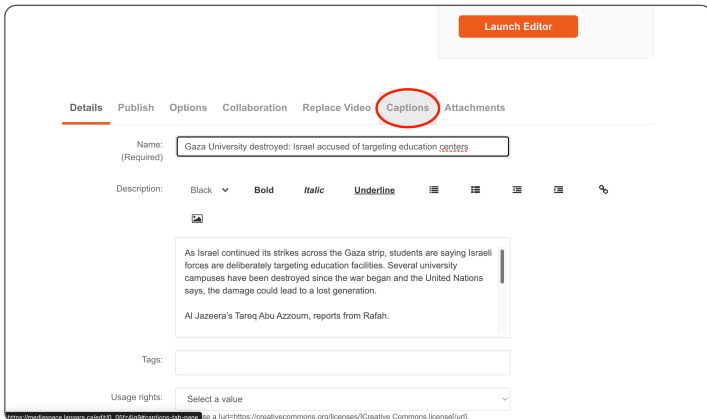
As an alternative method for editing captions, consider

exporting the captions file, making changes in a word processor, and uploading the edited file. To do so:

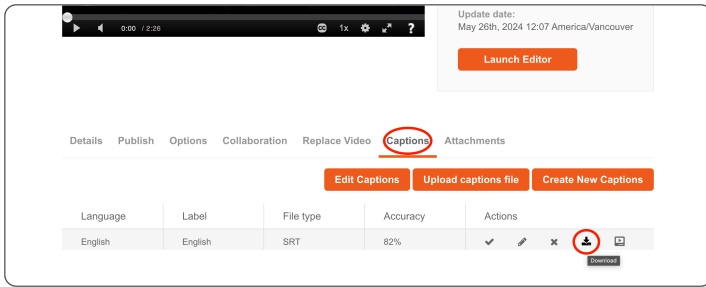
1. Navigate to your media on Langara College MediaSpace or in Brightspace go to **My Tools> My Media**
2. Open the **Actions** menu and select **Edit**



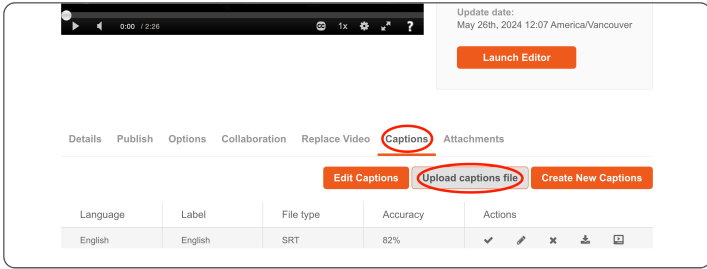
3. Select the **Captions** tab



4. On the **Captions** tab, select **Download**



5. A file will be downloaded to your computer in either .SRT or .VTT
6. By default the file should be opened in Notepad on Windows and TextEdit on macOS. However, if it does not, right-click on the field and select **Open with** and choose the appropriate text editor
7. Press **Control a** or **Command a** on macOS to select everything in the file. Press **Control c** or **Command c** on macOS to copy all of the content
8. Open a new Word document and press **Control v** or **Command v** on macOS to paste all of the content
9. Use Word's spellchecker, find and replace, and other editing tools to ensure the text matches the audio of the video
10. In Word press **Control a** or **Command a** on macOS to select everything in the file. Press **Control c** or **Command c** on macOS to copy all of the content
11. Move back to the .SRT or .VTT downloaded from Kaltura and press **Control a** or **Command a** on macOS to select everything in the file. Press **Control v** or **Command v** on macOS to paste the edited text
12. Save the .SRT or .VTT file
13. Navigate to the **Captions** tab and select **Upload captions file**



14. Select your edited .SRT or .VTT file, complete the required fields, and click **Save**

For more information on captions, consult Closed Captioning Quick Start Guide.

The Kaltura player allows viewers to customize the appearance of captions.

Videos are not finished until they are accurately captioned. New uploads to MediaSpace will automatically trigger a request for machine-generated captions. Verify spelling, terminology, and accuracy of those captions.

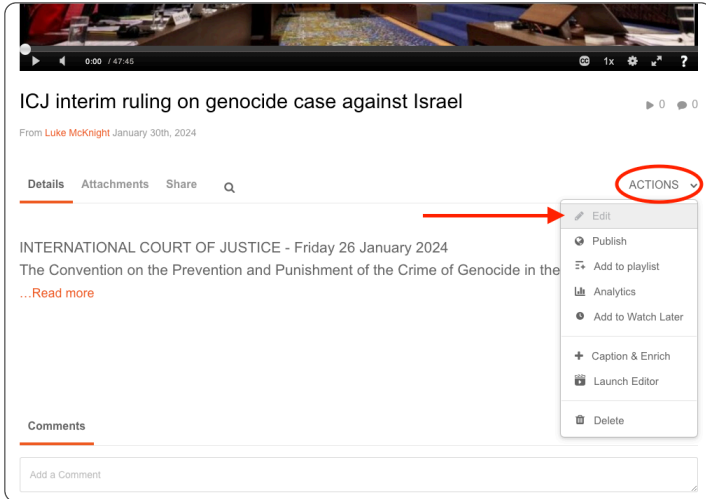
# MediaSpace Collaboration Quick Start Guide



Content in MediaSpace can be shared between multiple collaborators. This allows a video owner to share a video to be captioned or edited.

## Adding Collaborator

1. Find your media on Langara College MediaSpace or in Brightspace go to **My Tools > My Media**
2. Open the **Actions** menu and select **Edit**



3. Move to the **Collaboration** tab and select **Add Collaborator**



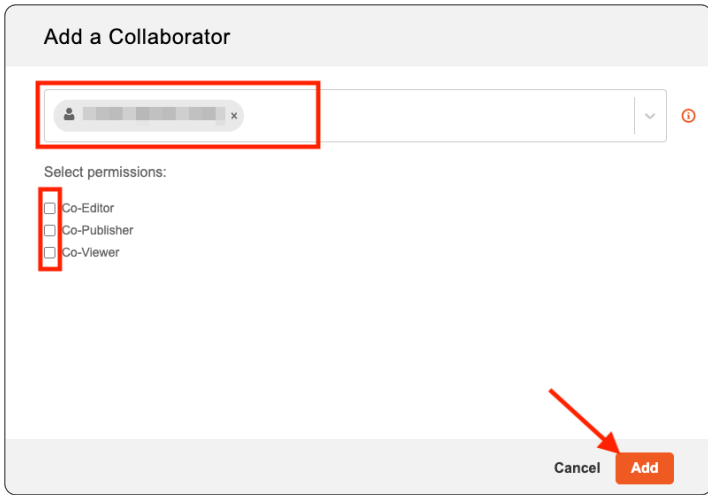
4. Type in the name of the person you wish to add as a collaborator, set permission type, and click **Add**

### Add a Collaborator

Select permissions:

- Co-Editor
- Co-Publisher
- Co-Viewer

Cancel **Add**



## Permissions Types

- **Co-Editors** can add and edit captions.
- **Co-Publishers** can also change the video from private to unlisted or published to a channel.
- **Co-Viewers** can watch an unlisted video.

Videos are not finished until they are accurately captioned. New uploads to MediaSpace will automatically trigger a request for machine-generated captions. Verify spelling, terminology, and accuracy of those captions.

# PDF ACCESSIBILITY



# Creating Accessible PDFs

In addition to adhering to best practices for plain language, font, colour, and other accessibility essentials, an accessible PDF is **tagged**. PDF tags are code that provides structure for assistive technology.



To create accessible PDFs, ensure you have Acrobat Pro DC installed on your device. Acrobat Reader lacks the necessary features to make PDFs accessible. PDFs can be generated in software such as Adobe Acrobat, but the most common method is to take an existing Word document or PowerPoint presentation and export it to PDF. Ensure that you start with an accessible document before exporting to PDF.

PDFs are popular but may not always be the best choice of file. PDFs are an antiquated format that are extremely time consuming to make accessible. Consider providing HTML, Word, or PowerPoint (most documents can have editing restricted) first. If readers prefer PDF, they can convert your file to PDF.

The best way to use PDFs is sparingly.

**On this page:**

[PDF Source Documents](#) | [Making Accessible PDFs](#) | [Reading Order](#) | [Check Accessibility](#) | [Further Reading](#)

## PDF Source Documents

The majority of PDF documents will be converted from a Word

or PowerPoint document. Refer to previous chapters for best practices to create accessible documents in those formats and ensure you properly export the file to PDF.

## Office Software with Acrobat Installed

In Word or PowerPoint:

1. Select the **Acrobat** tab
2. Choose **Create PDF**
  1. Select **Options**
    1. Ensure the following are checked:
      1. **Enable Accessibility and Reflow with tagged Adobe PDF**
      2. **Create Bookmarks**
      3. **Convert Word Headings to Bookmarks**
    2. Click **Ok**
3. **Save** file.

## Office Software without Acrobat Installed

1. Click **File** > **Save As** and enter file name and select save location.
  1. (Windows) Select **PDF** in **Save as type** list.
    1. Choose **Options** and select **Document structure tags for accessibility** check box.
    2. Select **Ok**.
  2. (MacOS) Select **PDF** from **File format** drop down.
    1. Select **Best for electronic distribution and accessibility (uses Microsoft online service)** radio button.
    2. Select **Save**.

Do not use **Print > Save as PDF** as that will not retain any document structure and will make you repeat your efforts to make your PDF accessible.

## Using Adobe Acrobat

1. **File > Create > PDF from File...**
2. Select file from dialog.
  1. On Mac: Check **Use Adobe Create PDF cloud service**.
3. Select **Open**.

Adobe guide to creating PDFs from multiple formats.

## Scanned PDFs

PDFs are a common output format for scanned documents. A scanned document will be a ‘flat’ PDF—essentially an image of the scan. PDFs created this way are untagged and not accessible.

Before scanning a document or book, consider looking for an existing accessible electronic version of your resource. However, when scanning a document to PDF:

- Set scanner settings to at least 300 DPI (dots per inch).
  - Higher number is better but increases the size of the scanned file.
- Scan in black and white or 24-bit colour.
  - Consider that information should not be conveyed by colour alone.
- Some scanners have built-in Optical Character Recognition.
  - You can tell if your scanner has this feature if you see terms like “Searchable PDF” or “Text PDF” in the scanner file output settings.

- Push the spine of a book as flat as possible to eliminate gutter distortion and missing text.
- Keep each scanned page to its own electronic page.
  - Do not scan two pages of a book at once.

Ensure scans are free from:

- Cut off text.
- Crooked pages.
- Shadows from the curvature of a book's spine, dark gutters between pages.
- Poor contrast.
- Pages rotated 90 degrees or upside down.
- Handwriting, highlighting, underlining, watermarks or stains.
- Blurring.

Use Optical Character Recognition:

Run OCR on scanned documents as a first step toward creating accessible PDFs. To do so in Acrobat Pro:

1. Open scanned PDF in Acrobat.
2. Select **Scan & OCR** from Tools.
3. Select **Enhance Text**.
4. Select **Recognize Text** to amend the document or repair any text not automatically detected.
  1. Select **Tools > Edit PDF**.
  2. Select text elements and edit text as appropriate.

## From Webpage

When wanting to save a permanent copy of a

website, do not use **Print to PDF** or **Print > Save to PDF**.

To save a permanent copy of a webpage, use SingleFile to save complete webpages (including styles and images) as a single HTML file. Download the SingleFile Firefox Add-on, SingleFile extension for Chrome and Edge, or Safari extension. Anyone can open the saved file in any web browser.

Another alternative to saving a PDF of a webpage is to use the Internet Archive's Wayback Machine or Archive Today to create permanent copies of a webpage as it appears at the time of saving. Zotero also saves a permanent copy of webpages when possible and allows for sharing, although readers need Zotero installed on their device.

If you absolutely must save a copy of a webpage as a PDF, use PrintFriendly as it creates tagged PDF files when exporting a webpage to PDF. To use PrintFriendly, install the browser extension or paste the URL in the PrintFriendly web interface, then select **PDF**. This will download a PDF copy of the webpage to your device. The PDF copy will still need to be evaluated and remediated to ensure it is accessible.

## Making Accessible PDFs

Use the following resources to make PDFs accessible.



*One or more interactive elements has been excluded from this version of the text. You can*

view them online here: <https://pressbooks.bccampus.ca/accessibilityhandbook/?p=37#oembed-1>

1. If starting from a scanned document, use the **Scan and OCR** tool.
  1. Select **Recognize text and choose in this file**.
2. Open the **File** menu, choose **Properties**.
  1. Navigate to the **Description** tab.
  2. Enter a descriptive title.
  3. Move to the initial view tab and select **Document title** in the **Show** menu.
  4. In the **Advanced** tab, choose a language for the document.
3. Open the **Tags** pane and arrow through the tags tree.
4. Select the **Reading order pane** to show an overlay number on each object.
5. Select the **Page thumbnails pane**, select all pages, right click and select **Page properties**.
  1. Ensure **Use document structure** is selected under tab order. Click **OK**.
6. Place your cursor at the beginning of the document and press **Tab** to verify tab order.
7. Run the **Accessibility checker**.



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://pressbooks.bccampus.ca/accessibilityhandbook/?p=37#h5p-163>

Remediating PDFs can be difficult and time-consuming. Some people do this work full-time and still encounter difficulty. Please contact [assistivetech@langara.ca](mailto:assistivetech@langara.ca) for more information about remediating PDFs.

## Reading Order

One of the most important elements requiring manual checks is the **reading order** of your document.

Save your file before making any changes to the **Order**, **Content**, or **Tags** panes. Verify changes to the **Order** pane visually and on the **Tags** pane. Be aware that when changing the reading order of items in the **Order** pane, some content may “disappear” (YouTube video, opens in new tab) behind other content.

To solve this issue:

1. Open the **Content Pane (View > Show/Hide > Navigation Panes > Content)**.
2. The top of the list is the bottom visual layer of the document.
3. Selecting an element in the Content pane highlights the item in the document.
  1. So, if text disappears behind a textbox for example, locate both the text and textbox.
  2. Click and drag—or cut and paste—the offending item to the top of the list.
  3. This should return the visual order to normal.

Verify Reading Order:

1. Open the **Tags Pane (View > Show/Hide > Navigation Panes > Tags)**.
2. Select the first tag at the top of the list.
  1. Use the down arrow to move through the list.
    1. You will see a visual highlight in the document when selecting each tag.

2. If you need to re-order the reading order, cut and paste the tag (we find clicking and dragging can be difficult in longer documents).
3. Navigate to the **Order Pane**.
  1. Select **Options**.
  2. Select **Show Reading Order Panel**.
    1. This displays a number on each page element representing it's reading order.
  3. Open the **Content Pane**.
    1. Arrow from top to bottom of content list.
    2. Verify that the visual order matches the reading order.

**Reading Order** determines the order of items when the document is read aloud by assistive technology. Reading Order also affects how the document will reflow, such as when zoomed or viewed on a mobile device. Changing the reading order may affect the **Content** hierarchy and **Tags** order. Any changes to reading order must be checked in **Content** and **Tags** panes.

The **Content** pane is a hierarchical view of the visual items within a PDF. Changing the order of content can alter the visual appearance of the document as well as the reading order of content.

The **Tags** tree is a hierarchical view of the code that determines the structure of the document. The order of tags affects the reading order for assistive technology, such as screen readers. But can also influence the order in which users tab through links

or form fields. Changing the order of tags does not alter visual appearance of document. These additional concerns contribute significantly to the amount of time and expertise needed to make full accessible PDFs.

## Check Accessibility

After you remediate your PDF, run the **Accessibility Check** tool again:

1. Open PDF in Adobe Acrobat Pro DC
2. Expand the **Tools Pane**
  1. If you do not see the **Tools Pane**, select **View > Show/Hide** and click **Tools Pane**
3. Click **Accessibility**
  1. If you do not see **Accessibility**, select **More Tools**, scroll down and select **Accessibility**
    1. Recommend to open menu and select **Add Shortcut** for future use
  2. You can also search for tools at the top of the **Tools Pane**
4. Click **Accessibility Check**
  1. Click **Start Checking**
    1. The **Accessibility Pane** will open and show accessibility issues. Right-click to see further explanation and/or fix the issue directly

Video demo:



*One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.bccampus.ca/accessibilityhandbook/?p=37#oembed-2>*

Use **Reflow** or **Export to Text** export to verify accessible reading order.

1. Select **View > Zoom > Reflow**,
  1. As you zoom in, content should reflow into a vertical column with no need for horizontal scrolling,
2. Many PDFs will not reflow. Check the order of text via **File (Acrobat on macOS) menu and select Export To > Text (Accessible)**. Save the file and view what text content is exported and how it is ordered. That is what and how assistive technology will read to a user (absent any interactives such as forms and image alternate text).

Use Preflight tools to correct remaining tagging issues:

1. Navigate to **Tools > Print Production > Preflight**,
2. Select **PDF Profiles**,
3. Expand **PDF/UA**,
4. Select **Fix problems in PDF tagging structure**,
5. Click **Analyze and Fix**,
6. Save new copy.

For advanced accessibility checks, use PAVE (online) or PAC 2021 (Windows only).

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## Further Reading

CreativePro's 10 steps to accessible PDFs.

Adobe guide to making accessible PDFs in Acrobat Pro.

Adobe guide to Acrobat Pro Accessibility Check.

List of Adobe Acrobat DC accessibility training guides.

Adobe guide to OCR and editing scanned PDFs.

Microsoft guide to exporting documents to PDF.

Microsoft video guides to PDF accessibility.

Web Accessibility in Mind Guide to PDF Accessibility.

George Brown College in-depth videos of Adobe accessibility.

# PDF Forms

PDFs are a common format for fillable forms. PDF is likely the best choice for a form that needs to be digitally signed or printed off for analog entry. For forms that do not require signing or are not to be printed, consider using MSForms.

**On this page:**

**Best Practices** | **Acrobat Prepare Form** | **Initial Accessibility Checks** | **Automated Accessibility Check**

## Best Practices

1. Ensure form has clear instructions.
2. Create meaningful visual labels for all fields, place labels adjacent to corresponding fields.
3. Use tooltips.
4. Include meaningful group labels where appropriate.
5. Indicate required fields and field constraints (such as specific date format).
6. Provide help and hints.

How to create a PDF form in Acrobat.

For additional information, consider WebAIM's guide to form tags.

## Acrobat Prepare Form

Create form layout in Word or InDesign and export as an accessible PDF document. Open in Acrobat Pro DC.

1. Select **Tools** tab and find the Forms & Signatures section.
2. Select **Prepare Form** tool and click **Add** or **Add Shortcut**.
3. The **Prepare Form** tool will appear in the right side tools pane.

## Prepare Form Tool

To add form fields:

1. Click **Prepare Form** tool
  1. Uncheck/leave unchecked **This document requires signatures**. Add signature lines within the form if needed.
  2. Ensure **Form field auto detection** is **ON**.
  3. Select **Start**.
    1. The document is in **Forms Editing Mode** until the **Close** button in the top right is selected.

To delete a form field:

1. With **Prepare Form** tool open:
2. **Right-click** form field to be deleted
3. Select **Delete**

## Manually Create Forms

1. Open **Prepare Form** tool
2. Select form field type from top centre toolbar
3. Click in document where you want to place form field
4. Type a meaningful, unique name
  1. This is not a name that will display in the document, that remains the text created in the document beside the field. Unique field names are required because Acrobat will apply the same Tooltip (discussed below)

to all fields with the same name. This will lead to confusion and inaccessibility

5. Check **Required** if applicable
  1. Note: checking required only adds a red outline around the field. A better practice would be to add the “(Required)” to the visible form label (the text in the original document) and add “(Required)” to the tooltip wording
6. Select **All Properties**
  1. This dialog presents all the options for each field
  2. Options include: border, font style and size, position, alignment, relationship to other fields (such as a group of radio buttons), data restrictions such value range or format requirements
7. On the **General** tab the **Tooltip** field is required for full accessibility as the **Tooltip** is read to screen readers. Without a useful, unique tooltip such as “type your age”, screen reader users would hear something like “type a text” or “text input” and it may not be clear which field they are completing
8. You can also access the **Properties** dialog by **right-clicking** a field and selecting **Properties**
  1. Or when a field is selected press **CTRL (CMD)** on macOS) and **i**

## Add Tags

Form fields need to be tagged:

1. Open the Tags pane
2. Select **Options** button
3. Choose **Find**
4. In the **Find Element** dialog, choose **Unmarked Annotations**

5. In **Type:** select **Search Document**
6. Click the **Tag Element** button
7. Select **Form** in **Type:** dropdown and click **Ok**
8. Advance to next field

## Verify Tab Order

1. With **Prepare Form** tool open
2. Select **More** beside the tool icon and select **Show Tab Numbers**
  1. A number appears in the top left of each field indicating its tab order
3. Examine the **Fields** in the right hand pane, this order reflects the tab order
4. Drag and drop fields to reorder

Begin at the top of your form and press **Tab** to move between fields and verify proper order.

Once you have added your form fields, mark placeholders (such as a blank line for a signature) as artifacts.

Acrobat will likely group your placeholder text (such as options for checkboxes) as one paragraph. This will disrupt reading order. To avoid this, open the **Tags** pane, highlight text individually, open the menu in the Tags pane and choose **Create Tag from Selection...** and choose **Paragraph**. This is a simple way to split text and place your form fields in between.

## Initial Accessibility Checks

To assess the accessibility and usability of your form, check:

## Manually

1. Use the **Tab** key to move around the form.
  1. Radio buttons should be grouped, meaning you can Tab to the first radio button and then use the arrow keys to navigate around that group.
  2. Checkboxes cannot be grouped but should have a consistent tooltip (tooltips provide directions for the required input of the field to assistive technology) to give indication of their grouping.
  3. Text fields should be in the same order they visually appear.

## Tooltips

1. Navigate to **Tools** (On main tab bar, via **View > Show/Hide > Tools Pane** and then select **More Tools** at the bottom of the Tools Pane)
  1. Select **Accessibility**.
  2. Select **Identify Form Fields** OR Navigate to **Tools** and select **Prepare Form**.
    1. An overlay of the tooltip associated with each field appears.
    2. Additionally, the **FIELDS** pane lists all fillable fields.
      1. Use the **FIELDS** pane to reorganize the Tab order of the form.

## Text Fields

1. Right click or double click on a fillable field.
2. Select **Properties > General**.
  1. Each field must have a descriptive **Name**.
  2. A useful **Tooltip** field includes the title and short

instructions to complete the field.

1. **Tooltip** is what is read out loud by a screen reader so it is very important.
3. Repeat for each fillable field.

