Guidelines for Producing Clear Print

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Round Table on Information Access for People with Print Disabilities Inc.

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About these guidelines

The *Guidelines for Producing Clear Print* are published by the Round Table on Information Access for People with Print Disabilities Inc. (Round Table). Round Table is an umbrella organisation which brings together producers, distributors and consumers of information in alternative formats to print, blindness agencies, tertiary institutions and government departments in Australia and New Zealand.

These guidelines are available from Round Table in accessible formats.

Acknowledgements

The original guidelines were compiled by the working group of the Round Table in 2018.

A comprehensive revision of the *Guidelines* was completed in May 2022 by a working group that comprised experts in the field of accessibility from Round Table member organisations within Australia. The Working Group comprised of the following:

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Disclaimer

This document has been prepared from the collective knowledge and experience of the working groups and sources believed to be accurate and complete at the time of compilation. While every effort has been made to ensure accuracy, the accessibility of the websites and the references, Round Table does not accept any responsibility for omissions or inaccuracies.

Contents

Introduction to these guidelines

What is clear print?

Clear print is an approach to print design that creates legible, uncluttered documents which are easier to read.

Producing clear print is no more difficult than any other approach to print design, but it may require more initial thought about typography and layout. Incorporating clear print principles will result in a document that is more accessible for all readers.

In a clear print document

- information is easy to locate.

- layout is simple, consistent and logical.

- text is legible and well-spaced.

- graphics are clear and legible.

- presentation of information does not rely solely on graphics.

- documents are printed and bound for ease of reading.

A clear, more legible document is more readable. So clear print benefits everyone, but especially benefits people with vision loss. Using these clear print guidelines should help your document reach as many people as possible by making it more accessible.

What is large print?

Large print is text that is bigger than the standard print size of 12 pt and designed using clear print principles.

Large print documents can be designed and printed in the same way as regular print. If reformatting from existing print, this may involve enlarging the text, reformatting or reflowing the text, modifying the artwork and the layout of the publication. For most types of information, large print can be produced effectively using standard word processors and printers.

When producing large print, you should always follow clear print guidelines. This document also includes guidance on reformatting existing material into clear large print.

How do people with low vision read print?

People are affected in different ways by their vision impairment and use different methods when reading. These methods become more effective when documents are designed using a clear print approach.

The most basic strategy involves not using any vision aids at all, just relying on any remaining vision an individual may have. To read the text, the reader may position the printed page very close to their eyes. This means that the reader can only see a very small amount of the total page at a time.

Magnifiers are very popular reading aids. These range in size and technical sophistication from simple hand-held optical magnifiers to computerised devices which can adjust text size and colour contrast. Magnifiers tend to limit the amount of the page that can be seen at a time, quite often to as little as one or two words. Magnifiers work more effectively if the document placed under them is completely flat. A key point to remember with magnifiers is they will only enlarge the existing text—so if the original is of poor quality, this poor quality is only made larger—it is still difficult to read.

Scanners and optical character recognition (OCR) software can provide information access for people unable to read regular print. Documents can be scanned and read on a computer through enlargement or the use of speech software. OCR is most effective on documents that have a simple layout and use an easily recognisable font.

Reformatting text into large print is another way of making print accessible for people with low vision. This may involve adjustments such as reflowing text, making headings clearer or easier to locate. If an individual requires text to be in a very large text size in order to read it effectively, it may be more effective to consider magnification technology or other accessible format options rather than producing the material in large print.

Some people rely on their remaining vision to read
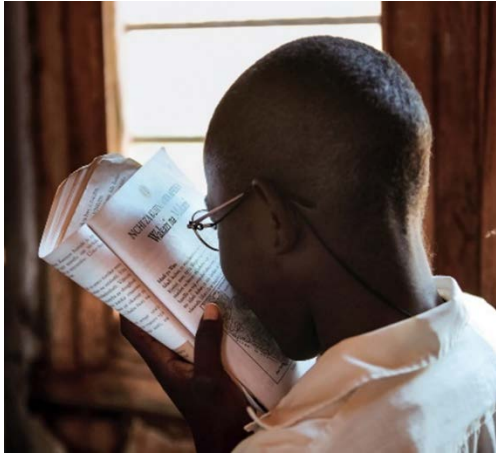
Image source: **Creative Commons**

Electronic magnifiers limit the amount of the page visible at a time

Image source: **Humanware**

Who are these guidelines for?

