

Accessible PDFs

A PDF is accessible if it can be used effectively by people with disabilities—such as mobility impairments, blindness, and low vision. The underlying document structure makes it possible for a screen reader to properly read the PDF out loud. It will also make it possible for a mobile device to correctly reflow and display the document on a small screen.



QUICK CHECKLIST

A few things to keep in mind as you write and lay out content for an accessible PDF.

More details inside...

- write for accessibility, making sure your content is **clear, logical** and **easy to follow**
- avoid **mathematical symbols** and formulae, **minimize** abbreviations and use **footnotes** sparingly
- **format** your text using styles in MS Word
- create separate PDFs for **different languages**
- keep **tables** simple and provide table summaries
- use **alt-text** for images, graphics, tables, links and figures as needed
- provide **metadata** to make the document easily searchable
- include clear instructions with **interactive forms** so users know exactly how to fill them out

WRITE FOR ACCESSIBILITY



Accessible PDFs and print PDFs may differ...

- hyperlinks may be underlined in an accessible pdf, while underlining in a print pdf can be confusing.
- the placement of images may need to change to improve the flow and order of information in an accessible PDF
- pull quotes may be made an artifact (not read in an e-reader) this would decrease repetition
- colours may be darkened to achieve better contrast

WRITING STYLE

Use plain text

- Be sure the tone, language and organization of content is easy to understand for your audience. Avoid jargon and buzzwords like “cutting-edge” or “leverage.” Consider how you would communicate with someone standing in front of you.

Be concise

- Use the simplest sentence forms consistent with the purpose of the content. The writing should be clear and direct. Keep sentences short. Remove words or descriptions that don't add value to the content. Use sentences no longer than 25 words (the typical length for a university-educated audience).

Limit paragraphs to 70 words

- A 70-word limit is practical and effective in most cases. This helps keep the reader from losing focus.

Write meaningful headers

- Readers rely on headers to navigate on-page content. Choose words for headers and subheaders that clearly describe the content they introduce. Simple, clear and useful words are more effective than clever, obscure ones.

Use bulleted or numbered lists

- Bulleted lists are easier to scan and read than full paragraphs. If you are listing three or more items, consider using a bulleted list. For instructions or long lists, consider using numbered lists for easy reference.

Write neutral, non-sensory descriptions

- Instead of saying “**see the red figure on the left for more information**”, say “**figure 1 has more information**”. Remember, some readers can not differentiate colour, shapes and/or orientation.

FOOTNOTES

Avoid footnotes if at all possible. They present poorly, especially on mobile devices, and can confuse readers.

Footnotes in tables should be made more user-friendly with the use of an asterisk or obelisk.

ACRONYMS

Give the full form of any acronyms when they first appear (e.g., ...the Royal Canadian Mounted Police (RCMP)) and then use the short form thereafter.

Some acronyms spell common words but are used in different ways. For example, “JAWS” is an acronym for a screen reader whose full name is “Job Access with Speech.” It is also a common English word referring to the part of the mouth that holds the teeth. The acronym is used differently than the common word.



Tips

- Include a period when abbreviating days of the week, e.g., "Mon. to Fri." instead of "Mon to Fri".
- Avoid short forms like "Comm.", "Rec. Centre", "R.R.", "R.C.", "Sc.", "yrs.", "mths", etc.

ABBREVIATIONS

Abbreviations can be confusing for readers. Some abbreviations do not look like normal words and cannot be pronounced according to the usual rules of the language. For example, the English word "room" is abbreviated as "rm," which does not correspond to any English word. The user has to know that "rm" is an abbreviation for the word "room" in order to say it correctly.

Sometimes, the same abbreviation means different things in different contexts. For example, in the English sentence "Dr. Johnson lives on Boswell Dr.," the first "Dr." is an abbreviation for "Doctor" and the second instance is an abbreviation for the word "Drive" (a word that means "street"). Users must be able to understand the context in order to know what the abbreviations mean.

PUNCTUATION

A sentence can be punctuated correctly but still lose clarity when spoken by screen reader. It is a matter of lack of refinement in screen reader voice interpretation. The over-use of punctuation can be a significant barrier.

E- reader readers do not read punctuation

- While screen readers are able to read most forms of punctuation by default, not all of them choose to read the same pieces of punctuation. Some do not read asterisks. Periods, commas, and colons are usually not read out loud, but screen readers generally pause after each. Users can set their preferences so that screen readers read every punctuation mark and character.