## Radio Buttons

1. Click and drag over all radio buttons in a group to highlight them.
2. **Properties > General.**
3. Enter a name for the buttons in the **Group Name** field.
4. Select each radio button individually.
5. **Properties > Options.**
6. Enter a description in the **Radio Button Choice** field.

## Check Boxes

1. Select each check box individually.
2. **Properties > General.**
3. Enter the **Name** field with the question.
4. Enter a short description followed by the text of the textbox as it appears on the document in the **Tooltip** field.
  1. Because Check boxes cannot be grouped like radio buttons, try to be consistent with your ToolTips such as “favourite food: cookies”, “favourite food: fish”, “favourite food: pizza”, etc.

## Tab Order

1. Open **Prepare Form** tool.
  1. Click dropdown menu beside **FIELDS** list.
  2. Select **Show Tab Number**.

3. Rearrange tab order by clicking and dragging to correct order.
  1. This does not move the items on the document, only ensures screen readers will read the fields in the order you intended.

## Nesting

<Form> tags should be nested within the text tag that the form field is associated with.

Navigate to the **Tags** pane and cut and paste or click and drag appropriate form fields to ensure proper nesting.

## Missing Form Field

You can add a single form field if you discover one missing during your checks:

1. Navigate to **Order**.
2. Open the **Reading Order Panel**.
3. Click and drag to highlight over the desired form field area and select **Form Field**.

Note, you will still need to ensure the reading order, tags, and tooltip for the field.

## Automated Accessibility Check

1. Select **Tools**
  1. **Accessibility** > **Accessibility Check** or **Full Check**
  2. Right click on various errors for explanation and tips

for fixing the error.

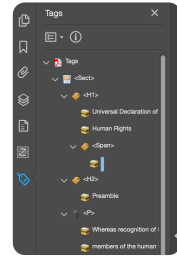
2. Read Out Loud will give an idea of how a screen reader or text-to-speech software will read your document
  1. Select **View > Read Out Loud > Activate Read Out Loud**

A PDF with form fields will not reflow (by design), so do not use the **Zoom > Reflow** tool.

**Tab** through your form once more to be sure.

# Advanced PDF

Ensure you have Acrobat Pro DC installed on your device as Acrobat Reader lacks the necessary features to make PDFs accessible. Save after every change made following the instructions below as Acrobat cannot undo many actions.



**On this page:**

[Manual Tags](#) | [Types of Tags](#) | [Artifacts](#) | [Tables](#) | [Javascript](#)

## Manual Tags

View unmarked content:

1. Open **Tags** pane.
2. Open **Options** menu.
3. Select **Find**.
4. Select **Unmarked Content** from drop down menu.
5. Select **Search Document** or **Search Page**.
6. Select **Find**.
7. Unmarked content will be highlighted in the document with a pink border.
8. Tag content as needed.
9. Select **Next** in dialog to move to next unmarked content.

Delete empty tags:

1. Open **Tags** pane.
2. Open **Options** menu.

3. Select **Delete Empty Tags**.

If your document has no tags, you must first generate a **Tags Root**

1. Open **Tags** pane.
2. Select **Options** menu.
3. Select **Create Tags Root**.

Create tag from selection:

1. Open **Tags** pane.
2. Choose **Selection tool**.
3. Click and drag over the desired content.
4. Select the **Options** menu in the **Tags** pane.
5. Choose **Create Tag from Selection**.
6. Select tag **Type** from drop down and select **Ok**.

Edit tag type

1. Open **Tags** pane.
2. **Right-click** on tag.
3. Select **Properties**.
4. On **Tag** tab, choose appropriate tag in **Type:** menu.

To locate a tag in the document, select the tag in the **Tags** pane. A pink outline will appear around the content in the document.

To locate a tag in the **Tags** pane:

1. Choose the **Selection tool**.
2. Highlight the content in the document.
3. Select the **Options** menu in the **Tags** pane.
4. Choose **Find Tag from Selection**.
5. The tags tree will expand to show the highlighted tag.

## Types of Tags

Container elements are the highest level elements used to provide hierarchical grouping and structure of other elements.

In a PDF, the containers are:

- `<Document>` the root element is the highest level container.
- `<Part>` can be used for a chapter or page to group other elements.
- `<Div>` is a generic element to group others.
- `<Art>` is the article element used to group a distinct section within a larger element.
- `<Sect>` is the section element used to group elements within a larger element.

To add heading tags:

1. Open the **Tags** pane.
2. Use the **Selection tool** to highlight the heading in the document.
3. Open the **Options** menu in the **Tags** pane and select **Create Tag from Selection**.
4. Select the appropriate tag from the drop down menu (Heading Level 1 through 6) and select **Ok**.
  1. Remember to use a nested, hierarchical heading structure without skipping any heading levels.

`<P>` should be used for all regular text that is not a heading.

To create a `<P>` tag:

1. Choose the **Selection Tool**.
2. Highlight the paragraph.

3. Select the **Options** menu in the **Tags** pane.
4. Select **Create Tag from Selection**.
5. Select **Paragraph** from the drop down and choose **Ok**.

PDF lists have the following tags:

- <L> List
- <LI> List item
- <Lbody> List Body
- <Lbl> Label

To tag a list:

1. Open **Tags** menu.
2. Highlight the number or bullet (not the list item text, just the number or bullet point).
3. Open the **Options** menu and select **Create Tag from Selection**.
4. Select **Label** from drop down and press **Ok**.
5. Select the contents of the first list item (not the number or bullet, just the text of the item).
6. Open **Options** menu and select **Create Tag from Selection**.
7. Select **List Item Body** from drop down and press **Ok**.
8. In the **Tags** pane, right-click the **Tags Root** and select **New Tag**.
9. Select **List Item** from the drop down menu and press **Ok**.
10. Drag and drop the **Label** and **List Item Body** tags as children of newly created **List Item** tag.
11. Repeat steps 2 through 10 for remaining list items.
12. Right-click **Tags Root** and select **New Tag**.
13. Choose **List** from drop down menu and select **Ok**.
14. Hold **CTRL**(**CMD** on macOS) and **click** all of the **List Item** tags (created in step 10).
15. Drag and drop as children of **List** tag (created in step 13).
16. Double check the order of the tags match the visual order

of the document.

To add link text:

1. Highlight link text.
  1. Right-click and select **Create Link...**
  2. Choose options such as Link Action and Appearance.
  3. Choose **Next**.
  4. Enter URL in field and choose **Ok**.
2. Open **Tags** menu.
3. Open the **Options** menu and select **Find**.
4. Choose **Unmarked Links** from the drop down menu.
  1. Select **Search Page** or **Search Document** radio button.
  2. Press **Find**.
5. The first untagged link will be outlined in pink.
6. Select **Tag Element** button.
7. Select **Link** from drop down and press **Ok**.
8. A <Link> tag and Link – OBJR tag appear in the tags tree.
9. Select the **Link** tag in the **Tags** pane.
10. Use the **Selection tool** to highlight the link text in the document.
11. Open the **Options** menu in the **Tags** pane and select **Create Tag from Selection**.
12. The link text and Link – OBJR should both now be tagged as children of the **Link** tag.

To add footnotes and references:

1. **Reading Order Tool**.
2. Draw a box around the superscript or link text.
3. Click **Reference** or **Note** button.
4. Begin from step 2 above.

Set the language of your PDF using **File > Properties > Reading Options**. Setting the

language of the document and its parts tells assistive technology which language to expect and speak.

However, if the language of part of the document is in a different language or multiple languages you must specify the language of those parts. For a <Sect> or entire <P> you can set the language property. For something smaller than a <P> you will have to tag the content in <Span> and then change the language of that <Span> tag.

1. Open the **Tags** Pane
2. Right-click the relevant tag and select **Properties**
3. In the dialog window, select the **Tag** tab, choose the appropriate **Language** from the dropdown and then select **Close**

To change the language of one sentence:

1. Within a previously tagged <P> open the **Tags** pane and then **Options** menu.
2. Select **New Tag...** and choose **Span** from the drop down and select **Ok**.
3. In the document, highlight the text with the language change.
4. Right-click the newly created <Span> in the **Tags** pane.
5. Select **Create Tag from Selection**.
6. Drag and drop the <Span> to the correct order in the **Tags** tree.
7. Right-click the <Span> tag and select **Properties**.
8. On the **Tag** tab, select the **Language** from the drop down and choose **Close**.

Images:

1. Open the **Order** pane.
2. Open the **Options** menu and select **Show reading order panel**.

3. Click and drag to draw a box around the image and select **Figure** in the Reading Order Panel.
4. Open the **Tags** pane.
5. Right-click on the **Figure** tag and select **Properties**.
6. On the **Tag** tab, enter alt text in the **Alternative Text** field.

A table of contents is exceptionally helpful for longer documents and is a recommended practice for any document longer than 5 pages. Each line of the table of contents should link to that point of the document.

To create a table of contents:

1. Highlight link text.
  1. Right-click and select **Create Link...**
  2. Choose **Go to a page view**.
  3. Choose **Next**.
  4. Move to document location and choose **Ok**.
2. Open **Tags** menu.
3. Open the **Options** menu and select **Find**.
4. Choose **Unmarked Links** from the drop down menu.
  1. Select **Search Page** or **Search Document** radio button.
  2. Press **Find**.
5. The first untagged link will be outlined in pink.
6. Select **Tag Element** button.
7. Select **Link** from drop down and press **Ok**.
8. Repeat with each line of the table of contents.
9. Create a TOCI tag for each line.
  1. **Tags** pane > **New Tag** > **Table of Contents Item** > **Ok**.
10. Move each link and link text tag into each **TOCI** tag.
11. Highlight the first table of contents line.
12. Right-click the first link tag in the **Tags** pane and choose **Create Tag from Selection**.
13. Repeat with each line move down the tags tree of link tags.
14. Create an empty **Table of Contents** tag.

1. Right-click tags root > **New Tag > Table of Contents > Ok.**
15. Hold **Control** and **click** to select all TOCI tags and drag and drop under **TOC** tag as nest children.
  1. Verify order.
16. Set table of contents title as an H1.
  1. Highlight “Contents” or “Table of Contents” or whatever text precedes the table of contents.
  2. In the **Tags** pane, select the **Options** menu, choose **Create Tag from Selection.**
  3. Choose **Heading Level 1** and select **Ok.**
  4. Place <H1> tag above the table of contents, at the same hierarchy level.

Bookmarks are also essential to PDF accessibility. They do not require tagging. To add bookmarks:

1. Select the **Bookmarks** button on the left.
2. Move in the document to where you would like to place a bookmark.
3. Use the **Selection tool** to select the area of the page to be bookmarked.
  1. For example: click an image or highlight text.
4. Use the **New bookmark** button in the **Bookmarks** pane.
5. Ensure bookmarks are in logical order.

Read more about PDF bookmarks

## Artifacts

If you want screen readers to ignore certain content, such as decorative images, you must mark those items as **Artifacts**.

To mark objects as an artifact:

1. Open **Reading Order Tool**.
2. Click and drag zone around element.
3. In the **Reading Order Tool** select **Background/Artifact** button.
4. This removes the item from the tags tree.

Or use the tags pane:

1. Open the **Tags** pane.
2. **Right-click** the content, not the tag icon, in the tags tree.
3. Select **Change Tag to Artifact**.

To show artifact tags:

1. Navigate to the **Tags** pane and select the options menu.
2. Choose **Find...**
3. Select **Artifacts** in dropdown (selected by default).
4. Choose **Search Page** or **Search Document**.
5. Select **Find**.

Note: InDesign often exports excess tags. In Acrobat, use the Preflight tool to remove them:

1. Under **Tools**, choose **Print Production**.
2. Select **Preflight**.
3. Select the wrench icon and under **Document** select **Mark all non-structure elements as artifact**.
4. Click **Fix**.

## Tables

Tables in PDFs require special attention to ensure they are accessible.

PDF Tables need the following tags:

- <Table>
- <TR> table row
- <TH> table header
- <TD> table data

To tag a table properly, you must designate:

Header cells:

1. Use the **Selection tool** to select the first header cell.
2. Open the **Options** menu in the **Tags** pane.
3. Select **Create Tag from Selection**.
4. Select **Table Header Cell** from dropdown menu and select **Ok**.
5. Repeat above steps for all header cells.

Data cells:

1. Use the **Selection tool** to select the first data cell.
2. Open the **Options** menu in the **Tags** pane.
3. Select **Create Tag from Selection**.
4. Select **Table Data Cell** from the dropdown menu and select **Ok**.
5. Repeat for all other data cells.

Row tags:

1. Create the number of required empty row tags. There needs to be a <TR> table row tag for each table row, including header row.
2. In the **Tags** pane, open the **Options** menu and select **New Tag**.
3. Choose **Table Row** and select **Ok**.
4. Hold **Shift** and **click** to select all cell tags in the first row.
5. Drag and drop into the first **Table Row** tag (created in step 13), nested as children.
6. Repeat for all rows.

Table tag:

1. Create a **Table Tag**.
2. In the **Tags** pane, open the **Options** menu and select **New Tag**.
3. Choose **Table** and select **Ok**.
4. Hold **Shift** and **click** all the <TR> table row tags.
5. Drag and drop into the **Table** tag (created in step 19), nested as children and in logical order.
6. For complex tables or to add context, provide a description of the table in the **Alternative Text** field by right-clicking the **Table** tag, selecting **Properties**, and moving to the **Tag** tab.

## Complex Tables

Tables with split cells, merged cells, or cells that span multiple rows or columns can be difficult for assistive technology to interpret. Best practice is to create simple tables even if you can create a complex table that technically adheres to accessibility standards. To make tables accessible:

1. Open the **Order** pane.
2. Select the menu and choose **Show reading order panel**.
3. Select the table and select **Table Editor** button on the Reading Order panel.
4. **Right-click** on spanned cell and select **Table Cell Properties...**
5. If it is a header ensure **Header Cell** radio button is selected.
  1. Use the **Scope:** dropdown to select the appropriate designation (**Row**, **Column**, or **Both**).
6. In the **Attributes** section enter the **Row span** and **Column span** to indicate the number of rows or columns spanned by the merged/spanned cell.

7. Click **Ok** and **Yes** to any warning messages.

## Javascript

You can add Javascript to PDF. This may prove useful for certain forms.

To create fillable text fields that include existing lines for printing and filling by hand, use one of the following methods to ensure accurate text entry.

To create a multiline text field:

1. Create a multiline text field spanning all lines on form.
2. Right-click > **Properties**.
3. **Format** tab.
4. Select **Custom** in **Select format category** menu.
5. **Custom Format Script**.
  1. Use **Edit** button to open Javascript editor.
  2. Paste:

```
1. var field = event.target;if (field.value ==  
field.defaultValue) {field.fillColor =  
color.transparent}else {field.fillColor = color.white}
```
  3. Press **Ok**.
6. Press **Close**.

To create a single line text field:

1. Create a text field for each line.
2. Select first text field.
3. Right-click and select **Properties**.
4. Move to **Appearance** tab and set an absolute font size (minimum 11).
5. Move to **Options** tab and uncheck **Multi-line** and **Scroll**

**long text.**

6. Move to **Format** tab.
7. Select **Custom** in **Select format category** menu.
8. **Custom Keystroke Script.**
  1. Use **Edit** button to open Javascript editor.
  2. Paste:
    1. `if ( event.fieldFull || event.willCommit )  
    this.getField("**name of nextfield to continue  
    in*").setFocus();`
9. Repeat 3-8 for each subsequent field, ensuring target field is named correctly.

You may also wish to include a clear fields button:

1. Add a visible text label reading "Clear Form".
2. Place button in form next to "Clear Form".
3. Select **All Properties** link.
4. On **General** tab type a unique name ("Clear form") and tooltip ("Click to clear all form fields").
5. On **Appearance** tab set font size to 14.
6. On **Options** tab navigate to **Behaviour** dropdown and choose **Push**.
7. Under **State** options and select **Up**.
8. Type "Clear form" in **Label** field.
9. Navigate to the **Actions** tab.
10. In the **Select Trigger** drop down, choose **Mouse Up**.
11. In the **Select Action** drop down, choose **Run a Javascript** and press **Add** button.
12. In the Javascript editor, paste:
  1. `var MyTitle = "Clear Form Confirmation";var MyAlert = "Clear all form fields?\n\nThis action cannot be undone. Proceed?";if (app.alert({cMsg: MyAlert, nIcon: 1, cTitle: MyTitle, nType: 2}) == 4){this.resetForm();}`

# ADDITIONAL ACCESSIBILITY GUIDES



# EPUB

**EPUB** documents give extraordinary control and customization options to readers.

EPUB documents allow readers to:

- Change background colour
- Change font style and size
- Add bookmarks and highlights
- Navigate by table of contents
- Pick up where they left off
- Change spacing and alignment
- Use text to speech
- Go to page using source (physical book) page numbers, regardless of how EPUB displays material on device
  - No need to convert page numbers between physical and digital copies of book
- Move between chapters or sections



EPUB documents automatically **reflow**, so when a reader zooms in (or reads a document on a small screen) there is no need for horizontal scrolling. Making a PDF reflow is possible (and results may be inconsistent) but requires additional work and knowledge.

EPUB documents can contain multimedia, such as audio and video files and interactive elements like links.

EPUBs are very secure. EPUB is a format for distributing a final version. EPUBs are not meant for documents that will be changed by another party; they are for consumption only. When applicable, prefer EPUBs over PDFs for sharing final versions of material.

The simplest way to make an EPUB file is to export a Word

document using WordToEPUB from The DAISY Consortium. EPUB files can be made from InDesign as well.



## EPUB Readers

There are a number of free EPUB readers:

1. Google Play Books
2. Apple Books
3. Thorium Reader (desktop)
4. Calibre (desktop)

# Excel

Microsoft Office includes built-in tools to assist you in making accessible documents. This chapter includes best practices and instructions to create accessible Excel spreadsheets.



## On this page:

[Document Properties](#) | [Accessible Font](#) | [Spreadsheet Structure](#) | [Alternative Text](#) | [Images and Graphics](#) | [Hyperlinks](#) | [Tables](#) | [Additional Excel Features](#) | [Formats to Avoid](#) | [Accessibility Checker](#) | [Sharing](#) | [Further Reading](#)

## Document Properties

The document title is announced to assistive technology and is much more pleasant and informative than the file name (but allows you to retain your file naming conventions). Other fields are useful but not required.

### Document Title

To add a document title:

1. Navigate to **File > info**.
  1. On MacOS: **File > Properties > Summary** tab.
2. Enter a descriptive title in the **Title** field.

This cannot be done in Office Online.

## Accessible Font

For Excel spreadsheets:

- Use sans-serif or simple serif font, size 11 or greater
  - Size 9 is acceptable for foot/endnotes or captions
- For PowerPoint, use font size 18 minimum
- Use an **accessible colour**
  - Font must have a contrast ratio of at least 4.5:1 against the background
- Left-align text
- Use built-in tools for spacing and alignment

To set font colour:

1. Navigate to the **Home** tab.
2. Select **Font Colour**.
3. Click **Automatic**.

If your document has hard-to-read text contrast, the status bar will indicate **Accessibility: Investigate**. Go to the **Review** tab and click **Check Accessibility** button. Under **Warnings** the hard-to-read text will be noted with a dropdown menu to change the font color.

- Older versions of Word's Accessibility Checker will not catch contrast issues.
- Consider checking your colours with WebAIM's Contrast Checker if you are unsure.

Do not use colour as the only means of communication.

Visit the accessible colour chapter of this Pressbook for more information.

To set text alignment:

- Use left-aligned text for languages that read to left to right, use right align for languages that read right to left.
  - Set alignment in the Paragraph tools on the **Home** tab.
- Avoid justified alignment as it can create excessive blocks of white space when zoomed and can create 'rivers of white space' which are gaps that appear to run through a paragraph due to coincidental alignment of spaces.
- Use at least 1.5 line spacing.

## Spreadsheet Structure

Providing **structure** to spreadsheets is essential for assistive technology, but help all readers navigate your data efficiently and understand relationships between topics.

Styles (**Styles** group > **Headings** and **Titles**) in Excel have no semantic meaning like they do in Word, they are only decorative. Feel free to use styles, but also include textual cues to indicate meaning and importance.

Excel structure best practices:

- Include white space around the text in the template, so it's easier to read.
- Ensure appropriate row height: **Home** > **Format** > **Row Height**.
- Ensure appropriate column width: **Home** > **Format** > **Column Width**.
- Use accessible colour contrast.
- Use 12 point or larger text (**Home** > **Font Size**).
- Include worksheet names and table titles.
  - **Right-click** on sheet and select **Rename**.
  - Give each sheet a unique, meaningful title.

Microsoft guide to finding accessible templates for Office products.

Floating elements such as charts, graphs, or images are read by assistive technology in the order the element was added to the sheet. However, the reading order can be amended:

1. Navigate to **Home**.
2. Select **Find and Select**.
3. Choose Selection Pane.
  1. The reading order is from the bottom of the list to the top.
  2. Click and drag items in the **Selection Pane** to the correct order.
    1. Moving items in the Selection Pane does not change the visual layout of items on the sheet.

## Sheet Names

Each spreadsheet appears as a tab within an Excel workbook. The default name is Sheet 1. Provide sheets with descriptive names to aid navigation and help readers draw connections between information. To change a sheet's name:

1. **Right-click** the sheet's tab.
2. Select **Rename**.
3. Type a descriptive and unique name that describes the sheet's content.

## Alternative Text

Assistive technologies employ **alternative text** (alt text)

attached to images to inform users of the context and purpose of images and visual elements. Alt text is a text alternative to non-text content to ensure all users can access information.

When including images in Excel:

1. **Right-click** the object.
2. Select **Edit Alt Text...**
3. Enter a concise text-equivalent of the image or select **Mark as decorative**.

However, when adding a chart or graph to Excel:

1. **Right-click** the object.
2. Select **Edit Alt Text...**
3. Enter a broad description of the chart or graph and make reference to the equivalent tabular data.
4. Include the data table immediately following.

Review this Pressbooks' chapter on Alternative Text for more information.

Include **table** data for charts.

Ensure embedded media has text equivalents. Videos must have **closed captions** and audio must have a **transcript**.

## Images and Graphics

Apart from adding effective **alt text** to images, there are a few additional considerations for visual elements in Office documents.

To add a chart in Excel:

1. Select data, go to **Insert** and select chart type desired.
2. Add a descriptive, unique Chart title.
3. Select chart, go to **Design > Add Chart Element > Axis Titles**. Select **Primary Horizontal** or **Primary Vertical** and

type a descriptive title for the axis.