These guidelines have been produced to help print designers improve the legibility of books, reports, newsletters and other printed material. The guidelines are also intended for those adapting existing printed material into large print for people with low vision.

Possible users include:

- People with a print disability who may find the guidelines useful in explaining their accessibility requirements

- People wanting to create accessible documents

- Specialist accessible format production agencies and educators when creating accessible print documents

- Government agencies when preparing public documents

- Organisations that may adopt the guidelines as part of their internal procedures for publication of reports and documents

- Conference organisers who may specify that abstracts and papers should comply with the guidelines.

1. Clear text formatting

1.1   Contrast and colour

Good contrast between the text and the background on which it is printed is extremely important for legibility. Contrast is affected by several factors, including paper colour, printing inks and the size and weight of the text.

The contrast between the colours is generally more important for legibility than the specific colours used. Black on white provides the best contrast. Some specific colour combinations— red-green, green-yellow, and blue-yellow—should be avoided to help ensure your document is legible for people with colour vision deficiencies. It is recommended to use black text on white background. However, inversing can assist in reducing glare.

Avoid switching between dark on light and light on dark on the same page, as this can be difficult on the eye to adjust to.

Refer to Appendix 3 Example #1 – Contrast and colour

Please refer to the following links to test the contrast ratio for your graphics:

WebAIM Contrast Checker: webaim.org/resources/contrastchecker/

TPGi colour contrast analyser: tpgi.com/color-contrast-checker/

Vision Australia's Colour Contrast Checker: visionaustralia.org/services/digital-access/resources/colour-contrast-analyser

1.2   Font type

A clear print document should use fonts that are clear and easy to read.

Choose standard fonts with easily recognisable upper- and lower-case characters, without serifs (sans serif). Arial, Verdana, Helvetica and Calibri are good choices.

Do not use complicated or decorative fonts, serif fonts such as Times New Roman, or handwriting type fonts.

Refer to Appendix 3 Example #2 – Font type and size

1.3   Font size

The size of the text is a vitally important aspect of clear print design. In general, larger text is easier to read, particularly for people with low vision. Clear print documents should use a minimum font size of 12 pt.

Consider the audience for your document. If the document is designed for older people or for people with low vision, consider increasing the text size beyond 12 pt.

If mathematical symbols are being used in a clear print document, make sure that the font selected includes clear, adequately large mathematical symbols.

Where there are expressions with superscripts and subscripts in a document, it may be necessary to increase the base font for mathematical expressions throughout the document or increase the font size of the superscript/subscript.

Refer to Appendix 3 Example #3 – Mathematical symbols

1.4   Font thickness

Fonts are often available in light, normal, semi-bold (medium) or bold weights. The light options should be avoided, since letters are not dark or thick enough to provide good contrast with the background, particularly if coloured paper is used. Most readers find normal or bolder font weights easier to read. People with low vision often prefer bold or semi-bold weights to normal ones.

Refer to Appendix 3 Example #4 – Font thickness

1.5   Font style

Limit italics, underlined text or blocks of text in uppercase.

Most people read by recognising word shapes rather than individual letters. When whole words are set in italics or uppercase, the shape of the word is altered since letters are set at an angle or are all the same height. This makes words harder to read, so clear print design should aim to avoid long passages of italic or uppercase letters. If you need to add emphasis to your text, try a bolder font weight.

Underlining should also be avoided as it makes it more difficult to recognise the shape of the words. This is because the underline intersects with the letter descenders (tails of letters like p and g). If it is essential that underlining is used, increase the space

between the letters and the underline to ensure that the line does not intersect with the words.

Refer to Appendix 3 Example #5 – Font style

1.6   Text alignment

Text should be left-aligned with a ragged right margin.

Fully justified text, which is aligned to both the left and right margins, distorts the spacing between the words and can create stretched or cramped lines of text. Readers with low vision can mistake large gaps between words as the end of lines, particularly when using a magnifier to read the print.

Aligning text to the right, which produces a ragged left margin, also makes text more difficult to read for people with low vision. This is because each new line starts in a different place and is difficult to find.

Centred text, where each line starts and ends in a different place, is even more difficult to follow and should not be used for blocks of text. You can, however, centre titles or main headings.