So what is the solution?

Write simply.

- Keep your sentences short side, avoid excessive parenthetical statements and avoid excessive subclauses. Above all, try reading the sentence without giving particular emphasis to the terms and see how easy it is to understand the statement. It is easy to write an ambiguous sentence if you have assumed it will be pronounced in a particular manner.

Avoid dashes

- A dash (en-dash or em-dash) is often used to indicate a span (e.g., dates, ages, measurements). Because a screen reader will interpret any dash as a minus sign, you should use the word "to" when indicating a numerical range (e.g., write "2001 to 2002" instead of "2001-2002")



SETTING UP YOUR WORD DOCUMENT

When writing for a layout, proper heading structures and paragraph/character styles are important. Heading 1 (H1) headings should be used only for document titles, followed by H2, H3, etc., for descending levels of internal headings. Documents should contain no more than six heading levels in total. Headings should decline in a linear way (e.g., H2, H3 and H4, and not jump from H2 to H5).

If using any URLs then ensure they are linked within the Word file. They SHOULD be underlined or bolded or in somewhat distinguished from the rest of the text.

TABLES



Content

- tables cannot have empty cells or use symbols in place of content

TABLES

Tables are tools for visually organizing written information, which means they are not always so easy to follow when read aloud. If your document needs to include tables, also include a **table summary** for screen readers that reads like this. **“The following table demonstrated that enrollment has steadily increased over the last 3 years”** OR **“The following table shows the enrollment of each course, by month, over the last 3 years”**.

There are two types of data tables: simple and complex. Simple data tables have a one-column header to one-row header ratio. Complex data tables have two or more levels of row and/or column headers that must be associated to make sense. Documents containing simple tables present few problems to make accessible. Complex tables, however, are not suited for accessible PDFs. “If you cannot use HTML, it may be best to create multiple simple tables instead of a single, complex table.

Page 7 has a table to help you write table summary text.

EXAMPLE OF A SIMPLE TABLE

| Country | Province/State | City |
|---------------|----------------|-------------|
| Canada | Ontario | Ottawa |
| United States | California | Los Angeles |

Single column/row structure

EXAMPLE OF A COMPLEX TABLE

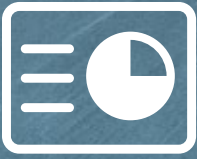
| Disability Category | Participants | Ballots Completed | Ballots Incomplete/Terminated | Results | |
|---------------------|--------------|-------------------|-------------------------------|--------------------------|---------------------------------|
| | | | | Accuracy | Time to complete |
| Blind | 5 | 1 | 4 | 34.5%, n=1 | 1199 sec, n=1 |
| Low Vision | 5 | 2 | 3 | 98.3%, n=2 97.7%, n=3 | 1716 sec, n=31 1934 sec, n=2 |
| Dexterity | 5 | 4 | 1 | 98.3%, n=4 | 1672.1 sec, n=1 |
| Mobility | 3 | 3 | 0 | 95.4%, n=3 | 1416 sec, n=3 |

Row span covers more than one column below

Header rows in addition to header columns

Tagging complex tables requires extensive, manual coding of individual cells to ensure screen readers read the tables in the correct order.

ALT-TEXT



Artifact :

- is an element that is skipped over by a screen reader.

TEXT ALTERNATIVES FOR IMAGES (ALT-TEXT)

The key to writing text alternatives for images is to remember that you are writing for people who cannot see or make use of images. You need to consider the role images play on the page, what you want them to communicate and how they relate to the surrounding content.

All informative images, figures, graphs and links

- When you use an image in an accessible PDF, you need to provide a text alternative—a text version of the information or function provided by the image—except when the image is purely decorative. Text alternatives are one of the most basic requirements for accessibility.
- For all scanned documents, charts, graphs and other images, it is essential to provide a comprehensive text alternative that fully conveys all of the information contained within or communicated by the image. Example: **“This photo shows Kevin Bender and Micheal Binder shaking hands.”** OR **“A line graph describing the public doses around Canadian nuclear power plants as a percentage of annual public dose limit of 1 millisievert (mSv).”** OR **“Access to the Accurate website.”**

Ads

- **It is key to keep alt-text short and simple.** An ad would be better served if the alt-text just included the name of the company and their URL.