4. Select chart, go to **Design > Add Chart Element > Data Labels** > Select appropriate label type for clarity.
5. Select horizontal or vertical axis, go to **Format > Current Selection > Format Selection**. From the Format Axis pane, adjust axis type, axis crosses, position, tick marks, label position, interval, and number format for maximum legibility.
6. Ensure colour is not the only way to differentiate chart data. Consider using symbols or dots on line graphs or add a text legend to a bar chart, for example. Try previewing your document in greyscale (via print preview) to understand how problematic it is to rely on colour alone.
7. Add a legend by navigating to **Design > Add Chart Element > Legend**.
8. Ensure chart elements have sufficient contrast. Change chart shape or line colour by selecting the shape > **Format Data Point > Fill and Line > Fill > Color > More Colors**.
9. Ensure font is sans serif, 12 point or larger, and has sufficient contrast (4.5:1). **Home > Font, Font Size, Font Colour** to adjust font.
10. Ensure chart data is available in tabular form as well, preferably directly following the chart itself.
  1. When following this practice, **Right-click** the chart.
  2. Select **Edit Alt Text...**
  3. Mark the chart as decorative or reference location of table data.
11. Learn more about creating charts and learn about different chart types in Office.

Floating elements such as charts, graphs, or images are read by assistive technology in the order the element was added to the sheet. However, the reading order can be amended:

1. Navigate to **Home**.
2. Select **Find and Select**.
3. Choose Selection Pane.
  1. The reading order is from the bottom of the list to the top.
  2. Click and drag items in the **Selection Pane** to the correct order.
    1. Moving items in the Selection Pane does not change the visual layout of items on the sheet.

For a chart or graph, provide data in table form beside the element. If size and spacing is a concern, place the data in another sheet and provide a link near the floating element.

To link within Excel:

1. Select the cell in which you wish to place the link.
2. Navigate to **Insert > Links** group > **Link** or right-click the cell and select **Link** or select the cell and press **CTRL+K** (**CMD+K** on Mac).
3. **Select Place in This Document** and enter the cell reference (ex. A1), ensuring you have selected the correct sheet.
  1. In the **Text to Display** field, enter descriptive text to explain the link's purpose.
4. Click **Ok**.
5. Repeat the process to provide a link back to the object.

Read more information on links in Excel.

## Hyperlinks

Create meaningful hyperlink text.

- Avoid vague instructions like “see” or “click here” or “read

more”.

- Not only are those not helpful out of context, but self-describing links may help you locate your resource if the URL changes.
- Do not paste URLs as **hyperlink** text.
  - If URLs must be included, provide self-describing hyperlink text and format URLs as normal text with no link attached.
- Use default link styling (blue, underlined text).

## Tables

**Tables** are useful for organizing data. Properly built and formatted tables are completely accessible.

In Word and PowerPoint, navigate to:

1. **Insert** tab.
2. **Table**.
3. **Insert Table**.
4. Indicate number of columns and rows and press **Ok**.
  1. You can add columns and rows later.

Set a header row/column:

1. Click anywhere in your table,
2. Select **Table > Table Design** tab > click **Header Row** (or **Header Column**, if applicable) checkbox,
3. Select **Banded Rows** or **Banded Columns** for a landscape document,
4. Accessible tables only have one header row, one header column, or both.

Right-click on table and select **Table Properties** for advanced table options via the table properties dialogue.

Navigate to Table Layout, select **Repeat Header Rows** to repeat headers across page breaks.

In some instances it may make sense to add alt text to a table as a summary. To do so:

1. Navigate to **Table Properties**.
2. Select the **Alt Text** tab.
3. Add a **Title** and a **Description**.
4. Click Ok.

Convert Excel data into a table:

1. Select the data to be included in the table.
2. **Insert > Table**.
3. Double check select cells are correct and check **My table has headers**.
4. Select **Ok**.
5. Select anywhere in the table, use **Design > Table Name** and give the table a meaningful title.

Consider putting tables on separate worksheets. If you place multiple tables on the same worksheet, leave a blank row between each table. All tables should start with a title in column A.

Use accessible table designs:

1. Select the table and go to **Design**.
2. Select the features you want (Header Row, Banded Rows, or First Column).
  1. A Header Row or Header Column or both are required for an accessible table.
3. To show all available table styles, select More or the dropdown arrow.
4. Most accessible tables will be Medium styles with strong

contrasting colors.

Best practices:

- A concise, descriptive table title helps with context and organization.
- Do not use nested, merged, split, or unnecessary blank cells.
- Ensure cells have adequate padding and margins.
- Do not use coloured cells or text alone to indicate meaning.
- Do not use tables with invisible borders to format layout.
- Office accessibility checker does not note table errors.
  - Click in the top left cell, then use the **Tab** key to see ensure your table reading order is logical and consistent.

## Additional Excel Features

Best practices:

- If you have no data to enter in cell A1, use it for a title or to indicate the number of sheets in a workbook.
  - For a workbook with many sheets, the first sheet should be used a summary and index with links to other sheets.
- Avoid merged cells in tables.
  - However, an acceptable practice is to add a descriptive title above a data set by merging the cells and centering the text.
  - Cell A1 is the best place for a description of a sheet.
- Avoid blank cells for formatting or alignment purposes (adjust column/row width and height instead).
  - A single blank row or column is allowed where

appropriate. Best practice would be to include the text “No data” in blank cell.

- Ensure cell has appropriate format by number type.
  - **Home > Number** drop down > select relevant number formatting (date, currency, time, etc.).
- Ensure appropriate decimal place from **Home > Numbers** group > **Increase Decimal** or **Decrease Decimal**.
- Colour, such as conditional highlighting, may be used but should be accompanied by a text equivalent indicating meaning.
- Comments are accessible and a great way to convey information or messages.

Hide unused cells:

1. Select the first column cell to be hidden.
2. Press **Shift** and **CTRL (CMD on Mac)** and **Right Arrow** key.
3. **Right-click** and select **Hide**.
4. The process is the same to hide unused rows, by selecting the first row to be hidden.
5. Press **Shift** and **CTRL (CMD on Mac)** and **Down Arrow** key.
6. Right-click and select **Hide**.

However, avoid hiding cells in the middle of data. If you must, add a comment indicating so. Excel comments are accessible and a great way to communicate with readers.

An additional method would be to include an “End of Table” message after the last row of data. The text can be in white as this is only a hint to assistive technologies that the table is complete.

Multiple data sets:

- Multiple sets of data should be split into separate sheets
- Sheet names should be meaningful and unique
- Each sheet should follow the same accessible formatting

Within a worksheet, you may group data for easier navigation. Select the data you want include and select **Formulas > Define Name**. Enter a descriptive name and double check the selected cell range, then click **Ok**. This allows users to press **CTRL + G** to quickly jump to different groups of data.

Cell padding:

Ensure appropriate cell padding by adjusting column width and row height.

1. **Right-click** on row or column label.
    1. Select **Column Width...** and/or **Row Height...** to adjust.
  2. Or in **Home > Cells** group > **Format** dropdown.
    1. Select **Autofit Row Height** and/or **Autofit Column Width**.
- Text should not overflow cells.
    - Adjust column width or use text wrapping: **Home > Wrap Text** button.

Named regions and header names:

Using the Excel Names feature, it is possible to name a range of cells in such a way that header cells are spoken along with the value of the cell. This allows a person using a screen reader to understand the structure of a table more clearly. This is only necessary for more complex or lengthy sets of data.

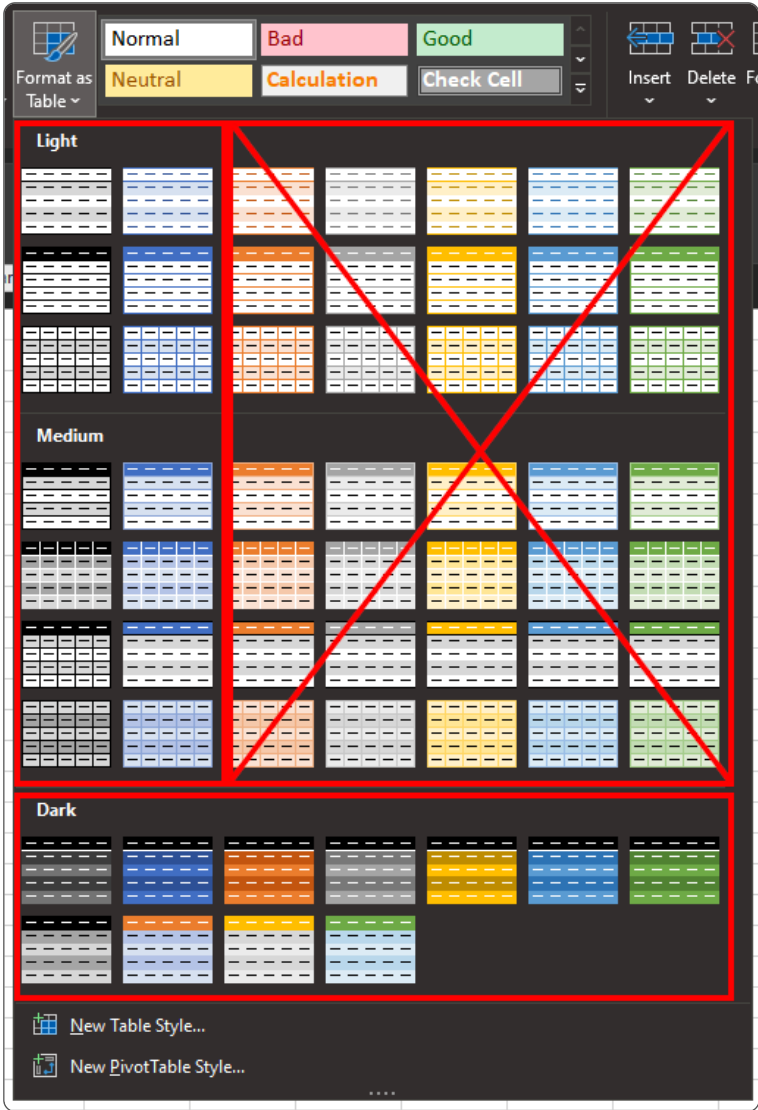
## Formats to Avoid

The following formatting and object types are not communicated to assistive technology or present significant barriers to some users:

- Strikethrough
- Highlighting
- Dropcap
- Word Art, Smart Art, text effects
- Ungrouped related shapes

- Watermarks
- Symbols, except for the following safe characters:

When converting data to a table, keep in mind the contrast of the default styles. Only the White, Light Blue, and Blue styles in the **Light** and **Medium** categories have sufficient contrast between cell shading and font colour. All of the styles in the **Dark** category have sufficient contrast



## Accessibility Checker

Use Office products' built-in **accessibility checker** to check for common issues. Note, these tools may not catch all possible accessibility issues.

The Microsoft Accessibility Checker report can be used to find common errors like missing image ALT text, merged cells and other issues in an Excel document. Select **Review > Check Accessibility**. The accessibility pane will show errors, warnings, solutions, and tips.

In the Accessibility pane select **Keep accessibility checker running while I work** checkbox to see a realtime accessibility message in the bottom status bar. Click **Accessibility: Investigate** at anytime to open the Accessibility pane.

Like any automated tool, Office's accessibility checker will not catch any and all accessibility issues. Here is a summary of what it does look for and how well it catches those issues:

| Element checked                     | Reliability of checker  |
|-------------------------------------|---|
| Structure and use of heading styles | <p>Poor.</p> <p>Will show if there are no headings on a long document but doesn't flag issues on shorter documents. A single heading is enough to pass the checker even though the document remains inaccessible. It cannot test the logic of the heading structure.</p>  |
| Colour                              | <p>Moderate.</p> <p>Can find poor colour contrast but cannot tell if colour has been used as a sole indicator for information.</p>  |
| Use of images                       | <p>Moderate.</p> <p>Will find images that have neither Alt text, nor are marked as decorative as well as those where the Alt text is just the file name. But it cannot identify whether the Alt text is appropriate or even meaningful. It will find images that are not in line with the text. In-line images may not be as aesthetically pleasing but they are easier for screen readers to find.</p> |
| Links                               | <p>Poor.</p> <p>It does not check for link text.</p>  |

|               |  |
|---------------|--|
| Plain English | Poor.<br><br>It does not check for this, but you can check yourself by switching on the readability stats as described in the section on Understandable Content. |
| Tables        | Fair.<br><br>It finds whether the table has the Header row marked. It may warn if tables have split or merged cells.   |
| Miscellaneous | Poor.<br><br>Does not check text justification, videos for captions, or form labels.   |

1

Read more about checking for accessibility issues with the Office Accessibility Checker and learn about Office Accessibility Checker rules and messages.

## Sharing

Best practice is to share material in advance of presentation or class.

- This allows users to check for barriers beforehand

1. This table is adapted from work originally developed by AHEAD and Alistair McNaught and is made available under a **CC BY-NC-SA** creative commons license.

- All users can take additional, in-depth notes and understand terminology and names with greater comprehension
- Users that experience barriers can zoom in or adjust the documents to their viewing preferences

Excel documents have various options for protecting your Excel workbook, sheet, or part of your spreadsheet. Choose the appropriate level of protection.

## Export to PDF

Excel documents can be exported to PDF, however the amount of time and expertise required to create an accessible PDF of an Excel document means all other avenues should be pursued first.

Best practice is to share the Excel file directly. You can protect an Excel file to prevent changes.

---

### Further Reading

Microsoft outlines best practices to make documents accessible.

Make your excel Excel documents accessible.

Contact [assistivetech@langara.ca](mailto:assistivetech@langara.ca) for further information or assistance.

Microsoft videos on accessible Excel spreadsheets.

General Microsoft documentation on accessible Excel spreadsheets.

Learn about creating charts using Excel.  
WebAIM's guide to Excel is a useful guide.  
Use this online tool to convert Excel tables to HTML.

# H5P

H5P (HTML5 Package) is an open source tool to create interactive content. As with any content, follow the basic accessibility essentials.



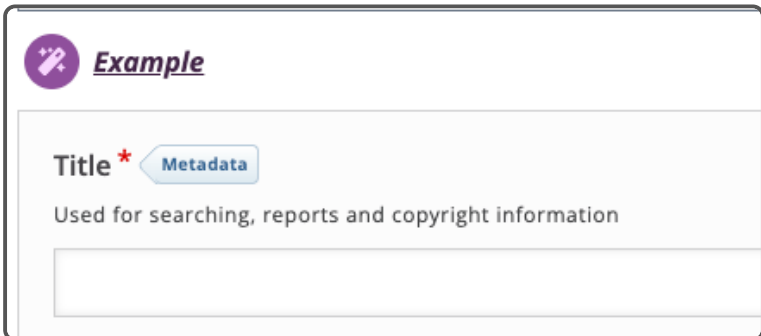
H5P has many different content types and this chapter will focus on general accessibility features and a few special cases.

## On this page:

[Best Practices](#) | [Text Formatting](#) | [Alternative Text](#) | [Closed Captions](#) | [Specific Elements](#) | [Further Reading](#)

## General Accessibility Best Practices

Provide all H5P elements with unique, descriptive titles.

A screenshot of a web form for adding metadata to an H5P element. At the top left is a purple circular icon with a white plus sign and a pencil. To its right is the word 'Example' in a purple, italicized font. Below this is a form field with the label 'Title \*' in bold black text. To the right of the label is a blue button with the text 'Metadata'. Below the label and button is a line of text: 'Used for searching, reports and copyright information'. At the bottom of the form is a large, empty white text input box with a thin grey border.

Check colour contrast manually using ColorZilla browser

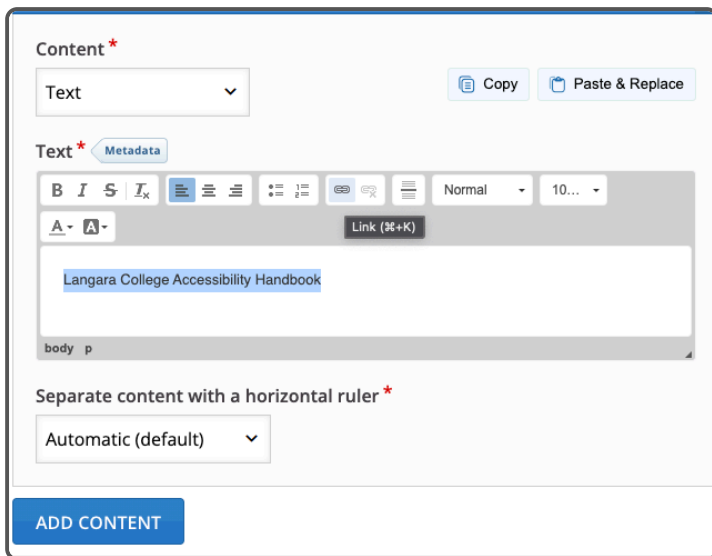
extension and the WebAIM Contrast Checker. Read more about colour contrast.

Write in plain language.

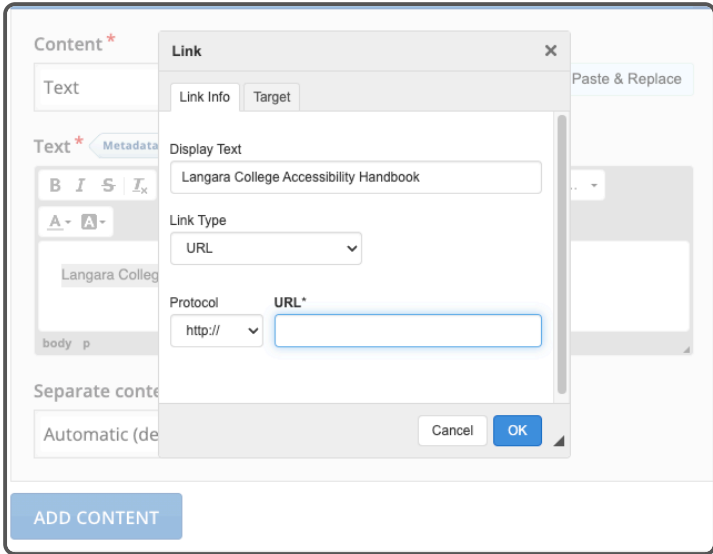
Use accessible hyperlinks that describe the link destination.

To add hyperlinks in H5P text content:

1. Highlight text to be linked
2. Click the **Link** tool or press **Control (Command on macOS) and k**

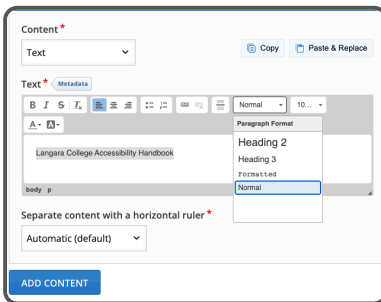


3. Paste URL in **URL** field and select **Ok**.



## Text Formatting

Highlight font and use **Paragraph Format** menu add headings.



## Alternative Text

When adding an Image, enter a description in the **Alternative text** field. Or, check **Decorative only** for decorative images.

The image shows a settings panel for adding an image. At the top, there is a 'Content' dropdown menu with 'Image' selected. To the right are 'Copy' and 'Paste & Replace' buttons. Below this is an 'Image' label with a 'Metadata' button. A '+ Add' button is present. There is a checkbox for 'Decorative only' with a descriptive text below it. The 'Alternative text' section is marked as required and includes a text input field.

**Content \***

Image

Copy Paste & Replace

**Image \*** Metadata

+ Add

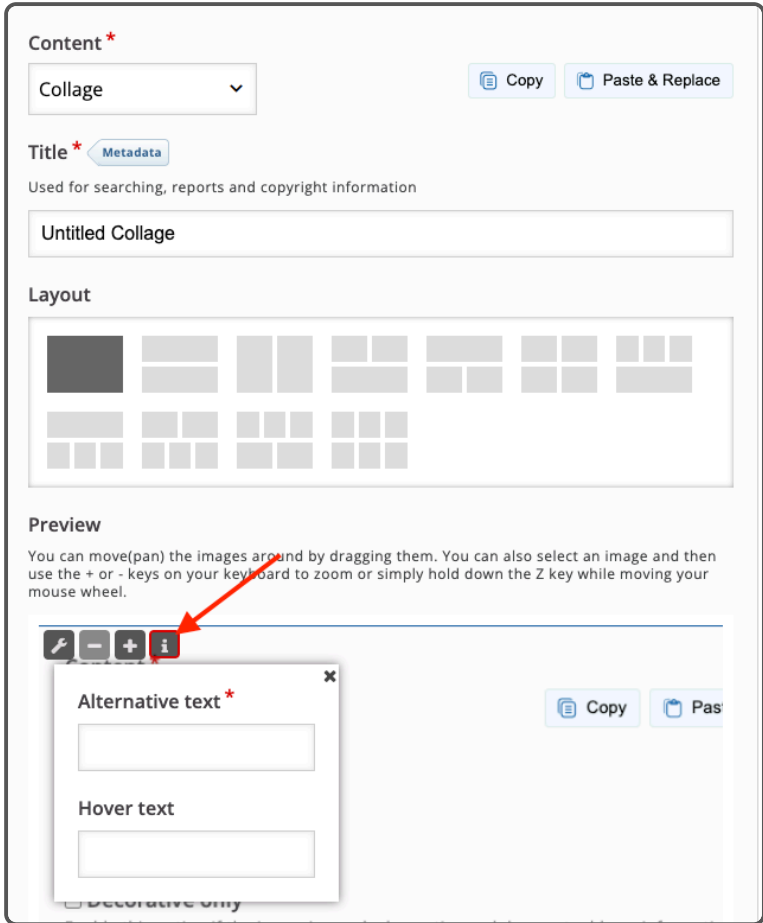
**Decorative only**

Enable this option if the image is purely decorative and does not add any information to the content on the page. It will be ignored by screen readers and not given any alternative text.

**Alternative text \***

Required. If the browser can't load the image this text will be displayed instead. Also used by "text-to-speech" readers.

When using the Collage element, select **i (Image settings)** and enter alternative text.



The Collage element does not support marking images as decorative. But, given the visual nature of the Collage element, all Collage images should have alternative text.

[Learn more about alternative text.](#)

## Closed Captions

To add closed captions to a Video (included in Interactive Book, Column, or Course Presentation):

1. Expand the **Accessibility** accordion.
2. Type the language of the captions in **Track label**.
3. Change **Type** to **Captions**.
4. Click **Add** and upload a WebVTT file.

To add captions to an Interactive Video:

1. Expand the **Text tracks** accordion.
2. Type language of captions in **Track label**.
3. Expand **Subtitles** accordion.
4. Select **Add** to upload a WebVTT file.

Use happyscribe caption converter to convert .SRT caption type to .VTT file.

Learn more about closed captions.

To use other platforms to generate captions:



An interactive H5P element has been excluded from this version of the text. You can view it online here:

<https://pressbooks.bccampus.ca/accessibilityhandbook/?p=2303#h5p-155>

## Specific Element Considerations

There are some H5P types that require special attention when used:

## Page and Interactive Book

The Page (formerly known as Column) and Interactive Book types have a content type called Row. Rows allow for multiple content types (images, text, quizzes, etc.) to be grouped and aligned horizontally. This helps with organization and reading order. Page and Interactive Books allow creators to add

as many Rows as desired. A row can hold 1-4 columns. Column width can be set manually as a percent of 100. If not set, or in event of discrepancy, H5P will divide columns 50-50, 33-33-33, or 25-25-25-25 depending on number of columns.