Refer to Appendix 3 Example #6 – Text alignment

1.7   Text direction

Generally, all text should be set horizontally. Text set at an angle or following a curved line is more difficult to locate and read. Text set vertically is extremely difficult for a reader with low vision to follow and should not be used.

1.8   Word and character spacing

It is best to keep the same amount of space between each word. Do not condense or stretch single words or lines of text to fit your line length since this makes the text more difficult to read.

1.9   Line spacing

The space between lines of text, also known as leading, needs to be adequate. If the space between lines is too narrow, the print can be difficult to read. Lines of text may appear to merge with the text on the lines above and below, making it difficult to recognise word shapes. The recommended line spacing is 1.2 pt for a standard

document which will assist readers to move their eyes more easily to the next line of text. For larger font sizes (greater than 14 pt), 1.5 line spacing would be recommended.

Refer to Appendix 3 Example #7 – Line spacing

1.10 Paragraph spacing

Paragraph spacing should be consistent throughout the document.

Adding vertical space between paragraphs helps to divide the text and enhances readability.

2. Clear page layout

The layout of a well-designed clear print document should be simple, consistent and logical. It is important to use features which make the layout easy to follow, and information easy to find. Remember that consistency is key when designing and reproducing publications for making them accessible to people with low vision.

Page layout should be simple and uncluttered. Different elements of information on the page such as headings, photographs, text and captions should be carefully designed and clearly separated.

2.1   Page alignment

Layout should be predictable and consistent so that information can be located easily. Consider that for readers with low vision who may be using magnification technology, only a small part of the page is visible at a time. For this reason, it is best to use left alignment. Avoid placing information on the right-hand side of the page without connecting it visually to the left margin, as it may be overlooked by a reader who is not viewing the whole page at once.

2.2   Page numbers and other navigational aids

Recurring features, such as headings and page numbers, are easier to find if they are always placed in the same position on the page.

Other useful aids for navigating the document could include a list of contents, and horizontal lines to separate different sections of the document.

Contents pages, Glossaries and Indexes should be formatted so that the referenced page numbers are easy to locate. Either place the number close to the reference, or use leader dots between the reference and number so that the reader can follow the line visually to locate the number.

If using Word, ensure you use the specific reference, bullet and numbering styles.

Refer to Appendix 4 Example #1 – Navigational aids

2.3   Heading styles

Headings within a document provide the reader with important information about the text. The size and prominence of the heading should reflect its importance in the context of the document. Be sure to use consistent heading styles throughout the document.

The spacing before and after a heading should be adjusted according to the font size of the heading. It improves the readability by adding white space.

Refer to Appendix 3 Example #8 – Heading hierarchy

2.4   Columns

When setting out text in columns, make sure the space between the columns—also known as the gutter—clearly separates them. Columns that are too close together may introduce confusion as the reader may read across the page rather than down. If space is limited, use a vertical line of at least 1 pt thickness to separate the columns.

Refer to Appendix 3 Example #9 – Columns

2.5   Tables and borders

Tables need to have sufficient space around text within the cell so that the cell contents do not merge visually with the borders of the table. Border lines should be visible to make it easier for the reader to locate information.

Tables should be formatted so header rows are repeated across pages. Individual rows should not be split across pages.

If using background colour within table cells, ensure that there is good colour contrast between the text and its background.

Generally, text in a table should be left aligned within each cell. It is often more appropriate to right-align numbers.

Refer to Appendix 3 Example #10 – Tables and borders

2.6   Text boxes

Text boxes should be consistently placed and should not interfere with the flow of text. They should be positioned between paragraphs as close as possible to the text to which the box is referring.

If using background colour within a text box, ensure that there is good colour contrast between the text and its background.

Boxes should have a clear border line, at least 1pt thick. Ensure that there is sufficient extra space between leading text and the box border so that they do not merge visually.

Note: Text boxes must be avoided if the audience is using a screen reader.

Refer to Appendix 3 Example #11 – Text boxes

3. Clear graphics

Graphics such as diagrams, graphs and illustrations can be used to convey important information. Decorative graphics can be used to break up blocks of text or provide navigational aids.

However, while graphics can aid understanding, it is important that information is not conveyed to the reader through graphics or colour alone. All graphics should either support the main body of the text, or should be accompanied by a text caption explaining their significance.