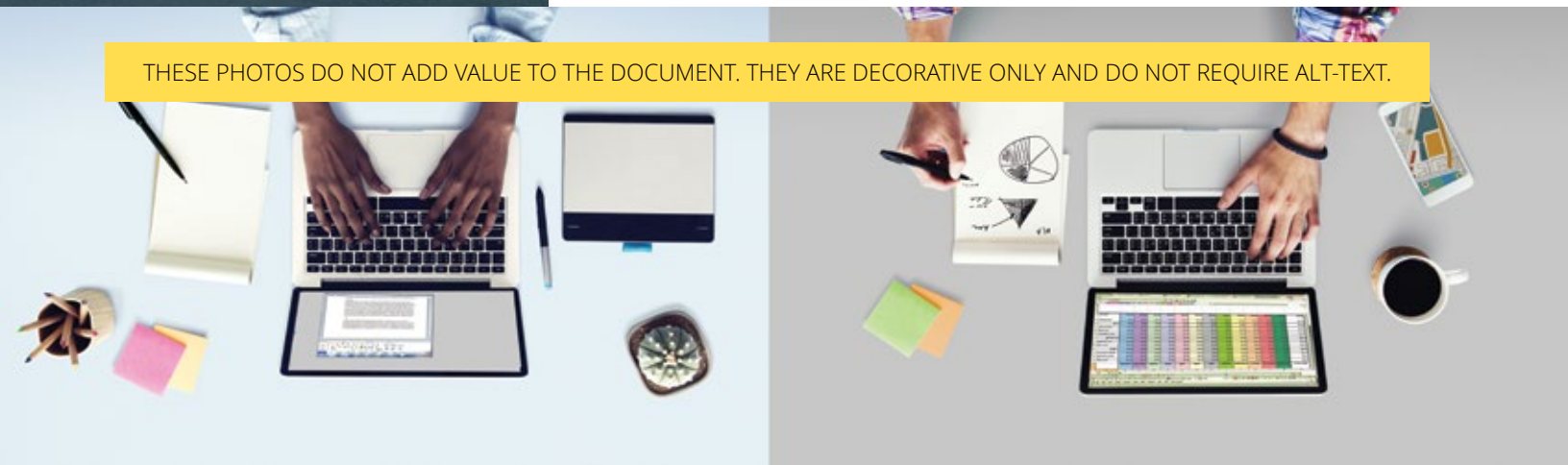


A good tip: if you are trying to figure out if the image requires alt-text ask yourself: **does this image add information that enhances the document or does it just visualize information already described within the text?** For example, a picture of a wildflower beside text that describes the purpose of the petals in the flower does not enhance the readers' experience. Therefore, it should be made into an artifact (an element that would be skipped over by a screen reader).

Alt-text can not have lists, bolding or italics.

The next page has a table to help you write alt-text.

THESE PHOTOS DO NOT ADD VALUE TO THE DOCUMENT. THEY ARE DECORATIVE ONLY AND DO NOT REQUIRE ALT-TEXT.



ALTERNATIVE TEXT (ALT-TEXT)




| ALT-TEXT FOR | DEFINITION | EXAMPLE |
|--|--|---|
| links (external) | indicates link purpose—lets user know when they are leaving the PDF and going to a website. | <p>text in report: Visit the Agricorp website for program information, forms and other resources at www.agricorp.com.</p> <p>alt-text for link: Accesses the Agricorp website.</p> |
| images  | <p>a text version of the information or function provided by the image.</p> <p>note: if the image does not add information to the document and is there for decoration only it will be made into an artifact and not read on a screen reader</p> |  <p><i>The planting to commemorate release of Ontario's Biodiversity Strategy, 2011 (Steve Hounsell and Jon Grant).</i></p> <p>alt-text for link: This image shows Steve Hounsell and Jon Grant at a tree planting to commemorate the release of Ontario's Biodiversity Strategy, 2011.</p> |
| charts, graphs and figures | a text version of the information or function provided by the graphic. |  <p>alt-text for chart/graph: This circle chart shows the revenue distribution in percentage for the Ottawa Hospital Research Institute 2014 to 2015 fiscal year: 74 percent external grants, contracts and salary awards, 11 percent the Ottawa Hospital Foundation, 10 percent indirect costs and investment income, 4 percent the Ottawa Hospital, and 1 percent the University of Ottawa. Total: \$108.8 million.</p> |