Multimedia Choice

Multiple Choice

Question Set

✓ Row

Single Choice Set

Summary

Table

**Title \*** Metadata

Used for searching, reports and copyright information

▼ **Columns \***

▼ **Untitled Column** ✕ ↑ ↓

**Width**

Column width in percentage.

**Title \*** Metadata

Copy Paste & Replace

Used for searching, reports and copyright information

▼ **List of Column Content \***

▼ **content** ✕ ↑ ↓

**Content \***

Copy Paste

**ADD CONTENT**

**ADD ITEM**

## Course Presentation

Try to limit the number of elements presented on each slide of a course presentation. Content is read by assistive technology in the order it was added to the slide, starting with the first item added. Be aware when adding multiple blocks of text, images, or other elements to a slide as it is easy to confuse the reading order.

## Audio Element

If using the Audio element, supply a text transcript in an

adjacent accordion element or link to a text transcript of the audio.

---

### Further Reading

The Academic Senate for California Community Colleges completed extensive accessibility reviews of 50 H5P types.

H5P notes content type accessibility with notes on issues and planned improvements.

H5P has recommended content types based on accessibility and current support.

# InDesign Accessibility

By focusing on a few key steps, InDesign documents can be made accessible at the source. Ensuring accessible InDesign documents will save time and effort when exporting InDesign documents to other formats such as EPUB or PDF.



## On this page:

[Metadata](#) | [Headings and Styles](#) | [Text Frames](#) | [Lists](#) | [Tables](#)  
[Images](#) | [Links](#) | [Table of Contents](#) | [Forms](#) | [Reading Order of](#)  
[Layers and Articles](#) | [Master Pages](#) | [Export](#) | [Import](#) | [Tools](#)

## Metadata

Metadata helps assistive technology announce content to users and know what language to expect. Add metadata to documents by navigating to **File > Info** and including a document title and language. Other metadata will help you and others in searching for files.

## Headings and Paragraph Styles

To create accessible **headings** in InDesign:

1. Under the **Type** menu, open the **Paragraph Styles** panel
2. Select **New Style**
3. Double click on the newly created style to open the **Style**

## Editor

4. Assign a name under **General > Style Name**
  1. Best practice would be to name it H1, H2, etc. as appropriate
5. Modify the style's visual appearance (font, font size, etc.) in Character format tabs.
6. In the **Export Tagging** category, use **PDF Tag** menu to set as appropriate
  1. Set paragraphs to P
  2. Set headings 1-6 as H1-H6 respectively
7. Select heading text in the document and choose newly created style in **Paragraph Styles** panel
8. Repeat process for different heading levels, paragraph text, lists, quotes, notes, etc.
  1. An existing style can be duplicated in the Styles panel
  2. Set a name in **Style Name** and select existing style to be duplicated in **Based On:** menu.
  3. Style new style as desired.

Do not use the text formatting toolbar.



Set all required styles in the Paragraph Styles panel.  
Read more about headings and document structure.

## Text Frames

For text columns or text divided by other document elements, link text frames together for proper flow of text. To create columns:

1. Create text frames
2. Click on the small red plus icon near the lower right corner

- of the frame
3. Select next text frame to be linked

## Lists

Do not create lists manually with separate blocks of text and images of bullets. Use built in list tools:

1. Highlight text to make a list.
2. Click **Bulleted List** or **Numbered List** in the control panel.
3. Or, if you have defined a custom list style, apply appropriate paragraph style.

Use bulleted lists when the order is not important. Use numbered lists when the order is important, such as in steps to a process.

Review best practices for lists.

## Tables

Create **Tables** via **Table > Create Table**

Tables must have either header rows or columns. To designate header rows:

1. Select the cells to be headers.
2. Select **Table > Convert Rows**
3. Select **To Header**

Tables created in InDesign will need additional work to ensure accessibility if exported to another format, such as PDF.

Read more about table accessibility.

## Images

Anchor Images in their specific place within the document:

1. Click and hold on the blue square in the upper right area of the image container
2. Drag the image to its place in the document where you want the alt text to be read Remember to consider reading order of the image's alt text relative to the surrounding text
3. Release the mouse button and the blue square becomes a blue anchor icon

## Add Alt Text

Within InDesign consider “object export options” to be synonymous with “**alt text**” in other platforms.

1. Select the image container and navigate to **Object** > **Object Export Options** or Right-click the container (not the image itself) and select **Object Export Options**
  1. Choose the **Alt Text** tab, select **Custom** and type in alt text
  2. Move to the **Tagged PDF** tab
    1. Select **Apply Tag** and choose **From Structure**
    2. Under **Actual Text Source** select **Custom**
    3. Type in alt text description in the text field

To mark an image as **decorative**:

1. Select the image container and navigate to **Object** > **Object Export Options** or Right-click the container (not the image itself) and select **Object Export Options**
2. Move to the **Tagged PDF** tab, **Apply Tag** and choose **Artifact**

Review alt text best practices.

## Images of Text

For an image, such as a logo or decorative lettering, it may be better to use InDesign's actual text feature, rather than alt text.

1. Right-click on the object and select **Object Export Options**
2. Select **Tagged PDF** tab
3. Choose **Custom** from **Actual Text Source** menu
4. Type the text included in the image
5. Click **Done**



## Links

1. Highlight text to be **linked**
2. Right-click and select **Hyperlinks** > **New Hyperlink**
3. Choose **Link to web URLs** to create a link to a webpage
4. Choose **Link to Text Anchors** to create a link to a place within your document
  1. Select the appropriate anchor from the list

## Anchor Links

To create a link to somewhere else in the document, use anchors:

1. Navigate to **Window > Interactive > Hyperlinks**
2. Select the text to be used as an anchor
3. In the **Hyperlink** panel and select **Option**
4. Choose **New Hyperlink Destination**
5. Add a descriptive name
6. To link to anchor:
  1. Select text to be link
  2. Right-click and choose **Hyperlinks > New Hyperlink**
  3. Choose **Link to Text anchor** and choose anchor from drop down list

Read more about accessible links.



## Table of Contents

1. Select **Layout > Table of Contents**
2. Add a title
3. Designate paragraph styles in **Other Styles** box and use **Add** button to move them to **Styles in Table of Contents** column
4. Select **Create PDF Bookmarks** checkbox
5. Select **Make text anchor in source paragraph** checkbox to allow you to create links within the document to headings, in addition to the links generated in the table of contents

Read more about InDesign Table of Contents.

## Forms

Creating form fields in InDesign will make exporting to PDF easier.

To create a form:

1. Use the **Frame Tool** to draw a frame the size of the form field
2. Go to **Window > Interactive**
3. Select **Buttons and Forms** to open the **Buttons and Forms** panel
4. With the newly drawn frame selected, choose type of form field from **Type** menu in **Buttons and Forms** panel
5. In the dialogue that opens, the **Description** field will become the tooltip (necessary for accessibility) when exported to PDF
6. Select **Ok**

Form fields created this way will be automatically tagged in PDF format.

## Reading Order

### Layers

InDesign files will likely include at least three layers: Text, images, and background.

To ensure logical **reading order**:

1. Navigate to **Window > Layers**
2. Re-order text layers to read from bottom to top of the Layers list
  1. What is to be read first visually should be on the bottom of the list. What is to be read last should be at the top of the list.

## Articles

To ensure logical reading order:

1. Navigate to **Window > Articles**
2. The **Article Panel** will open, blank
3. Open the more menu and select **Use for Tagging Order in Tagged PDF**
4. Click and drag the first item to the **Article Panel** and provide a name for the article when prompted
5. Click and drag each item on the page to the **Article Panel** in the order it is to be read
  1. The order of items in the **Article Panel** indicates the reading order for assistive technology reading from the top of the list to the bottom
6. Repeat for each page of the document

## Master Pages

Master pages can be used as a **template** when creating InDesign documents. To use Master pages, select **New Master** from the Pages panel. Select **Override All Master Page Items** before creating articles and exporting to PDF.

## Export

To export to PDF:

1. Navigate to **File > Export**
2. Choose **Adobe PDF (Interactive)**
3. Click **Save**
4. On the **General** tab, select:
  1. **Create Tagged PDF**
  2. **Use Structure for Tab Order**
  3. **Forms and Media: Include All**
  4. **Embed Page Thumbnails**
5. Select **Export**
6. Open PDF in Acrobat Pro to verify accessibility

Note: InDesign often exports excess tags. In Acrobat, use the Preflight tool to remove them:

1. Under **Tools**, choose **Print Production**
2. Select **Preflight**
3. Select the wrench icon and under **Document** select **Mark all non-structure elements as artifact**
4. Click **Fix**

To export to **EPUB**:

1. Navigate to **File > Export**
2. Choose **EPUB (Reflowable)**.
3. Click **Save**
  1. Add a title to **Metadata**
  2. Under **Object** settings choose CSS Size option of **Relative to Text Flow**

## Import

When a Word document is imported into InDesign, only the text will be imported by default. However, Style Mapping allows for an import to retain style and structure. To do so:

1. Navigate to **File > Place**
2. Under **Format** choose **Customize Style Import**
3. Select **Style Mapping**
  1. If you do not have any existing styles you will need to map the imported styles to heading tags in InDesign
  2. If your InDesign document already has existing styles, match the import equivalents to the styles from the drop down list
  3. Click **Ok**
4. Click **Ok**
5. Click in the document to place the imported text

## Tools

MadeToTag is an InDesign plug-in that adds tools to create InDesign documents for export as accessible PDFs. Read MadeToTag's seven steps to making tagged PDFs in InDesign.

Consider the Government of Minnesota guide to accessible InDesign documents.

# Other Document Suites

If you are using a document suite other than Office, find information for common platforms below.

## iWork

Apple's default document suite includes Pages, Numbers, and Keynote. While they can create documents, spreadsheets, and presentations they lack the advanced accessibility features and checkers of Microsoft Office.

Apple Support guide to creating accessible documents.

Apple Support Pages User Guide.

If you wish to create documents using iWork, follow the listed accessibility best practices in this book. When completed, convert the files to Office formats and use the accessibility tools included in that suite.

## Google

Google's document suite includes Docs, Sheets, and Slides. While they can create documents, spreadsheets, and presentations they don't have the advanced accessibility features and checkers of Microsoft Office.

Google guide to document accessibility.

If you wish to create documents using Google, follow the listed accessibility best practices in this book. When

completed, download the files as Office formats and use the accessibility tools included in that suite.

## LibreOffice and OpenOffice

LibreOffice accessibility support.

OpenOffice accessibility information.

If you wish to create documents using LibreOffice or OpenOffice, follow the accessibility best practices in this book. LibreOffice and OpenOffice do not include built-in accessibility checkers. Convert your files to Office formats and use the accessibility tools included in that suite.

# Outlook Accessibility

Crafting accessible emails helps ensure communication is readable by all recipients. The instructions below are specific to Outlook, but the principles apply to all email clients.



## On this page

[Subject](#) | [Fonts and Style](#) | [Links](#) | [Alternative Text](#) | [Plain Language](#) | [Structure](#) | [Accessibility Checker](#)

## Subject

Include a descriptive, unique subject line to guide assistive technology and help recipients understand purpose.

## Accessible Fonts and Style

- Use automatic colour combinations (black text on white background, white text on black background).
  - Ensure any other colours used have a contrast of at least 4.5:1 against the background.
- Do not rely on colour alone to convey information.
- Use readable fonts that are sans-serif or basic serif and at least 12 point size.
- Avoid excessive use of italics, bold, or all caps.
- Reserve underline for hyperlink text.

Review font accessibility best practices.

## Links

Use meaningful hyperlink text in place of bare URLs.

For Outlook on the web:

1. Type descriptive, unique text for the link destination.
2. Select the text.
3. Select the **Insert Link** button on the formatting toolbar or press **CTRL + K/CMD + K** on macOS.
4. Selected text is in the **Display as** field.
5. Paste the URL in the address dialog.

For Outlook on desktop:

1. Type descriptive, unique text for the link destination.
2. Select the text.
3. Right click and select **Link** or press **CTRL + K/CMD + K** on macOS.
4. The text you selected is displayed in the **Text to display** field.
5. Paste the URL in the address dialog.

Avoid pasting raw URLs in your emails as these are difficult for users of assistive technology to consume and do not provide meaningful information about the link destination.

Consult accessible links chapter for more information.

## Alternative Text

Add alt text to images so that recipients who cannot view the image can determine its purpose and context.

For Outlook on the web:

1. Right click on an image and select **Add Alternate Text**.
2. Type your description and click **OK**.

For Outlook on desktop:>

1. Right click on an image and select **Edit Alt Text**.
2. Type your description in the dialog.

Review the alt text quick start guide and subsequent chapters for more details about alt text.

## Plain Language

Use clear, concise language.

- Avoid assuming recipients' knowledge.
- Explain abbreviations, initialisms, and acronyms.
- Make clear requests.
- Provide summaries of long emails.

Learn more about plain language.

## Structure

While HTML emails support headings (and should be included in long emails that have distinct sections), when adding

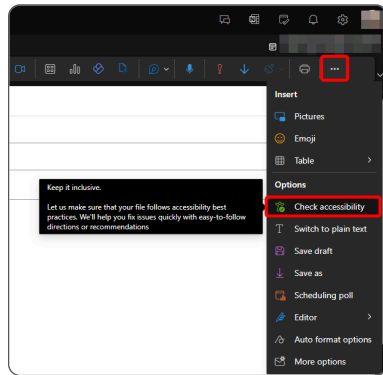
headings consider if email is the most appropriate document format for such dense material.

Use built-in tools for lists, tables, alignment, and indents.

## Accessibility Checker

Outlook on the web includes an accessibility checker. Select the three dot icon on the Send/Discard toolbar and choose **Check accessibility**.

The Check accessibility tool will note colour contrast issues, missing table headers, and images without alt text.



Learn more about Outlook accessibility settings [here](#).

### Further Resources

Consider the Microsoft guide to Outlook accessibility. The website should responsively display information based on your device, but you can also switch tabs (Windows, Web, MacOS, iOS, Android) to see specifics for your device(s).

When creating email lists, newsletters, or email campaigns, use the checker on [accessible-email.org](https://accessible-email.org) to ensure content is accessible.

# Padlet

Padlet allows users to collaborate on real-time shared digital 'boards' by adding posts including multimedia and links.

**On this page:**

**Creating a new Padlet**

**Appearance | Adding Images**

**Adding Videos | Adding Links**

**Adding Files | Links and Further**

**Reading**

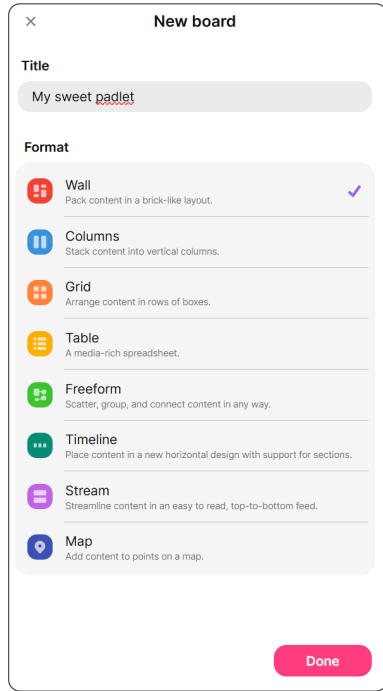


## Creating a new Padlet

Give your Padlet a descriptive, unique title. Prefer **Wall**, **Grid**, or **Stream** formats to ensure a consistent flow of information, clarity, accessibility, and ease of use. For greater organization consider toggling **Sections** on.

Use **Freeform** for brainstorming and mind mapping.

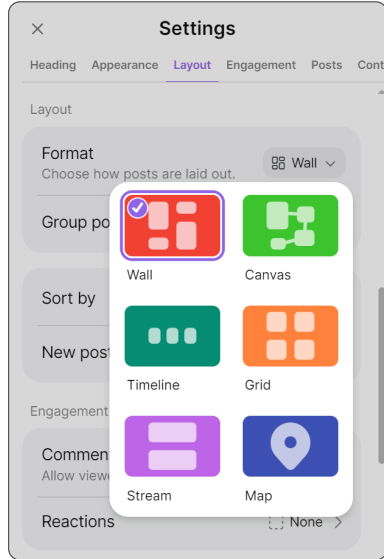
When starting with **Blank Board**, users are offered a choice of layouts including Wall, Columns, Grid, Table, Freeform, Timeline, Stream, and Map.



Use caution with the **Table** format as it is not properly coded to be accessible and meaningful to all users.

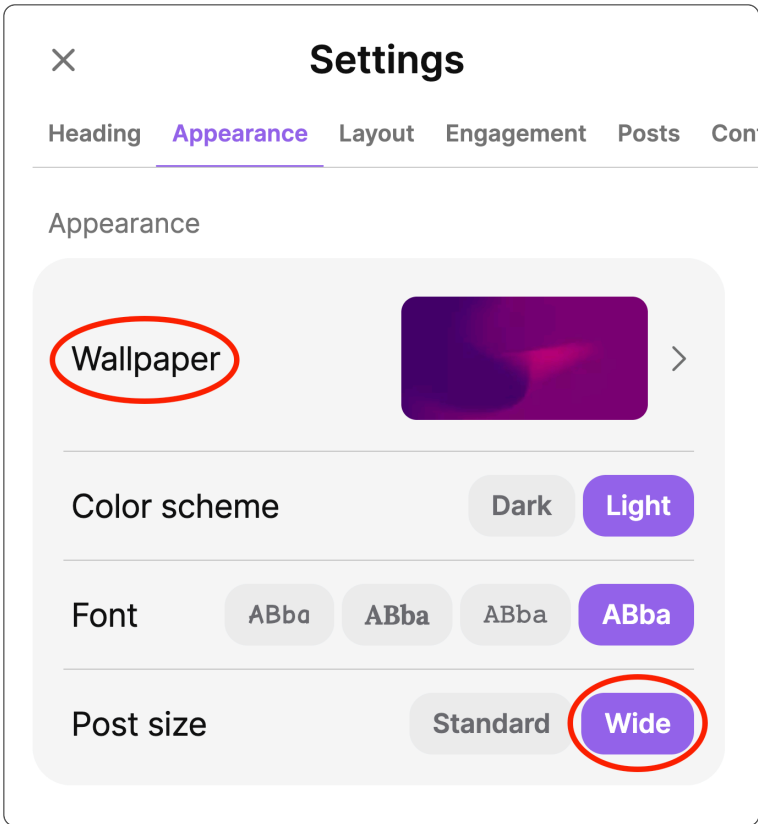
**Sections** are a useful feature to organize large and densely populated Padlets. Toggle **Sections** on when creating a Padlet or add **Sections** to an existing Padlet by selecting **Settings > Layout** and toggling **Group posts by sections** on.

Change the layout of an existing Padlet via **Settings > Layout > Format**.



## Appearance

Choose a neutral, uncomplicated wallpaper. Navigate to **Settings** and select **Wallpaper** to choose a background.



When selecting a wallpaper:

**Prefer**

- Solid colours
- Gradients
- Simple textures

**Avoid**

- Photos
- Art
- Illustrations

Use the sans-serif (Alps) font to maximize readability.

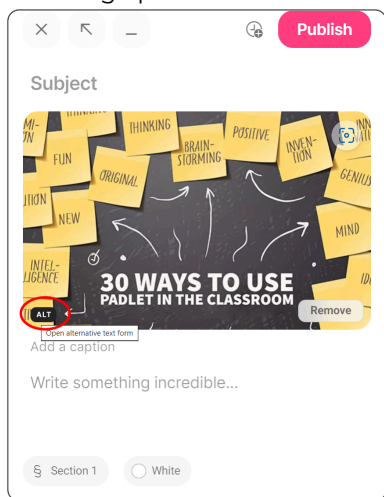
Set **Post size** to **Wide** to avoid excessive line breaks in text heavy posts.

Posts can be made with different colours. Do not use colour alone to differentiate or group information.

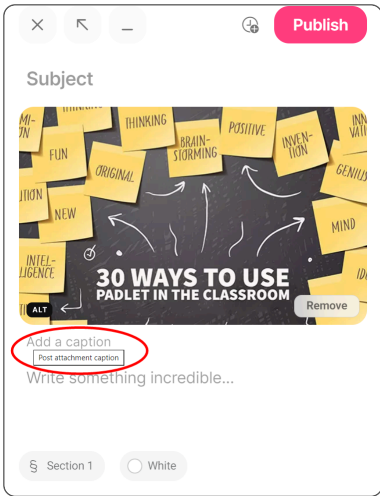
## Adding Images

When using images, add a succinct description to the **alternative text form** by clicking **ALT** in the lower left of the image preview.

Learn more about describing images and alternative text.



Or include relevant information in the **Caption** field.



If visual content has a descriptive caption, the alt text field can be left blank.

## Adding Videos

To orient users, add a descriptive, unique title to the **Subject** line of video posts.

When adding videos, Padlet advises “users to choose videos which are appropriately captioned for the benefit of everyone” (Aditus, 2025). Consider uploading videos to Kaltura Mediaspace, editing the captions, and linking to them via Padlet. If linking to a video hosted elsewhere (such as YouTube or Vimeo), choose videos with closed captions.

For videos recorded directly in Padlet or videos uploaded to Padlet, captions will be automatically generated. Padlet allows users to download subtitles, edit them for accuracy, and re-upload. For existing videos, select **Edit post**, open the **Subtitle** menu, and select **Download subtitles**. This downloads an .SRT

file which can be edited using a plain text editor such as TextEdit or Notepad.

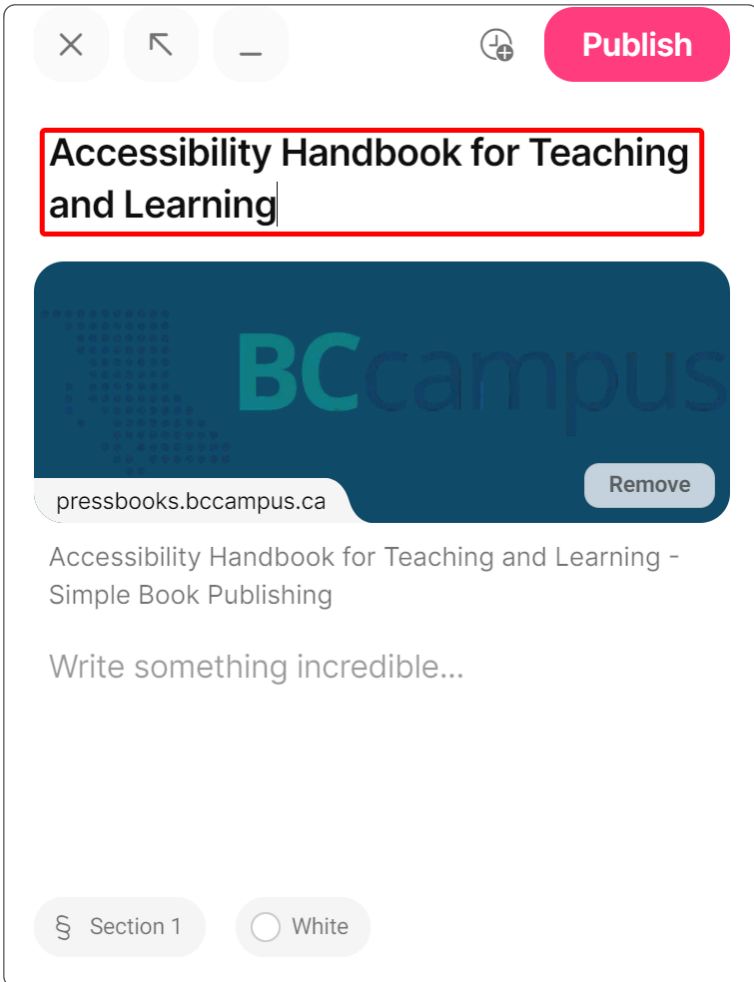
Learn more about closed captions.



## Adding Links

When adding a link to Padlet, enter a description of the link destination in the **Subject** field.

Consider best practices for linking, specifically including (PDF) or (Video) in the Subject when links land on a PDF or video.



## Adding Files

When uploading a file, write a descriptive title in the **Subject** line and include file type, such as PDF, Word, or PowerPoint.

## Links and Further Reading

Langara EdTech Padlet Information  
Padlet Accessibility Information

## Works Cited

Aditus. "Padlet Accessibility Conformance Report International Edition." *Padlet*, 2025.

# PebblePad

PebblePad is Langara’s online portfolio and experiential learning platform. PebblePad can be used to create portfolios, blogs, basic webpages, online collections of files, formal and informal reflections, action plans, and more.



Regardless of type created, adding content is similar. This chapter will outline the steps to add accessible content to PebblePad.

In addition to the steps below, follow the general better practices for accessible content creation covered earlier in this book.

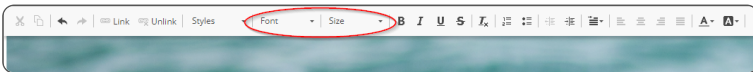
## On this page:

[Font](#) | [Structure](#) | [Text Equivalents](#)

## Font

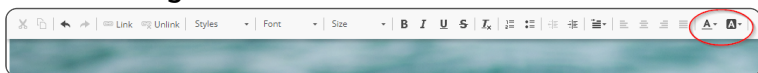
Ensure you use a readable font size and style. Prefer sans-serif or basic serif fonts in size 16 or larger.

The toolbar appears when in an editable field. Use the **Font Name** and **Font Size** menus to adjust font.



Review accessible font best practices.

To change the font colour, select the font and use the **Text Color** and **Background Color** menus in the editor toolbar.



Ensure font colour has a contrast ratio of at least 4.5:1 against the background colour. PebblePad does not include a contrast checker, but third party tools like WebAIM's Contrast Checker can be used to determined colour contrast ratio.

The background colour of a text block can be changed using the **Properties** panel and selecting a colour from the menu in the Background colour section.

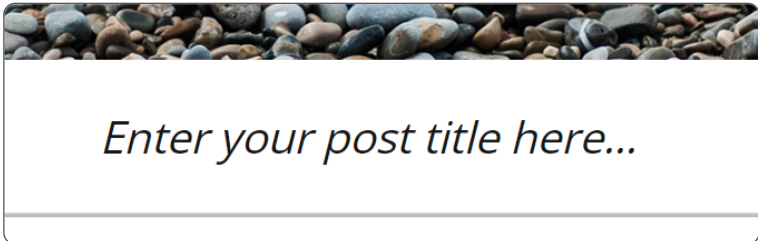
When using banners, select **Text below the image** in the **Properties** panel to avoid difficult to read text and potential contrast issues between the banner image and text.

Review accessible colour guidelines.

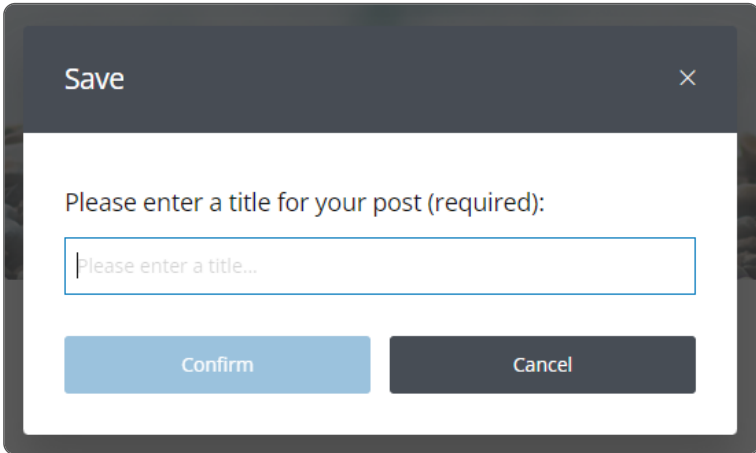
## Structure

### Title

Ensure each page has a descriptive, unique title. Enter the title in the ***Enter your post title here...*** placeholder:

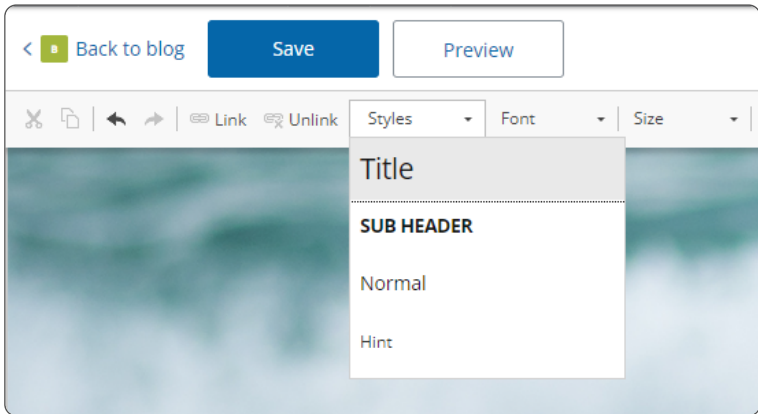


Or in the title field when you are prompted to save for the first time:



## Headings

To create headings, use the **Styles** menu on the editor toolbar.



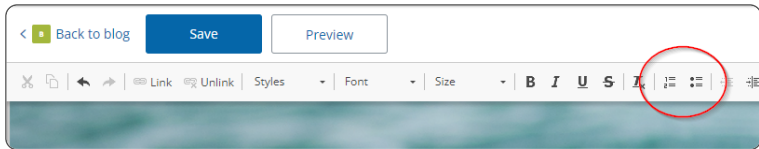
**Title** is coded as a heading level 2 while **SUB HEADER** and **Hint** are coded as heading level 4. Skipping heading levels is not ideal, but use the heading tools available in PebblePad to

give longer content structure. Use **Title** for the main topic, **SUB HEADER** for subsections, and **Normal** for body text.

Review accessible headings guide for more information.

## Lists

Use numbered lists for steps in a process. Use bulleted lists for grouping of items. Use the **Insert/Remove Numbered List** and **Insert/Remove Bulleted List** buttons on the editor toolbar to create lists.

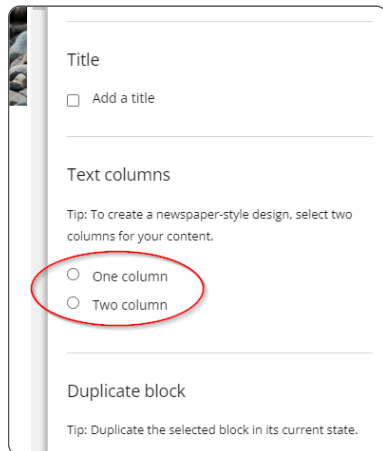


Review list best practices.

## Columns

Text blocks can be single column or two column.

1. Select the text block.
2. Open the **Properties** panel.
3. Scroll to Text columns.
4. Choose **Two column**.

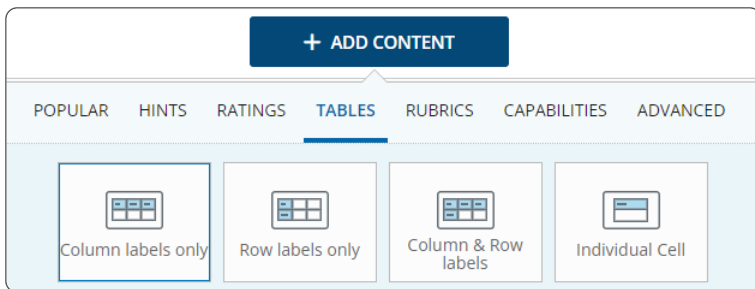


## Tables

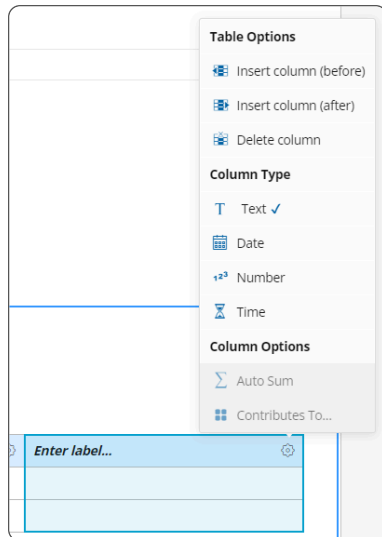
Tables can only be created in Templates and Workbooks.

To create a table:

1. Select **Add Content**.
2. Choose **Tables**.
3. Select table with appropriate header cell structure (column labels, row labels, or both).



To modify table structure, select **Get table cell options** (the gear icon in the right of label cells). Use the menu to add or delete rows and columns and set required format type for column or row.

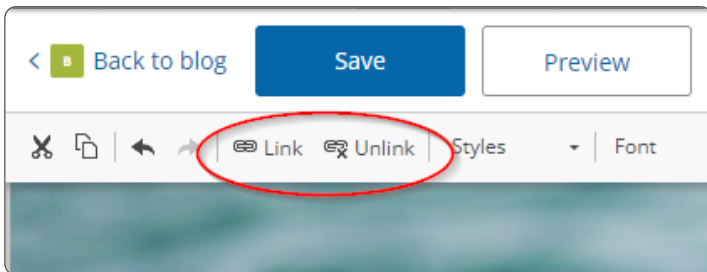


## Text Equivalents

### Descriptive Hyperlinks

Instead of pasting raw URLs or links that read “Click here” or “Read more” write descriptive hyperlink text that can be understood independent of surrounding content. To add hyperlinks:

1. Write meaningful text that describe the destination of the link.
2. Highlight the descriptive text.
3. Select **Link** in the editor toolbar.



4. Choose what type of element you wish to link to.
  1. In the case of a webpage, paste the URL in the dialogue box.
  2. Click **Confirm Link**.

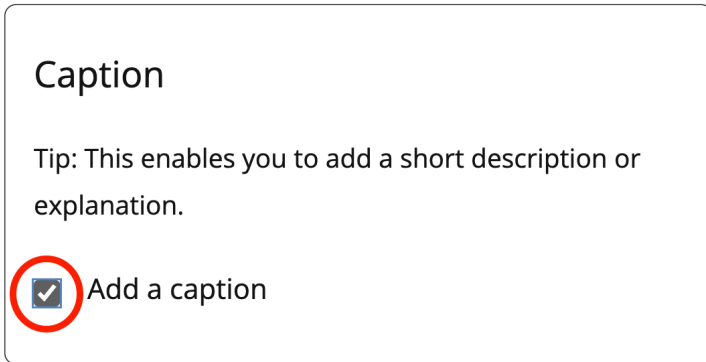
Consult accessible links chapter for more information.

## Figure Captions

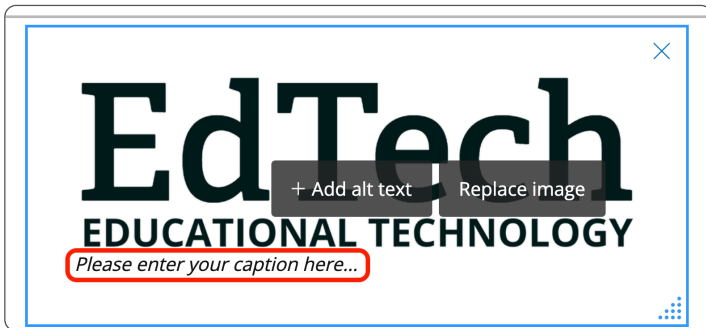
When images contribute information, they must have alternative text. Adding a figure caption is an accessible method to provide text descriptions of visual information.

To add a figure caption:

1. Select an Image block and open the **Properties** panel.
2. Scroll to the **Caption** section and check **Add a caption**.



3. A caption placeholder will appear in the image block. Click on **Please enter your caption here...**



4. Type a descriptive caption



5. If an image has a descriptive caption, the alt text field can be left blank.

## Alternative Text

When a figure caption is not preferred, use the alt text field to provide a description of visual information. Add alternative text to images in PebblePad when you upload the image as an asset in the alt text field.

**Alt text**

Alt text helps screen readers describe your image to people who may have trouble seeing it. Leave empty if the image is purely decorative.

Or add alt text when adding an image block by selecting **Add alt text**.



If an image already has alt text, the button changes to **Edit alt text**.

Alt text can also be added via the Assets Store. Select an image file asset and scroll to the bottom of the page. Enter alt text in the provided field.

A screenshot of a form for adding alt text. The form has a light grey background and a rounded rectangular shape. At the top left, the text "Alt text" is displayed. Below it, a smaller line of text reads: "Alt text helps screen readers describe your image to people who may have trouble seeing it. Leave empty if the image is purely decorative." Below this text is a white rectangular input field with a thin grey border. The input field is currently empty, with a small vertical cursor visible on the left side.

Review alternative text guidelines for more information.

## Captioned Videos

Use the **Embed** block for videos. Uploaded video assets in PebblePad only support open captions. Prefer **closed captioned** videos hosted on Kaltura Mediaspace, YouTube, or other supported platform.

Consult closed captioning guide for best practices and tips.

## Transcribed Audio

Use the **Audio** block to upload audio recordings. Upload and link to a transcribed text version of the audio below the **Audio** block.

# Reading Lists (Talis Aspire)

Reading Lists organize all of the resources (or “readings”) for a course, whether it’s books, e-books, journal articles, scanned documents, films, or websites. They can easily be used as a digital alternative to print coursepacks.

Reading lists can be integrated seamlessly into a Brightspace course or shared as a link.

Review the Step-by-step Instructor Guide provided by the Langara Library to get started with Reading Lists and consider the following accessibility best practices.

## Naming

Name your Reading List using the naming convention recommended by the library. Specifically, name your reading list as: Course Code + Course Number: + Title of Course + (Instructor Surname). Example: ENGL 1123: Introduction to Academic Writing (Smith).

## Organization

Add sections to your reading list that mirrors your Brightspace module organization (week or topic). For more information, refer to Organize Reading Lists – Research Guides at Langara College.

Best practice is to add your Reading List to your Brightspace

course with each section in the appropriate module AND as a source list of all the readings for the whole course. This helps students understand and manage readings without missing anything or becoming overwhelmed.

## Descriptive Titles

When adding readings using the extension, Reading Lists will pull metadata from the source. However, that information, especially titles, may not always be accurate. Review and edit the auto-populated information.

## Scans

Talis only accepts PDFs as uploaded documents. However, you may consider hosting content elsewhere, such as an [opened.ca](https://opened.ca) site, and then adding that source to your Reading List. For articles, try to find the original source via your library and add that to your Reading List. Most article databases offer HTML or PDF, allowing readers their preferred choice.

## Tags



Open the **Edit item menu** on the left side of an item record. Select **Add tags** and choose the appropriate tag to indicate the level of accessibility of the item. Choose from the following:

- Accessible PDF
- Alternatives available
- Includes captions
- Includes captions (auto-generated)
- Includes transcript
- Library eBook
- PDF
- Scanned from print

If you are unsure or would like more information about these tags, contact [assistivetech@langara.ca](mailto:assistivetech@langara.ca)



# Social Media Accessibility

On this page:

[Social Media Best Practices](#) | [Common Platform Instructions](#)

Follow these guidelines to ensure social media posts are accessible and inclusive.

## Social Media Best Practices

### Plain Language

Plain language helps readers:

1. Find what they need.
2. Understand what they find.
3. Use what they find.

Review plain language best practices.

## Tips for using plain language in social media:

- Start with the most important information.
- Use short, clear sentences. Avoid run-on sentences.
- Choose common words with basic, direct meanings.
- Avoid ableist language such as “lame” or “that’s crazy”.
- Avoid clickbait, vague statements, or unnecessary details.
- Spell out acronyms and initialisms.
- Use a link shortener (bit.ly or tinyurl) when appropriate.
- Including #Hastags and @mentions in the middle of a sentence can be confusing. Consider placing them at the end of your post.

## Emojis and Hashtags

Screen readers and many text to speech programs can read out unicode emoji graphics. However, text based emoticons created by combining slashes, colons, paranthesis, etc. are read out as their individual symbols.

Even with accessible emoji graphics, use them sparingly. Consider that 😊😊😊😊 is not only visually obtrusive, a screen reader will read “smiley face smiley face smiley face smiley face.”

**Do:** 😊

**Don't:** 😊 or 😊😊😊😊

Place emojis at the end of sentences instead of the middle.

In addition to considerate emoji use, avoid:

- Leetspeak/Calculator spelling such as “80t5” in place of “bots”
- Text emoticons such as >:({
- ASCII art such as (^.\_.^)~
- Studly Case such as pReSsBoOKS



Read the captioning chapter of this Pressbook for best practices.

## General Platform Instructions

### Facebook

Facebook posts have a limit of 60,000 characters, so you have space to spell out acronyms and abbreviations. Introduce an acronym by spelling out the acronym in full with the acronym in parentheses following, for example: Canada-United States-Mexico Agreement (CUSMA).

When adding a link to a Facebook post, ensure you enter a description of the link's destination in the **Description** field. Check the **No Thumbnail** before posting.

In addition to adding alternative text to photos, you can also add a caption to photos. Alt text is coded for assistive technology, but captions are visible text to all users. Alt text should describe the image, but a caption could be a title or used to give credit.

### Alt Text

To add alt text to a photo:

1. Select the paint brush icon labelled **Edit Photo**
2. Select the **Alt Text** tab and select **Override generated alt text**
3. Add alt text in the text field and select **Save**.

You can also edit alt text on existing photos.

1. Find the photo and select **Options**.

2. Select **Change Alt Text**.
3. Select **Override generated alt text**, enter a description, and select **Save**.

## Captions

Adding captions to videos on Facebook profile

Adding captions to videos on Facebook page

Facebook Accessibility Help Center

While you can add videos to Facebook, it might be better to upload your video to Kaltura and then provide a link on Facebook. This allows you to share the video on other platforms.

Twitter

Twitter's short character limits make accessibility a challenge. Consider the following tips:

- Avoid acronyms and abbreviations. When used, expand/explain.
- Consider providing indicators such as [PIC] or [VIDEO] when linking to such content.
- Use a link shortener (bit.ly or tinyurl) when appropriate.
  - Use (part of) the tweet itself as a description of what the link is
- Link to accessible content.
- End with #Hashtags and @mentions.
  - Use Pascal Case for hashtags.

## Alt Text

1. Attach photo to new Tweet.
2. Select **Add description**.
3. Type description and select **Done**.

Read about Twitter alt text badges.

## Captions

Twitter now automatically captions videos. At the time of the writing of this Pressbook, these automatically generated captions cannot be edited.

Captions display only when the viewer's device is muted.

Twitter also allows for uploading .SRT files (read more about .SRT in the Captions chapter of this Pressbook)

1. Click on a video within your Media Studio library.
2. Select the **Subtitles** tab in the pop-up window.
3. Select the text language of your subtitle file from the dropdown menu.
4. Click the **Upload** button and select the .SRT file from your local computer.
5. Select **Done**.

## Instagram

As with other social media platforms:

- Use Pascal Case for hashtags.
- Expand/explain acronyms and abbreviations.
- Use the caption of your post to explain the connection between a series of photos.

## Alt Text

1. Take photo, apply filters, and select **Next**.
2. Select **Advanced Settings**.
3. Choose **Write Alt Text**.
4. Add alt text and select **Done**.
5. Change/add alt text to existing photo by selecting **Edit**.

6. Choose **Edit Alt Text**.
7. Enter description and select **Done**.

## Captions

Currently, Instagram only offers captions on Stories.

1. Upload video.
2. Choose **Stickers**.
3. Select **Captions** sticker.
4. Choose caption style.
5. **Save**.

## TikTok

TikTok will warn creators when adding special effects that may trigger photosensitive epilepsy.

When adding text overlays, select the text and choose **Text-to-speech**. This will provide a voiceover of the text when the video plays.

After uploading or recording a video, the editing page will prompt creators to enable automatic captions. Captions can be edited by selecting the pencil in the right hand panel.

Visit [Accessible-social.com](https://www.accessible-social.com) for common social media accessibility best practices and additional resources.

# Surveys and Forms

Online forms are useful for data collection and surveys. Accessible forms are designed to meet the access needs of all respondents. Accessible forms increase inclusivity, usability, and the number of people who can participate.



There are different online tools available, but it's essential to consider the content and structure of your form or survey to make it accessible.

Here are some best practices to improve accessibility, usability, and effectiveness of online forms:

## Suggested Platforms

At Langara, we support Microsoft Forms, Brightspace Surveys, and Zoom polls. These platforms offer various question types and features. Consider that Zoom polls must be set up before the meeting begins.

Avoid SurveyMonkey and Wufoo as they present many accessibility barriers to users.

## Form Best Practices

## Provide clear instructions

Start your form with clear instructions. Include information about:

- Number of questions.
- Time limit (if applicable).
- Due date (if applicable).
- How to complete the questions.
- What the survey is about.
- How required fields will be indicated
  - Plain text “required” in the visible form label is the best method.
- Instructions for form fields that require specific formatting or other requirements.
- Help or contact information.

Clear instructions help respondents budget their time, manage their expectations, and understand the purpose of the survey.

## Use Plain Language

Use simple and direct language that everyone can understand. Avoid jargon, abbreviations, and acronyms or when you use them, explain them when they first appear. Avoid negative questions that might confuse respondents by requiring a ‘Yes’ to confirm a negative.