TABLE SUMMARIES

| TERM | DEFINITION | EXAMPLE | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|--------|---------|--|---------|-----------------------|---------|----------------------------------|---------|---------------------------------------|--------|---|--------|-------------------------------|--------|----------------------------|--------|--|--------|-----------------------------------|--------|--------------------------------------|--------|
| table summary | a brief description of the table's information. | <p>Top 10 sources of peer-reviewed funding</p> <table border="1"> <thead> <tr> <th>SOURCE</th> <th>FUNDING</th> </tr> </thead> <tbody> <tr> <td>Canadian Institutes of Health Research</td> <td>\$20.0M</td> </tr> <tr> <td>Ontario Research Fund</td> <td>\$17.0M</td> </tr> <tr> <td>Canada Foundation for Innovation</td> <td>\$12.0M</td> </tr> <tr> <td>Ontario Institute for Cancer Research</td> <td>\$8.0M</td> </tr> <tr> <td>Natural Sciences and Engineering Research Council of Canada</td> <td>\$6.0M</td> </tr> <tr> <td>Health and Welfare Foundation</td> <td>\$2.5M</td> </tr> <tr> <td>Academy of Health Sciences</td> <td>\$1.5M</td> </tr> <tr> <td>The Ottawa Hospital Academic, Medical Organization</td> <td>\$1.0M</td> </tr> <tr> <td>Canadian Breast Cancer Foundation</td> <td>\$0.8M</td> </tr> <tr> <td>Canadian Research Chairs Secretariat</td> <td>\$0.8M</td> </tr> </tbody> </table> <p>table summary: The following table lists in millions, from highest to lowest, the top 10 sources of peer-reviewed funding received by the Ottawa Hospital Research Institute for the 2014-2015 fiscal year.</p> | SOURCE | FUNDING | Canadian Institutes of Health Research | \$20.0M | Ontario Research Fund | \$17.0M | Canada Foundation for Innovation | \$12.0M | Ontario Institute for Cancer Research | \$8.0M | Natural Sciences and Engineering Research Council of Canada | \$6.0M | Health and Welfare Foundation | \$2.5M | Academy of Health Sciences | \$1.5M | The Ottawa Hospital Academic, Medical Organization | \$1.0M | Canadian Breast Cancer Foundation | \$0.8M | Canadian Research Chairs Secretariat | \$0.8M |
| SOURCE | FUNDING | | | | | | | | | | | | | | | | | | | | | | | |
| Canadian Institutes of Health Research | \$20.0M | | | | | | | | | | | | | | | | | | | | | | | |
| Ontario Research Fund | \$17.0M | | | | | | | | | | | | | | | | | | | | | | | |
| Canada Foundation for Innovation | \$12.0M | | | | | | | | | | | | | | | | | | | | | | | |
| Ontario Institute for Cancer Research | \$8.0M | | | | | | | | | | | | | | | | | | | | | | | |
| Natural Sciences and Engineering Research Council of Canada | \$6.0M | | | | | | | | | | | | | | | | | | | | | | | |
| Health and Welfare Foundation | \$2.5M | | | | | | | | | | | | | | | | | | | | | | | |
| Academy of Health Sciences | \$1.5M | | | | | | | | | | | | | | | | | | | | | | | |
| The Ottawa Hospital Academic, Medical Organization | \$1.0M | | | | | | | | | | | | | | | | | | | | | | | |
| Canadian Breast Cancer Foundation | \$0.8M | | | | | | | | | | | | | | | | | | | | | | | |
| Canadian Research Chairs Secretariat | \$0.8M | | | | | | | | | | | | | | | | | | | | | | | |

METADATA



METADATA AND DOCUMENT PROPERTIES

Metadata and document properties are the same thing. The client must provide:

| TERM | DEFINITION | EXAMPLE |
|-----------------|---|--|
| title | the title of the document | NRCAN's Zoning Decision Guide for Builders |
| author | the organization or the person writing or producing the report | Natural Resources Canada |
| subject | a short description about the report or publication | Zoning Decision Guide for Builders |
| keywords | some words in the document that can be used for keyword search in Google (around 10 words is optimal) | Zoning; Builder Decision Guide; Zoning Guide; Builder Guide; Zoned HVAC; Zoned System Design Guide; Zoning Checklist |

Here a few PDFs/hyperlinks that explain accessible PDFs in more detail:

[ACC_Simple_vs_Complex_Tables.pdf](#)

[AccessiblePDF_definitions.pdf](#)

<https://www.w3.org/WAI/intro/wcag>

<https://accessibility.oit.ncsu.edu/tools/color-contrast/index.php>