## Indicate Required Fields

Indicate required fields in plain text labels or question prompts. Don’t rely on colour alone to indicate a required field.

## **Include Field Labels**

Every field should have visible labels and example placeholder text in the fields. Add meaningful labels above or to the left of each field.

## **Number Questions**

Number each question and add a progress indicator to help respondents to understand the survey's length.

## **Allow Saving Progress**

If the platform allows, give respondents the option to pause, save, and resume the survey later.

## **Avoid Time Limits**

Do not impose a time limit on respondents unless essential to the purpose.

If a time limit is needed:

1. Clearly communicate the time limit in the instructions.
2. Provide a warning before time runs out.
3. Offer a method to extend time at least once.
4. Make sure the timer is obvious and accessible without being intrusive.

## **Avoid Space Constraints**

Use long text or rich text fields that allow respondents

adequate space to answer. Ensure forms display properly on a mobile device. Pay attention to the layout of multiple-choice and radio buttons.

## Error Messages

If respondents make mistakes or enter invalid data, show accessible error messages that specify the incorrect field and provide guidance on the required formatting. For example: “Dates should all be entered in the format mm/dd/yyyy, (as in 06/29/2023)” or “Passwords must contain at least 8 letters and/or numbers.”

## Check Focus Order

Test the keyboard functionality of your form to ensure the focus order follows the visual layout. Use **Tab** to move between fields, **Space** to open a menu and select checkboxes, and arrow keys to navigate menus and radio buttons.

Ensure there is an obvious visual indicator when a form field has keyboard focus, such as a noticeable ring around the field.

## Add Submission Confirmation Message

After clicking the submit button, include a confirmation dialogue to prevent accidental incomplete submissions.

# Teams and Zoom

Making a virtual meeting or presentation accessible includes all attendees equitably. Consider the following tools and best practices for Zoom and Teams.



## On this page:

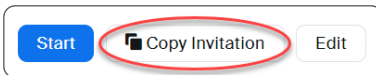
[Before Meeting](#) | [During Meeting](#) | [After Meeting](#)

## Before Meeting

Before a meeting, consider the following to ensure your meeting includes everyone:

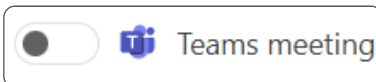
### Include relevant information in the meeting invitation

Copy Zoom meeting invitation and distribute with meeting invitation.



Use Outlook to schedule a

Teams meeting by toggling on **Team meeting** in Outlook.



## Share material in advance

If your event includes material, share it in advance.

This helps:

- Attendees follow along.
- People consume information at their pace.
- Improve comprehension and understanding by allowing people to make notes and annotations instead of frantically copying down the information.
- People who prefer to print material.
- People who wish to do preparatory reading.
- Assistive technology users to access and navigate the content.
- Interpreters, captioners, and transcribers to prepare and know names, terminology, and details.

If there is no material, consider sending a read-ahead or agenda. No one likes surprises. In the context of a class, your content will likely be related to the readings or material on Brightspace, so you may not have to explicitly create anything extra.

As always, ensure what you are sharing is accessible.

## Mute on entry

For large groups, it may be best to have attendees muted when they enter to reduce confusion and crosstalk. People can unmute as needed later.

When setting up a Zoom meeting, toggle on **Mute all participants when they join a meeting**. Learn how to mute all Zoom participants.

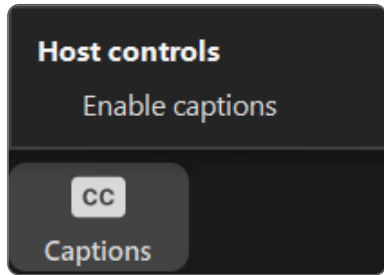
In Teams, select **Meeting options** to set audio and video

permissions. Learn more about managing attendee audio in Teams.

## Enable automatic captions



In Zoom, ensure captions are enabled. In the Zoom toolbar, click the captions button and select **Enable captions**.

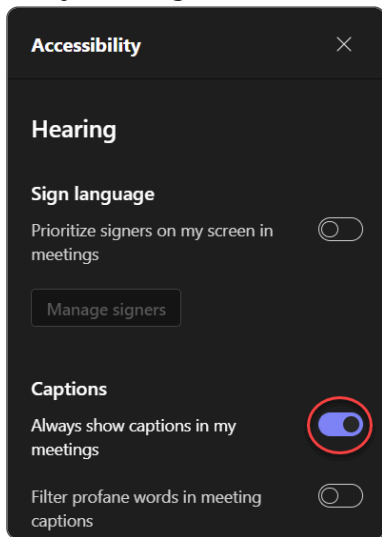


This allows viewers to enable captions on their device. Learn more about Zoom automatic captions.

## During Meeting



In Teams, select ... **More** and select **Settings > Accessibility**. In the Accessibility sidebar, toggle **Always show captions in my meetings** on.



Use live captions in Microsoft Teams meetings

- looking at the chat to know the question you are about to answer.
- Asking a volunteer to monitor the chat and ask them to notify you of questions.

## Make a plan, ask for input, and communicate with attendees

Outline the agenda, structure, and expectations of the Zoom session to help with accessibility and anxiety and ensure a smooth flow. Indicate if you plan to use breakout rooms, if there will be polls, and how you would like questions/comments to be communicated.

Consider:

- Asking how attendees would prefer to communicate and come to a group agreement about communicating.
- Some students may not find it easy to access the chat window and video simultaneously.
- Some students may prefer to ask questions via chat.
- Repeating questions aloud before answering them.
- This allows those not

- Encouraging participants to mute their microphone when they are not speaking.

## Recording



To record a Zoom meeting:

1. Select **Record** on the Zoom toolbar.
2. Recording can be paused and stopped on the Zoom toolbar.
  1. The recording will be saved in the default location  
(**Documents** folder / **Zoom** / **Folder with meeting name, date, and time.**)



To record a Teams meeting:

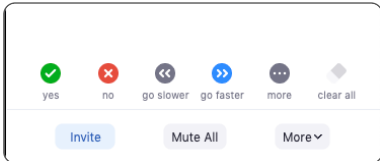
1. Under **More** in the meeting controls, open the **Record and Transcribe** menu.
2. Select **Start recording.**
3. Set **Spoken language** and select **Confirm.**
  1. Recording a meeting automatically starts Transcription.

The recording will be available in the Teams chat for the meeting as well as the host's OneDrive Recordings folder.

## Mute all participants



In Zoom, open the participants panel and select **Mute All**.

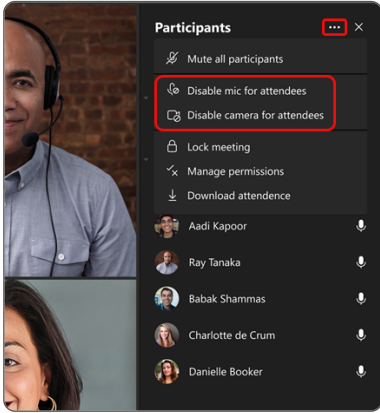


If appropriate, ensure **Allow participants to unmute** is checked. [Learn more about muting participants in Zoom.](#)



In Teams, select **People** and click on the **... More options** menu in the top

right. Select **Disable mic for attendees.**



Hosts can then allow individual users to unmute, or enable mic for attendees using the same menu. Learn more about managing attendees in a Teams meeting.

## Avoid complicated virtual backgrounds

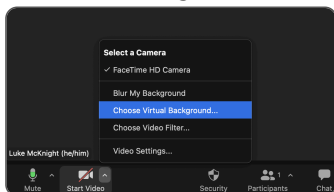
Animated virtual backgrounds may be distracting for some and could cause anything from motion sickness to seizures for others. If you want a virtual background, use blur or other solid colour.



In Zoom:

1. Via the video settings menu, select **Choose Virtual Background...**

2. The Zoom settings window will open to **Background & Effects** where you can choose a background.



Read more about changing Zoom virtual background.



In Teams:

1. While you're setting up your video and audio before joining a meeting, select **Background filters**.
  1. Your background options will display on the right.
  2. Select **Blur** to blur your background.

## Use tools to highlight specific attendees

In Zoom consider pinning participants' videos and allowing multi-pin. This will help attendees focus and/or pin the presenter and an interpreter.

In Teams, use Spotlight and Pin for presenters and interpreters.

## Present with your audience in mind

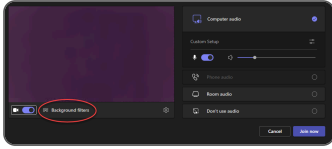
Learn more about inclusive content delivery.

## Additional Considerations

If you are unsure how to assist a participant, ask them. They may have encountered a similar barrier before and may recall a solution.

Ask participants if they would like any help or if anything is unclear.

Be patient. Everyone faces unique circumstances



How to set a background filter in Teams.

Present Live: Engage your audience with Live Presentations and Present from PowerPoint Live in Microsoft Teams.

and some may need additional time and patience.

Respect participants desire to share or remain private.

If presenting a PowerPoint, consider

## After Meeting

Following a meeting there are a number of useful resources that can be shared:

## Chat



To save a Zoom meeting chat:

1. Open the **Chat** panel.
2. Select the ... More menu

beside the meeting room name.

3. Choose **Save chat**.
  1. The chat will be saved as a text file in the default location (**Documents** folder / **Zoom** / **Folder with meeting name, date, and time.**)

It is possible to disable the chat for a meeting to prevent participants from chatting with one another.



In Teams, meeting chats are saved automatically in each user's chat window under the name of the meeting. The chat can be manually copy and pasted into a document, however some formatting may be distorted.

## Transcript



To save the transcript in Zoom:

1. Transcription and/or Closed Captioning must be enabled.
2. Open the **Captions** menu on the toolbar and select **Show full transcript** or select the **Transcript** button from the toolbar.
3. At the bottom of the **Transcript** panel, select **Save transcript**.
4. The transcript will be saved as a text file in the default location  
(**Documents** folder / **Zoom** / **Folder with meeting name, date, and time**.)



To save a transcript in Teams:

1. Transcription must be turned on for the meeting.
2. After the meeting, the Transcript will be available for download in the meeting chat. Depending on settings, the Transcript may only be available to the meeting host to download.

Consider sending a follow-up email after the meeting has concluded. A follow-up email could include:

- Reminders
- Action items
- Links or other resources shared in chat or discussions.
  - A useful method might be to look at the saved chat and glean links and talking points from that record.
- Where and when appropriate, share a **captioned video recording**.
- Presentation material or related resources, even if you shared them prior to the meeting.

For repeating meetings, check in with attendees periodically for feedback on what is working or what changes they might benefit from. Ask attendees about pace and breaks. Review protocols for communicating (raising hands, use of chat, etc.) and ask for suggestions.

# WordPress and Pressbooks

WordPress is one of the most common content management systems in use. Pressbooks is built on the WordPress platform, so many functions are the same. Langara's iWeb and CourseWeb use WordPress and this resource is a Pressbook.



**On this page:**

[Themes](#) | [Best Practices](#) | [Headings](#) | [Alt Text](#) | [Links](#) | [Tables](#)  
[Exporting](#) | [Further Reading](#)

## Themes

WordPress has thousands of themes. Some are free and many are paid. Regardless of what theme you use, it is easier to start with something accessible than fix an inaccessible theme.

You can filter WordPress themes for “Accessibility Ready.”

1. Click the **Feature Filter** button
2. Check **Accessibility Ready** checkbox
3. Click the **Apply Filters** button

This reduces the list of themes significantly, but using an “Accessibility Ready” is not a guarantee of accessibility.

## Best Practices

Make content easy to read and navigate, by using:

**Plain language.** Learn more about plain language.

**Structured content** such as **headings**, lists, and tables.

Consider font accessibility, including:

- Standard font size is 16px, but use em and rem units in CSS for font size.
- Avoid excessively decorative fonts; choose simple serifs or sans serif fonts.

Font must have a contrast ratio of at least 4.5:1. Read more about contrast in the Accessible Colour chapter of this book.

Avoid:

- Leetspeak, calculator spelling (i.e., 80t5 for bots), text emoticons (i.e., >:( ), ASCII art (i.e., (^.\_.^)~)
- All capitals
- Excessive use of italics
- Justified alignment

## Headings

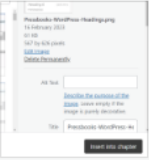
Headings provide structure for your page and the information it presents. Headings allow all users to skim and find what they need. Navigating a page by headings is essential for screen reader users to navigate the web.

To designate text as a heading, highlight your text and select



WordPress/Pressbooks supports adding figure captions via the Media Library. When adding or editing an image add information to the caption field. If an image has a descriptive figure caption, the alt text field can be left blank.

**ATTACHMENT DETAILS**



**Pressbooks-WordPress-AltText.png**  
16 February 2023  
49 KB  
587 by 625 pixels  
[Edit Image](#)  
[Delete Permanently](#)

Alt Text

[Describe the purpose of the image.](#) Leave empty if the image is purely decorative.

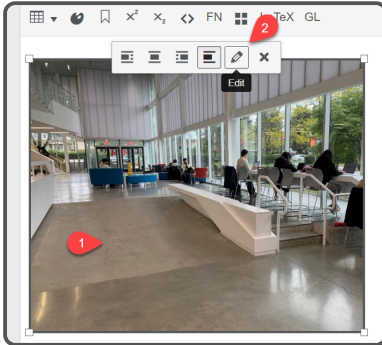
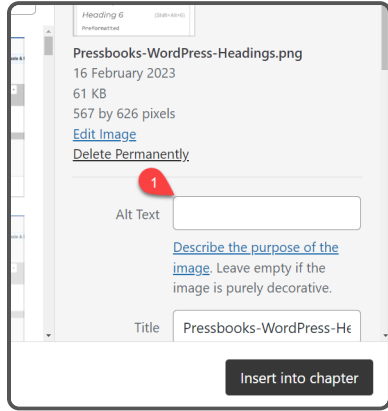
Title

**Caption**

Description

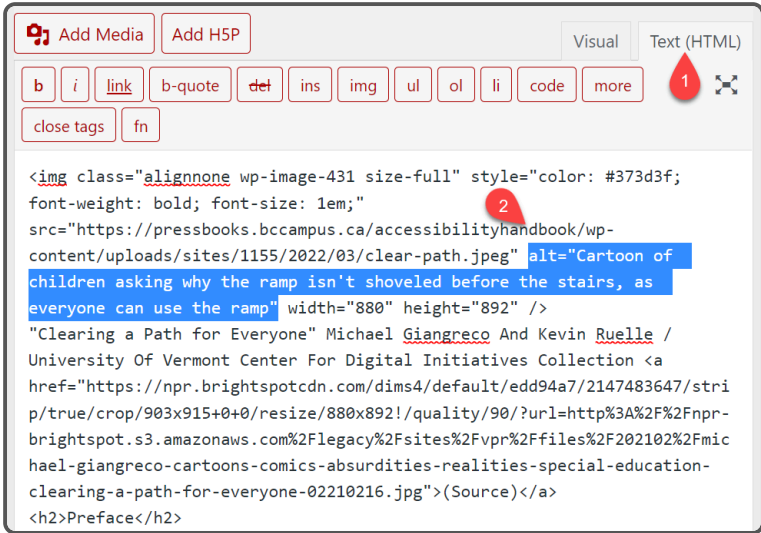
File URL:   
[Copy URL to clipboard](#)

If an informative image does not have a descriptive caption, enter an image description in the **Alt Text** field when uploading a new image.



Or, edit an existing image to add alt text by selecting the image and choosing **Edit** and typing a description of the visual information in the alt text field.

Or, manually change the alt attribute in the Text/HTML editor:



Include the **alt attribute** for all images. If there is no alt attribute, assistive technology will read the src attribute (the file URL) aloud. Mark decorative images with alt="" or leave alt text field blank in Media Library.

Refer to the Alternative Text chapter in this book for more information.

If including multimedia, ensure videos are captioned and audio have transcripts available.

## Links

To add a link, highlight text and use the **Insert/edit link** button or press **Control/Command** (on macOS) and **K** to insert a link.

Good **hyperlink** text should:

- Be descriptive, unique, and meaningful
  - Describe what a link is and why a reader would click on it

- Avoid using “click here” “read more” “download” etc.
- Maintain meaning when removed from surrounding text

Avoid using URLs as hyperlink text. If you must provide the URL, include useful hyperlink text as outlined above and then include the URL as non-linked, regular text.

For more information read the accessible links chapter earlier in this book.

## Tables

Insert **tables** using the **Table** tool on the editor toolbar.

1. Change table appearance via **Table > Table Properties**
2. Set cell type and scope via **Table > Cell Properties**
  1. Of particular importance is setting header cells
  2. Set header row via **Tables > Row > Table Row Properties**

Avoid merged and split cells. You may use them, but additional work is required to set scope.

Check function of table by placing cursor in cell A1 and pressing **Tab**. Ensure a logical **reading order** is followed.

Do not use tables for alignment or layout.

Review table best practices for more information.

## Exporting Pressbooks

HTML is a more accessible format than PDF. If you need to share a page as a PDF, make it accessible using Adobe Acrobat

and the chapter on PDFs in this book. EPUB or other XML formats are more inherently accessible formats.

Pressbooks offers many export options. To export your Pressbook:

1. Navigate to the **Dashboard**
2. Select **Export** from the sidebar
3. Check the relevant formats
  1. **PDF (for digital distribution)** will be the best place to start in creating an accessible PDF copy
  2. **EPUB 3** is one of the most accessible and customizable formats, but requires software for users to read
  3. **PDF (for print)** should only be used explicitly for printing purposes as it will retain none of the coded structure in your Pressbook
4. There are other formats you find useful:
  1. XML and XHTML
  2. Common Cartridge for importing your Pressbook into a Brightspace course
  3. OpenDocument

### Further Reading

Learn more about Accessibility in WordPress.  
Read about how to make your Pressbook accessible.

# WordPress Block Editor

Follow these best practices to create accessible pages and posts in the WordPress block editor.

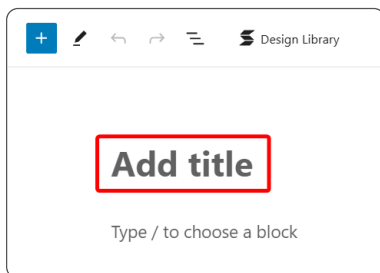


## On this page

[Title](#) | [Font, Colour, and Formatting](#)  
[Headings and Structure](#) | [Alternative Text](#) | [Links](#) | [Plain Language](#)

## Title

Each page and post must have a descriptive, brief, and unique title. Select the **Add title** placeholder to create a title.



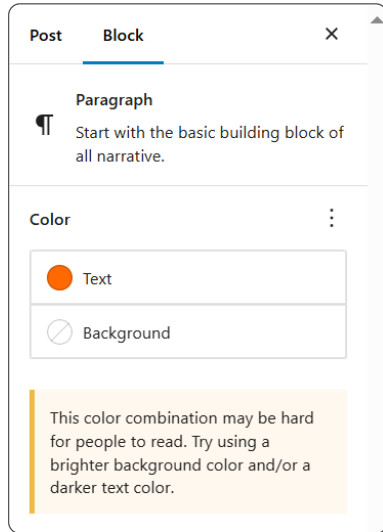
## Font, Colour, and Formatting

Use a sans-serif font like Arial or Verdana, with black text on white backgrounds or white text on a black background. Use fonts size 16 pixels or larger.

For accessibility do not use Langara orange (#f15a22) with white. For decency do not use Langara orange with black.

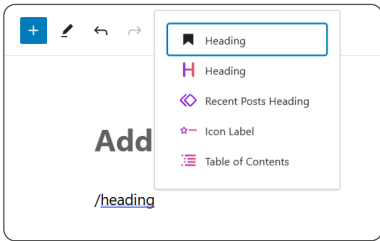
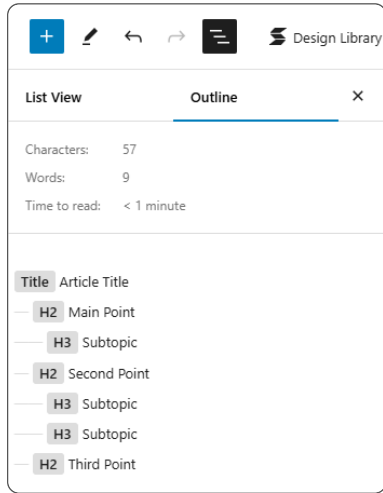
If using font colours other than default, check text and background for sufficient contrast. The WordPress editor will note insufficient contrast, but if unsure check colours using the WebAIM colour contrast checker.

Use built-in tools for lists and adjusting indent.

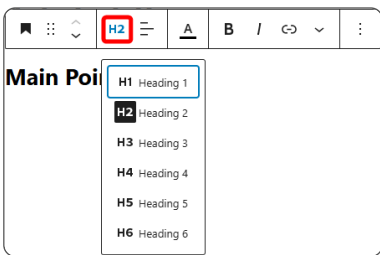


## Headings and Structure

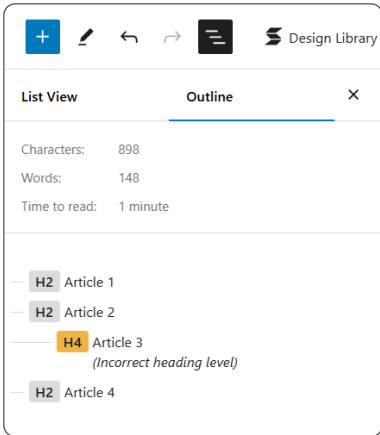
Use headings to organize content. Headings should be brief (only a few words) and descriptive of the content contained below. Use heading levels in a sequential, nested structure. For example, begin with an H2 for your main point or theme. Use nested H3s for subtopics. Return to H2 for your second point with nested H3 subtopics, etc.



To create a heading type /heading.



To set heading level open the H2 menu in the editor toolbar and choose the appropriate heading level.



To review heading structure, open the **Document Overview** and move to the **Outline** tab.

WordPress will note (**Incorrect heading level**).

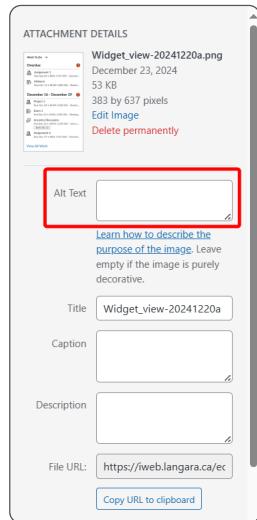
Do not use tables for alignment purposes, use the Columns block.

## Alternative Text

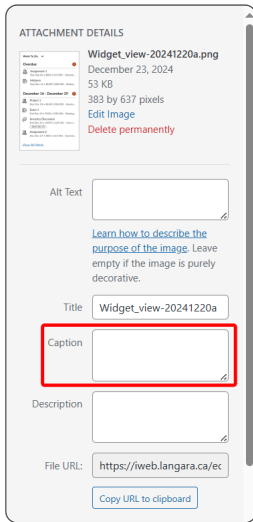
Graphics that contain information must have a text equivalent. Often that is provided in the Alt Text field. Alt text is code that is read aloud to screen reader software and describes the information in a graphic to blind and low vision users. Write a brief description of the graphic in the **Alt Text** field in the Media Gallery Attachment Details panel. [Learn how to write alt text.](#)

If an image does not include information, leave the **Alt Text** field blank.

Best practice for many images, especially instructions, is to include a



text equivalent to compliment and support visual information. If a graphic contains information but is accompanied by adjacent equivalent text or a descriptive figure caption, leave the **Alt Text** field blank.



Add a **figure caption** in the Media Gallery Attachment Details panel **Caption** field. Captions can be longer than alt text, but should be concise. Links and attributions should be in a caption, but never in alt text.

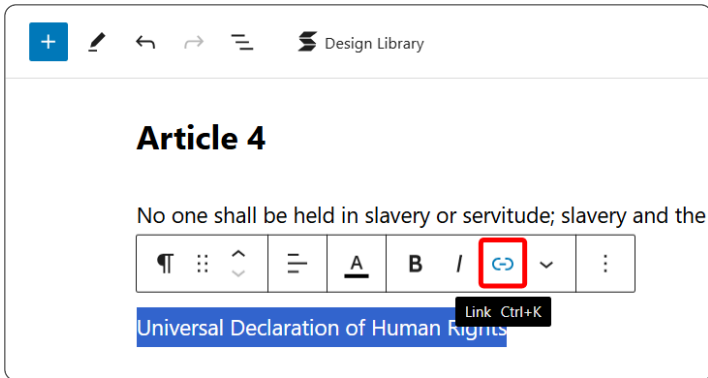
If an image is a link, write the link destination in the **Alt Text** field.

## Links

Do not include bare URLs as they are cumbersome for assistive technology and meaningless to all. Do use “read more” or similar language for links as it is not meaningful.

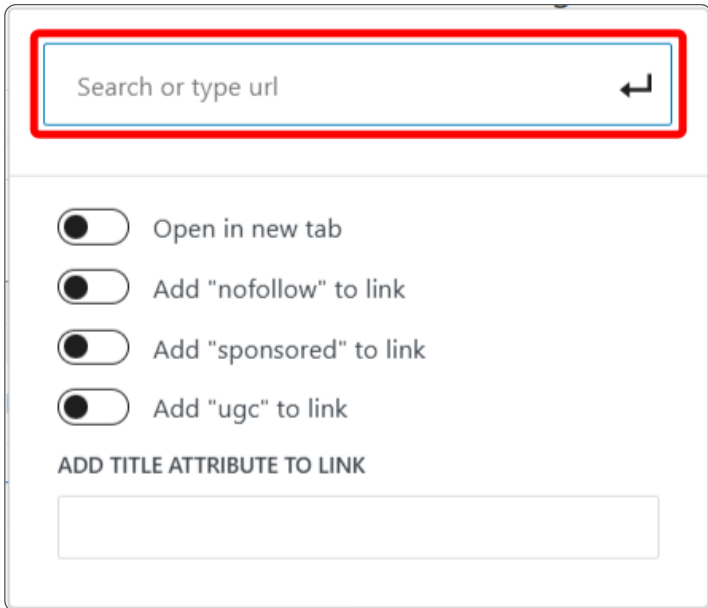
To create accessible links:

1. Write a brief description of the link destination.
2. Select the text and choose the **Link** button in the editor toolbar.



Or, press **Control (Command on macOS) k**

3. Paste the URL and press **Enter**.



## Plain Language

Use clear, concise language.

- Avoid assuming recipients' knowledge.
- Explain abbreviations, initialisms, and acronyms.
- Make clear requests.
- Provide summaries of long emails.

Consider Microsoft Word's Document Stats for readability stats or AIOSEO Readability scores. However, as the author you know the material best and you are smarter than a computer. Learn more about plain language.

# MATH ACCESSIBILITY



# Accessible Math

Math and science can be challenging for many learners regardless of ability or experience. If that content is not accessible, even more

$$\int \frac{x^2}{(u)^{101}} \left( \frac{du}{3x^2} \right)$$

learners may be left behind. Creating accessible math and science content is straightforward using tools such as Equatio, Brightspace, and Office.

A first step to accessible and inclusive access is to present information in multiple ways. For STEM content, consider presenting:

1. Numerically
2. Verbally
3. Graphically
4. In multiple formats

## Numerically

1. Lay out the equation line by line, step by step.
2. In digital spaces, insert symbols using equation editors instead of copying from elsewhere.

## Verbally

1. Read the equation or data aloud.
2. Explain the steps and processes as you complete them. Don't simply say "this equation here" or "on this line".

## Graphically

1. Use an accessible graphing tool such as Desmos (built-in to EquatIO).
2. Also include accessible data in table format.
3. For a simple diagram or chart, alt text may suffice.

## In Multiple Formats

1. Convert handwritten math (such as notes, documents, whiteboard photos) using Equatio mobile.
2. On a mobile device, navigate to [m.equatio.io](https://m.equatio.io) and scan physical math
  1. Authenticate using your Langara email
3. Send to Equatio Mathspace on desktop
  1. Authenticate using your Langara email
4. Use the Equatio Screenshot Reader (more information in later chapters) to capture math from the web and digital documents.

In digital formats ensure you use the proper symbols. Do not use the letter  $x$  or  $*$ , instead use the multiplication symbol  $\times$ . Avoid  $/$  for division, as assistive technology will read "21 forward slash 7". Instead, include the division symbol  $\div$ .

# Equatio Quick Start Guide



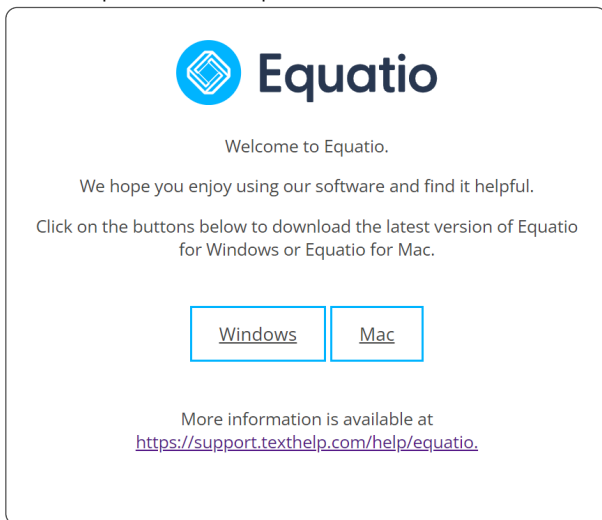
**Equatio** is software that allows you to insert, edit, and interact with digital STEM content.

Use Equatio to:

- Create accessible STEM content in Google Docs, Microsoft Word and PowerPoint, and Brightspace.
- Create and consume STEM content in a variety of formats.
- Use multiple input options, text-to-speech, and accessible chemistry tools.

## Install

1. Go to Equatio Desktop

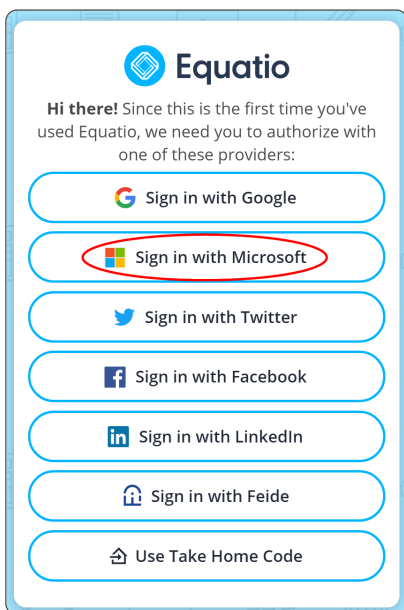


2. Choose **Windows** or **Mac**.

3. Follow the installation guide.

## Access

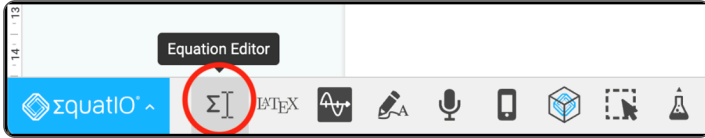
Select **Sign in with Microsoft** and use your Langara email and password.



## Basic Function

### Creating STEM Content

1. Open Equatio
2. Open the **Equation Editor** to type math.



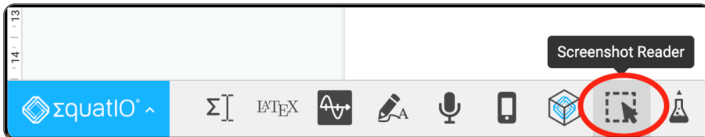
3. Enter text as you would speak it, or with specific notation. Select appropriate suggestions as you type by pressing **Enter**.
4. Click the **Copy Math As...** or **Insert Math** button to put accessible digital math in documents.

## Read STEM

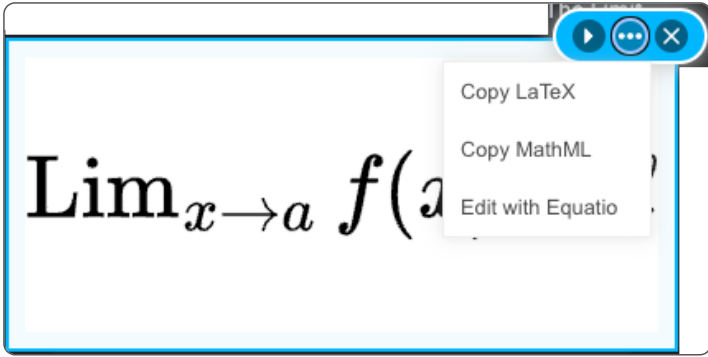
EquatIO's **Screenshot Reader** can be used to capture images of math or other inaccessible math content.

To use EquatIO's Screenshot reader:

1. Open Equatio.
2. Select **Screenshot Reader** on the toolbar.



3. Draw a box around math in documents or on the web. The content will be read aloud and can be exported to various formats (MathML, LaTeX, accessible image) or opened in the equation editor for further revision or completion.



For more information contact [assistivetech@langara.ca](mailto:assistivetech@langara.ca)  
Read more EquatIO how-tos and resources.

# EquatIO



On this page:

[EquatIO](#) | [Input Methods](#) | [Other Tools](#) | [Mobile](#) | [Mathspace](#)  
[Options and Settings](#)

## EquatIO

EquatIO is very intuitive and easy to use. Anywhere you can input text, you can use EquatIO to write math. Anywhere you encounter math, you can use EquatIO to read and copy math. EquatIO handles multiple inputs and outputs including plain text, LaTeX, MathML, and images. EquatIO also has chemistry and graphing tools. Langara has a site license for EquatIO, which means faculty, students, and staff can log in with their Office365 email and use all features of EquatIO.

## Installing EquatIO

Google Chrome Extension

[Download EquatIO for Mac/Windows](#)

[Mathspace](#)

[Access EquatIO on mobile devices.](#)

Log in with your Langara email account when asked to authenticate.

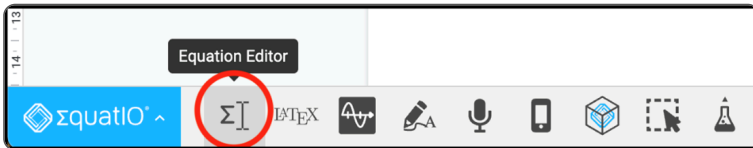
The following is an overview of EquatIO for Google Chrome. To open the Chrome Extension:



1. Select the EquatIO extension
2. Or, press **Alt Shift q**

## Input Methods

### Typing



Open the **Equation Editor** to type math (or paste from an existing accessible text format). Enter text as you would speak it, or with specific notation. Select appropriate suggestions as you type by pressing **Enter**. Press **Enter** to move to a new line.

More information on prediction and alignment and a list of keyboard shortcuts.



*One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.bccampus.ca/accessibilityhandbook/?p=3857#oembed-1>*

## LaTeX

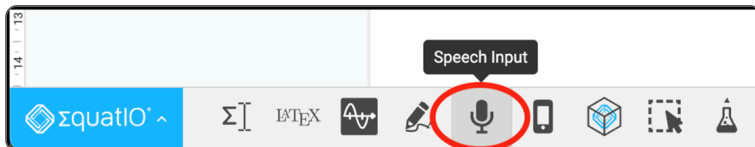
EquatIO accepts LaTeX input. LaTeX can be edited in EquatIO and exported as LaTeX or other formats.



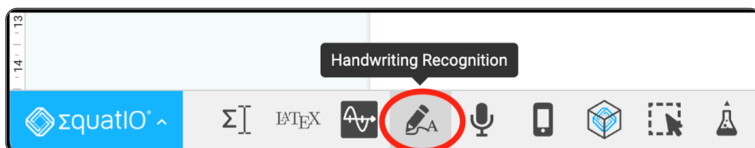
*One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.bccampus.ca/accessibilityhandbook/?p=3857#oembed-2>*

## Speech

EquatIO can accept speech input. Speak slowly and as clearly as possible.



## Handwriting



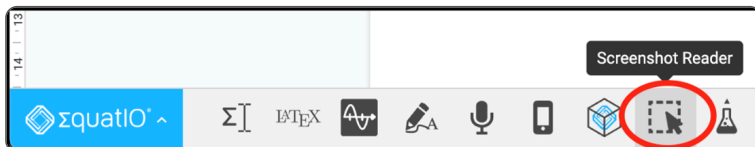
Write (with mouse, touch screen, or stylus) in the left panel and EquatIO will generate an accessible format in the right

panel. Scrub, like using an eraser, to erase your handwriting input.



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.bccampus.ca/accessibilityhandbook/?p=3857#oembed-3>

## Screenshot



EquatIO's screenshot tool can be used to capture images of math or other inaccessible math content. Use the tool to draw a box around inaccessible math. The content will be read aloud and can be exported to various formats or opened in the equation editor for further revision or completion.



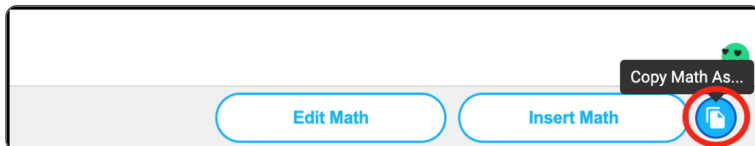
One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.bccampus.ca/accessibilityhandbook/?p=3857#oembed-4>

Select **EquatIO > Options > Chrome Options** to change **Speech Speed**.

## Exporting Math

Once math is in the EquatIO editor, it can be exported in several formats. EquatIO can be used to insert math anywhere there is a text edit field. If you have a document open (a Brightspace file or Word Document for example) you can select **Insert Math**.

For additional options, select the **Copy Math As...** button on the bottom right of the screen.



This allows users to export math in various markup languages (MathML, LaTeX, HTML, SVG), as an image with a spoken version of the math as the alternative text, or as spoken text into a document.

When inserting math into a document, users can make changes by clearing the equation editor, selecting the inserted math, and choosing the **Edit Math** button on the toolbar.

## Other Tools

### Discoverability

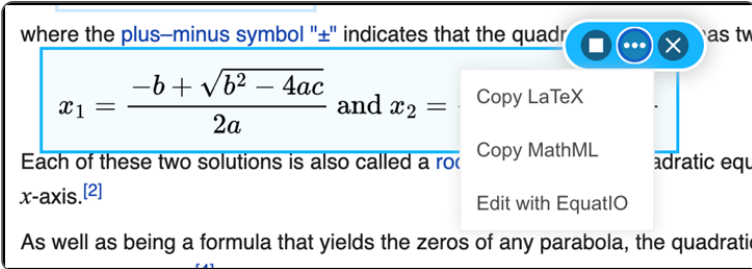
The discoverability tool will highlight any detected math on

a

webpage.

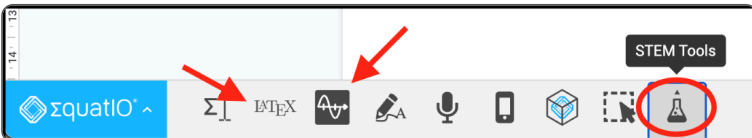


Recognized math will be enclosed in a blue box and when hovered over will present a toolbar with options to dismiss or capture math (camera icon). Selecting the capture math tool will read the math aloud. By selecting the more options button, you can then copy the math as MathML, LaTeX, or Edit with EquatIO which copies the math to the toolbar editor.



## STEM

EquatIO has numerous other tools for math and science available on the toolbar. LaTeX and graphing tools are available on the toolbar, while a periodic table, scientific calculator, and molecule viewer are available under the **STEM** tools menu.



## Mobile

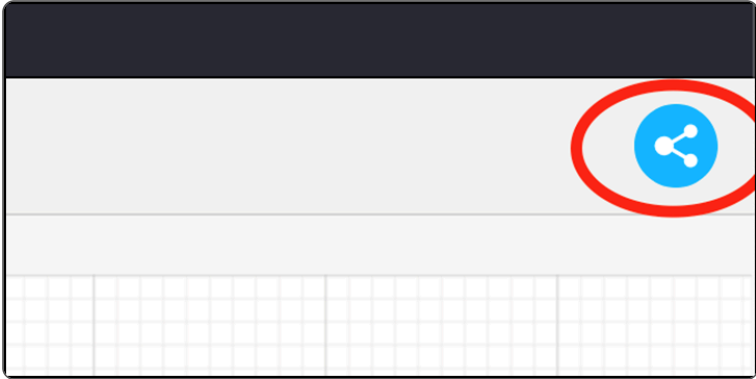
EquatIO mobile allows users to capture math with a phone, including photos of math, math written on a touch screen, or math input using voice commands.

1. Visit [m.equat.io](https://m.equat.io) on a phone.
2. Sign in with Langara email.
3. Math can be saved as an accessible image or shared with an active EquatIO document on desktop or Chrome.

Follow this link for additional instructions on EquatIO mobile.

## Mathspace

Mathspace is a browser-based tool for creating math, featuring all the EquatIO features listed above (handwriting, text, and speech input; integration with EquatIO mobile; STEM tools), as well as additional tools for graphing, drawing, and shapes. Pre-existing questions can also be inserted into Mathspace and spaces can be shared. Click the Share button in the top right of the window.



Consult the EquatIO Mathspace quick reference guide for more information.

## Options and Settings

On the left of the menu, the EquatIO button contains a menu with links and options.

1. Select **Options**
  1. Select **Math Options** to change font size, language, and prediction (autofill) settings.
2. Select **Toolbar Options** to toggle on or off various toolbar buttons.
  1. A user navigating by keyboard may find it useful to hide unused tools.
3. Select **Chrome Options** (or **Desktop Options**) to change playback speed when using the screenshot read to have math read aloud.

Select **Options** to change tools appearing on the toolbar (via **Toolbar options**), change speech speed under **Chrome Options**, and various other settings under **Math Options**.

The desktop versions of EquatIO have additional options and the menu is laid out slightly differently.

### Learn more about Equatio

[Quick reference sheet for EquatIO in Google Chrome.](#)

[EquatIO student resources.](#)

[EquatIO Academy to search for articles and guides.](#)

[EquatIO User Resources](#)

[TextHelp quick guide for EquatIO mathspace.](#)

[EquatIO Mobile allows users to capture math via mobile devices.](#)

[Supporting Specific Learning Needs with EquatIO](#)

[Langara support page for EquatIO](#)

[Accessible math on the web](#)

[Using EquatIO with NVDA. Additional information on using NVDA with EquatIO.](#)

# Brightspace Math

There are a number of ways to embed math and science content in Brightspace pages.



## Equation Tool



*Equation menu on the Brightspace editor toolbar*

1. **Graphical Equation** offers an additional toolbar and palettes of symbols to generate equations and is best for beginners or casual users. The graphical editor is not keyboard accessible.
2. **LaTeX** requires a specific skillset and knowledge base but may be worth learning if you are frequently using math as it can be used very quickly once you 'speak' the language.
3. **MathML** is an XML language that is rarely typed by hand. Use a MathML generator (**EquatIO** can easily do this) and paste the output here. Select the **Insert** button to paste your equation into your Brightspace file.
4. **Chemistry Equation** is similar to the Graphical Equation tool but includes specialized symbols for chemistry formulas.

Learn more about Brightspace equation editor.



One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.bccampus.ca/accessibilityhandbook/?p=3859#oembed-1>

## Equatio Integration

Equatio can be used to insert equations into Brightspace wherever the Editor toolbar is present. For example, Equatio can be used when creating content, submitting text assignments, or completing certain quiz questions.

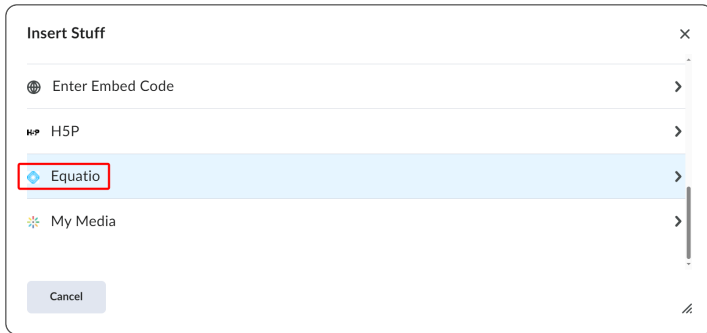


One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.bccampus.ca/accessibilityhandbook/?p=3859#oembed-2>

1. On the Editor toolbar, select **Insert Stuff**.



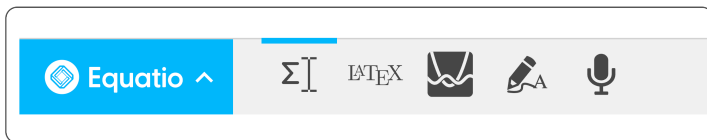
2. Select **Equatio**.



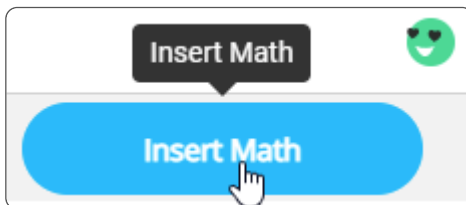
The Equatio editor will appear.

3. Use the various tools to generate your equation.

- 1 Type math
- 2 Type LaTeX
- 3 Graph editor
- 4 Handwrite math
- 5 Speak math



4. Select **Insert Math**.



5. Select **Insert** again.

6. The equation will appear in the Brightspace editor.

Note, there are fewer tools available when running Equatio via the Brightspace editor than when using the browser extension.

## EquatIO Extension

Use EquatIO to insert math into Brightspace.

1. Open the Equatio extension.
2. Use the **Equation Editor** to create math content.
3. Open the **Copy Math as** menu and select image to paste directly into your Brightspace file or select copy math as LaTeX or MathML and use Brightspace Equation tool.



*One or more interactive elements has been excluded from this version of the text. You can view them online here:*

*<https://pressbooks.bccampus.ca/accessibilityhandbook/?p=3859#oembed-3>*

# Microsoft Office Math

Microsoft Word, PowerPoint, and OneNote include tools to input or paste math.

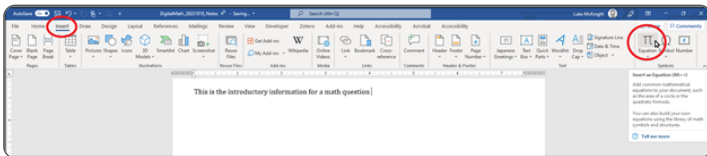
On this page:

[Office Equation Editor](#) | [General Tips](#)  
[Exporting](#) | [Ink to Math](#) | [MathML](#)  
[OneNote Math Tools](#)

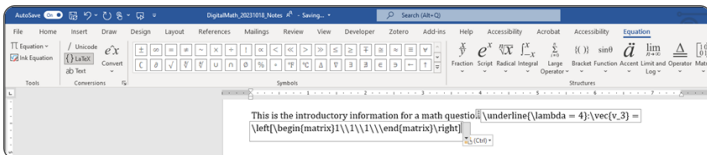


## Office Equation Editor

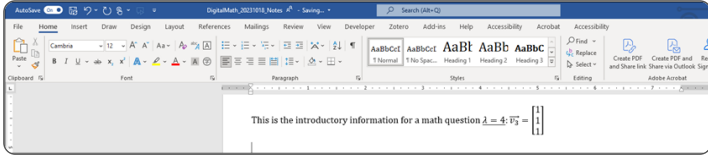
### 1. Navigate to **Insert > Equation**



1. You can also press **Alt + =** (**CTRL + =** on macOS)
2. An equation placeholder appears in the document
  1. The **Equation** tab will appear with additional options such as switching between formats like LaTeX and plain text as well as common equations and symbols.
3. Type equation in LaTeX or use Word Equation Editor toolbar to build math.

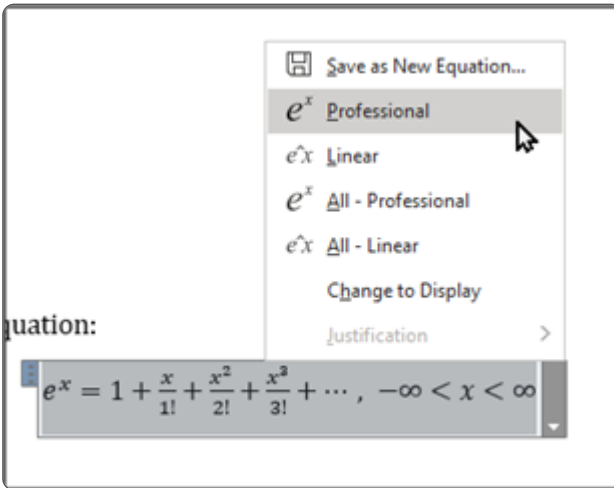


4. Press **Enter**.

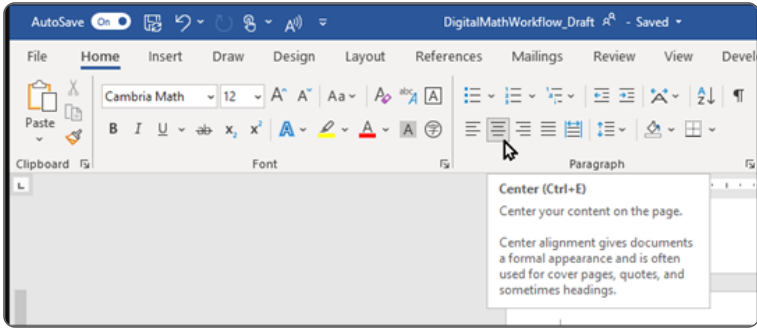


## General Tips

Use **Professional** style.

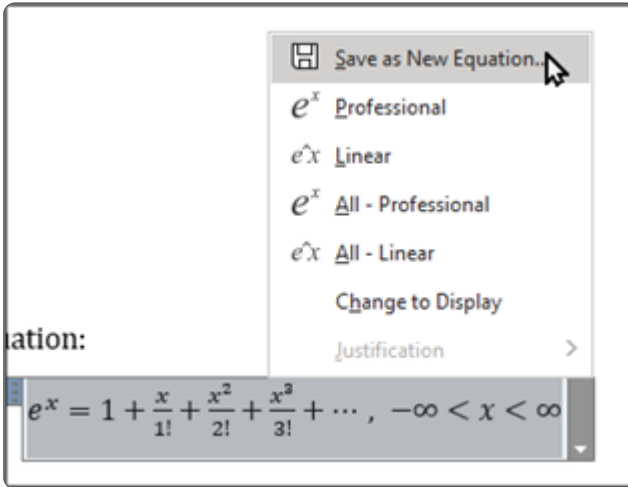


To center equations, use the alignment tools on **Home > Paragraph** group.



Users can save frequently used equations.

1. Open the **Equation Options** menu and select **Save as New Equation...**



2. Provide a name and other information and click **Ok**.
3. Word will save this equation for quick access via **Insert > Equation**.

AutoSave On Digital

File Home Insert Draw Design Layout Reference

$\pi$  Equation / Unicode

**Pythagorean Theorem**

$$a^2 + b^2 = c^2$$

**Quadratic Formula**

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

**Taylor Expansion**

$$e^x = 1 + \frac{x}{1!} + \frac{x^2}{2!} + \frac{x^3}{3!} + \dots, \quad -\infty < x < \infty$$

**Trig Identity 1**

$$\sin \alpha \pm \sin \beta = 2 \sin \frac{1}{2}(\alpha \pm \beta) \cos \frac{1}{2}(\alpha \mp \beta)$$

**Trig Identity 2**

$$\cos \alpha + \cos \beta = 2 \cos \frac{1}{2}(\alpha + \beta) \cos \frac{1}{2}(\alpha - \beta)$$

**General**

test

$$\|a\| = \sqrt{a_1^2 + a_2^2}$$

[More Equations from Office.com](#)

[Save Selection to Equation Gallery...](#)

## Exporting to PDF

While Word is a preferable format, math content may need to be exported to PDF. In that instance, use **File > Export > Create Adobe PDF**. Never use **Print > Print to PDF** or **Save to PDF**. Such PDFs will be completely inaccessible.

For further information, consider Microsoft's guide to writing equations and formulas and formatting equations in LaTeX and Unicode.

## Ink to Math

1. Navigate to **Draw** tab.
2. Select **Ink to Math**.
3. Draw math in box, verify in preview pane.
4. Select **Insert**.

## MathML (Word only)

1. Copy MathML from web or EquatIO.
2. Paste in Word.
3. Word will automatically render the math in your document.

Additionally, you can use **EquatIO's** desktop version to insert math into a Word or PowerPoint document.

### Export to PDF

If you intend to distribute material in PDF format, ensure the PDF is verified for accessibility. However, passing automated accessibility checks rarely ensures complete accessibility of PDFs, especially a document containing math. Best practice would be to create a Word document and export it to PDF, retaining the Word document as a template for future changes and exports. You could also distribute the Word document to those who need it, or best practice would be to distribute both formats to students, allowing them the choice based on preference or need.

## OneNote Math Tools

Microsoft OneNote can also create and read math content.

To create math in OneNote:

1. Open a new notebook.
2. Navigate to **Draw**
3. Use the **Pen** tool to write math.
4. Use **Lasso Select** to drag around your math.
5. Select **Math Assistant**.
6. In the sidebar, choose **Fix it** to amend any mistakes and then select **Ink to Math**.
7. Your math will be pasted as text in your notebook.
8. Select **View > Immersive Reader** to hear your math read

aloud.

Math generated in OneNote can be copied as MathML for use on webpages or in Word documents.

# Math Conversion Tools

As of November 2023, it is not possible to go directly from a TeX document to an accessible PDF. One potential solution for converting LaTeX to an accessible PDF is MathPix.

## MathPix

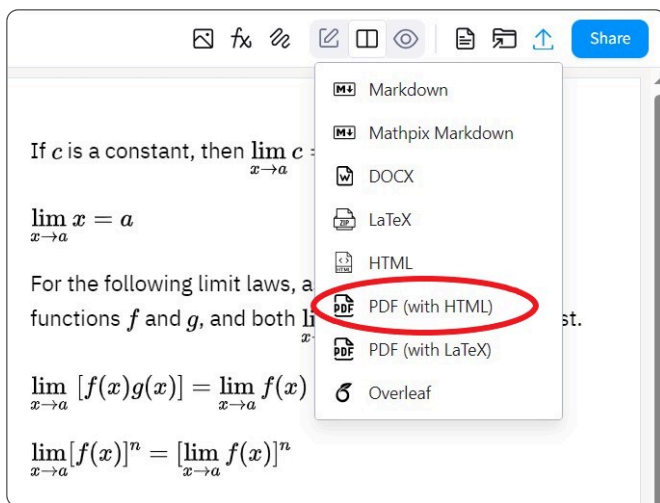
MathPix may be a useful tool for converting LaTeX to various formats including Word and PDF. MathPix is available free (with some limitations) to educators.

To create an accessible PDF from LaTeX:

1. From the MathPix homepage, select **Note**.
  1. Choose **New blank note**
  2. Or **Upload a .md, .tex, or .txt file** to upload an existing document.
    1. Note, this may make more work than it saves.
  3. Or write or paste LaTeX in left hand pane.
  4. Take note of output preview in right hand pane.

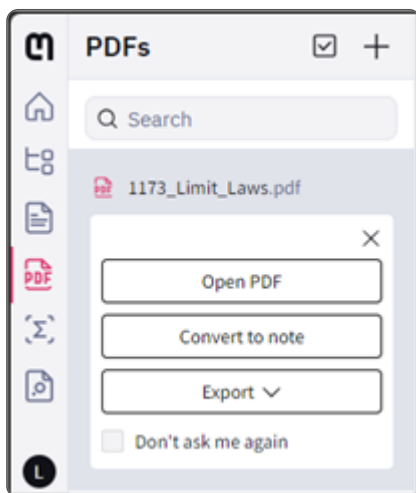


5. Select **Export File** and choose **PDF (with HTML)** or **DOCX**.



To make an existing math PDF more accessible:

1. From the MathPix homepage, select **PDF**.
2. Choose existing PDF to upload.
3. Click **Upload**.
4. When completed, PDF options will appear in left hand toolbar.



5. Select **Convert to note**.
6. MathPix will display a side by side of LaTeX and potential output.
7. Select **Export File** and choose **PDF (with HTML)**.

Some issues persist in conversion. Ensure content appears as intended before exporting.

Use PDF only as a last option as it is an inherently inaccessible format.

## Math Converter

Indiana University has developed a math converter tool to convert AsciiMath, LaTeX or MathML to English text.

For example  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$  would read: "x is

equal to; the fraction with numerator; negative b plus or minus; the square root of b squared minus 4 a c, end root; and denominator 2 a; end fraction."

This could be useful for supplying alt text for an image of math, for people struggling to see math, and to understand the verbal syntax of math.

# Math on the Web



# L<sup>A</sup>T<sub>E</sub>X

On this page:

[Math on the Web](#) | [LaTeX](#) | [MathJax](#) | [Images of Math](#)

## Math on the Web

The following video outlines how to use EquatIO to add accessible math to Pressbooks. You can use EquatIO to insert math as an image, LaTeX, or as MathML. Both LaTeX and MathML will be rendered by the MathJax plugin. The principles covered here may apply to additional web content as well.

To use EquatIO to insert math:

1. Open the Equatio extension.
2. Enter your math in the editor.
3. Click **Insert Math** to paste math as an image.

4. Use **Copy math as LaTeX** and use the LaTeX tool.
5. Or **Copy math as MathML** and paste in the HTML editor.

LaTeX and MathML will only work if your website has the Mathjax plugin installed.

The following video outlines the steps to use EquatIO:



*One or more interactive elements has been excluded from this version of the text. You can view them online here: <https://pressbooks.bccampus.ca/accessibilityhandbook/?p=3868#oembed-1>*

Consider these sources on MathML:

W3C overview of MathML.

Mozilla Developer Networks explains how to write MathML.

How to Make Math Accessible on the Web (TextHelp).

## LaTeX

Learn about the LaTeX typesetting system.

The TeX equation editor allows users to build LaTeX math equations even if they do not know LaTeX.

Use TEMML to convert LaTeX math to MathML. Paste LaTeX as **Input:** and copy **Output** as MathML.

The LaTeX to SVG tool converts LaTeX to SVG format. SVG image files can be resized without loss of resolution (which is important for math images/images of text). However, you must add alternative text to SVGs manually.

EquatIO can also be used to convert math between formats such as plain text, MathML, images, and LaTeX.

## MathJax

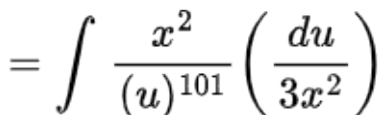
Add the MathJax plugin to your website to render MathML and LaTeX content. Note: Pressbooks and Brightspace already have MathJax installed.

As an example, consider how this LaTeX  $\int \frac{x^2}{(u)^{101}} \left( \frac{du}{3x^2} \right)$  can be rendered:

MathML, using MathJax:

$$= \int \frac{x^2}{(u)^{101}} \left( \frac{du}{3x^2} \right)$$

Image:


$$= \int \frac{x^2}{(u)^{101}} \left( \frac{du}{3x^2} \right)$$

Note, this image has alternative text that would read the formula aloud to assistive technology. This alternative text is generated automatically by Equatio and reads: “equals the integral from to of the fraction with numerator x squared and denominator u to the 101st power times open paren d u over 3 x squared close paren”.

The most accessible method is MathML or LaTeX rendered with MathJax. This allows user to zoom, navigate within the formula, and hear it read aloud. However, that requires MathJax. For basic math, or when MathJax is not available, an image with alternative text is better than nothing.

## Images of Math

Where MathJax is not available, include math as an image. Add the spoken mathematic equivalent as the alternative text of the image. To do so:

1. Use Equatio to create your math.
2. Select **Copy Math As...**
3. Choose **Spoken Text** to add the spoken equivalent of the math to the clipboard.
4. Paste the description in the alt text field.

Other considerations include:

- Explain the concept in surrounding text, use the alt text to describe the specifics of the math.
- Work in a linear fashion from left to right.
- Use *A Handbook for Spoken Mathematics* to write out the verbal equivalent of math pronunciation and syntax.

# Additional Resources

Pressbooks supports LaTeX in the default editor. MathML can be pasted in the **Text (HTML)** editor.

Desmos is an accessible graphing tool integrated into EquatIO to generate accessible graphs.

Consider these Desmos resources: Getting started with Desmos, Accessibility features in Desmos, Desmos knowledge base.

Windows includes a simple tool called **Math Input Panel** in which you can handwrite math to be exported in MathML.

Solve math equations with Math Assistant in OneNote.

Accessible Periodic Table of the Elements.

Independence Science Periodic Table of the Elements.

NIST Digital Library of Mathematical Functions.

Chemistry add-in for Microsoft Word.

AsciiMath is a markup language for maths that uses javascript and MathJax. The AsciiMath page offers details on AsciiMath syntax as well as instructions for adding AsciiMath via MathJax to your website (requires some coding knowledge to impliment).

Math Detective allows user to upload images of math or blocks of text with inaccessible math. The math can then be read aloud of copied as MathML.

# FURTHER READING



# Further Reading

Explore additional digital accessibility resources.

Explore AbilityNet's Digital Accessibility Resources for information on legal issues, business cases, how-to guides, tools & resources, and more. Read *Creating Accessible Documents* for general best practices and tips.

Toronto Metropolitan University's (TMU) Digital Accessibility Teaching and Learning Resources includes guides on web and document accessibility. Also consider *Understanding Document Accessibility* from TMU.

Review the University of Colorado's Content Accessibility Fundamentals and digital accessibility resources. They also offer a monthly accessibility newsletter.

Section508.gov offers resources and guidance on digital accessibility.

Use TMU's SLICK acronym, Queen's University Belfast's THRIVES system, and the Worcester County Council's SCULPT framework for basic accessibility checks.

Browse the AllyProject's accessibility resource list and this Accessibility Resources (Master List) for a massive range of sources, guides, and more.



# Glossary

## **Accessibility Checkers**

Automated tools built-in to many platforms that check for common accessibility issues. Are not to be considered a guarantee of accessibility.

## **Accommodation**

A reactive adjustment to a resource or activity to make it accessible to a person with a disability.

## **Alternative Text**

Alternative text is a text equivalent of graphics in a document or webpage. Alternative text is coded to be hidden visually, but read to a screen reader user.

## **ARIA**

Accessible Rich Internet Applications are roles and attributes that can make Javascript widgets, error messages, and live content more accessible.

## **Audio Description**

Additional audio added to a video that describes important visual details that are not conveyed by the main audio alone.

## **Camel Case**

Capitalization of the first letter of each word in multi-word hashtags. Without Camel Case, hashtags will be read aloud as one long, unintelligible word.

Also known as CamelCase, Pascal Case, or Title Case

## **Caret browsing**

Keyboard navigation using the text cursor to navigate a web page or document. Usually activated by pressing **F7** in your browser.

## **CCTV Magnifier**

Closed Circuit TV (CCTV) magnifiers are cameras used to magnify documents or books on a monitor.

## **Closed captions**

A text equivalent of audio content in a video, displayed synchronously. Closed captions are toggled on or off by viewers, as opposed to open captions that are burned into the video and always displayed.

## **Colour contrast**

Colour contrast is the difference in saturation, brightness, and pigment of different elements relative to one another. A contrast ratio of at least 4.5:1 between text and background is required by common accessibility standards.

## **Contrast ratio**

The contrast ratio between the font colour and the background colour. Accessible contrast should be at least 4.5:1.

## **Decorative image**

An image that does not contain unique information or is used for visual appeal only. Decorative images must be marked as decorative or use `alt=""`

## **DOM**

The Document Object Module (DOM) represents the hierarchical, logical structure of a document/web page.

## **EPUB**

Most common ebook file format. A very customizable and accessible format.

## **example**

This is an example glossary term to illustrate how glossary terms work in Pressbooks.

## **FAST**

A framework for assessing the accessibility of content, by focusing on key criteria, including:

- Function

- Appearance

- Structure

- Text Equivalentents

## **Flattened Copy**

A digital object that has been "flattened" into a single layer when exported. A scanned document or a PDF created using "Print to PDF" (or similar) will be a flat image without recognizable text or digital document structure. A flat copy may visually appear as a document, but be completely inaccessible.

## **Focus**

On a webpage, a control or content item that can receive focus by a mouse, keyboard, or screen reader. Typically links, buttons, forms, and menus are focusable.

## **Focus indicator**

A visual indicator of what element on a page is currently focused. This assists users to know where they are on a page and to select menus, links, and buttons with a keyboard.

## **Focus order**

The order in which interactive elements on a page are focused. Focus order should follow a logical pattern that aligns with visual layout.

## **Functional Accessibility**

When something does not meet accessibility standards but is still useable by users of assistive technology.

## **Headings**

Headings are text used to organize a document. Headings are section and subsection titles used to logically separate content, build and show relationships between ideas, and explain the development of concepts. Headings must be hierarchical, not skip a level, and be semantically programmed, not merely cosmetic.

## **Hyperlink**

Linked text to another document or part of document that the user can follow by selecting. Effective hyperlink text should make sense independent of the content around it.

## **Image caption**

An image caption is text that provides supplemental context, explanation, or commentary about an image. Image captions generally appear below the image. Image captions may include comprehensive details as well as

supplemental information related to the image, such as citations, photo attribution, cultural context, historical or scientific information about the subject, complex data from charts, etc. Unlike alternative text, figure captions have no length limit. Figure captions are accessible and available to all users, whereas alt text is only available to assistive technology.

### **Integrated description**

The practice of incorporating audio descriptions of actions or visual content into the flow of video content. For example, when recording a process on a computer, integrated description would include the narrator including steps such as: "Click on Add New. Type your answer in the textbox. Click Create."

### **Keyboard trap**

When a user cannot navigate away from an interactive element using their keyboard alone.

### **Label**

In HTML, the label element acts a caption for input fields, indicating what a control (form field, check box, radio button, etc.) relates to.

### **MathML**

XML format used to add math to HTML.

### **OCR**

Optical Character Recognition (OCR) is software which converts printed material or images of text into recognizable digital text. Scanned PDFs require OCR processes to be accessible. Adobe Acrobat includes builtin

OCR technology, but other assistive technology software also employs OCR.

## **PDF**

Portable Document Format. One of the more difficult format to make accessible. Lacks customization options for readers (font customization, reflow, colour options, etc.)

## **Plain language**

Language that is easily understood by the intended audience. Write for the audience using clear, simple language with focus on important information. Organize and group content.

## **Reading order**

The order in which a screen reader reads content on a page. This should match visual order. Reading order also refers to how a PDF will reflow when zoomed.

## **Responsive Design**

Responsive content automatically adapts to the size of the user's display (phone, laptop, tablet, etc.)

## **Screen reader**

Assistive technology software that reads content aloud and helps blind and low vision users navigate and interact with their computers.

## **Semantic markup**

The use of code (HTML attributes, PDF tags, XML, etc.) to distinguish content by meaning, not appearance. For example, a `<h1>` heading tag creates both a visual and

coded navigation waypoint whereas increasing the font size and bolding simply makes regular text appear larger.

## **SEO**

Search engine optimization is the process of improving search engine ranking.

## **Skip to main content**

Often hidden links accessible by keyboard navigation that assist users to skip over repeated parts of webpages or to different parts of a webpage, such as search or navigation region.

## **Tables**

Information presented in a grid format of rows and columns, generally to show a relationship between sets of data

## **Tag (PDF)**

A tagged PDF includes semantic information and structure to create an accessible document. This is done by adding tags to the document in Adobe Acrobat.

## **Templates**

Preset document or file format, used for consistency without having to recreate each time

## **Timestamp**

Specific time in video, often expressed as hh:mm:ss

## **Transcripts**

Transcription is the process of converting audio into

written text. A transcript is a written record of all audio in media. Captions are synced to the content.

### **Universal Design**

Design of content, software, facilities, and services so that they are useable, without accommodation, by the largest scope of users.

### **W3C**

The World Wide Web Consortium sets web technology standards.

### **WCAG**

Web Content Accessibility Guidelines are maintained by W3C and set the minimum standards for web accessibility.