3.1 Colour and contrast for graphics

Avoid combining yellow with blue, green with red, or green with yellow as these colour combinations are particularly difficult for people with colour vision limitations to distinguish.

Printing a copy of the graphic in black and white is a simple way of assessing whether the main features contrast adequately.

Refer to Appendix 3 Example #12 – Graphic Colour and contrast

Please refer to the following links to test contrast ratio for your graphics:

WebAIM Contrast Checker: webaim.org/resources/contrastchecker/

TPGi colour contrast analyser: tpgi.com/color-contrast-checker/

Vision Australia's Colour Contrast Checker: visionaustralia.org/services/digital-access/resources/colour-contrast-analyser

3.2 Text within graphics

Text labels within a graphic should be of the same size as the main text. Labels should normally be placed horizontally.

Avoid setting text labels over images if possible as an image may reduce contrast, making it harder to read. Readers may not expect to find text within images, so it can easily be overlooked.

If labels need to be placed over graphics, place inside a text box, and ensure that there is sufficient contrast between the text label and the background it appears on.

Make sure that image captions are in a consistent position throughout the document so that the reader can predict the location.

Refer to Appendix 3 Example #13 – Graphic text labels and their layout

3.3   Layout of graphics on a page

When placing graphics on a page, ensure that there is adequate spacing between graphics and the surrounding text.

In order for the text to remain left aligned, wrap the text to the left of the graphic so that the start of each line is on the left margin.

Avoid overlaying graphics, as this creates complex images which are difficult to interpret visually. Ensure that there is adequate spacing between graphics.

Avoid placing graphics in the middle of a column. This can be confusing as the reader has to skip over the picture to rejoin the line of text and can sometimes lose their place, or go to the start of the next column.

Refer to Appendix 3 Example #13 – Graphic text labels

3.4   Types of graphics

Please refer to the *Round Table Guidelines on Accessible Graphics*, which details the requirements for producing a variety of graphic materials.

Illustrations and cartoons

Ideally illustrations should be line drawings with thick, dark strokes or outlines. Pictures with undefined edges, such as watercolour paintings, highly stylised, abstract images and those that use a continuous tone are more difficult to see.

If designing cartoons, make sure text size and style is legible and that graphics are simple.

Photographs

If photographs are being used, these should not be too grainy or contain a lot of detailed information which could be lost to readers with low vision. The important part of the image should be obvious.

Photographs should have a good contrast. A picture in which a dark-coloured foreground image is set against a light-coloured background will be easier to understand than a picture where the tonal values of its colours are equivalent to each other. Make illustrations and photographs as large as possible without being grainy.

When using halftone screens, (illustration created by dots of varying sizes which form a "continuous tone") be aware that these can become coarse and distorted when enlarged. This results in a hazy image that is often hard to see.

Maps, graphs and diagrams

Maps, graphs and diagrams should all be clearly defined with good contrast. Try to avoid "cluttered" diagrams as this will make interpreting them very difficult.

If diagrams are very complex, consider creating more than one diagram, graph or map is possible, so as to retain information in totality.

Ensure that any coloured or patterned areas are distinctive enough to be easily identified.

4. Printing and binding

4.1   Page margins

If you are producing bound documents, make sure that the central margin is wide enough to avoid text printing close to the centre of the spine. This allows the document to be laid flat so that it can be used with magnification or a scanner.

4.2   Paper types

There are three important factors to consider when choosing paper:

1. **How much light the paper reflects.** Avoid glossy papers, as light will reflect off the surface and obscure the print. Preferably choose matt, silk or uncoated paper.

2. **Amount of "show through".** It is important to choose paper that is thick enough (80 gsm or higher) so that the text printed on one side cannot be seen on the other side to the extent that it interferes with legibility. If it is not possible to choose paper thick enough to prevent show-through, print single sided.

3. **Colour of paper.** Choose a paper colour that will give an adequate contrast between the text and background. Generally, white paper with black text produces the best contrast. For some readers, this produces too much contrast and off-white, buff or coloured paper is preferred. It is recommended that you consult with the client about their specific requirements.

4.3   Paper size

Choose a page size that is manageable and fits the required information easily. It can be physically difficult to handle large page sizes such as A3, especially for readers who read best by holding print close to their eyes. Large-sized paper may be necessary for large graphics or complex tables.

4.4   Binding

Documents should be bound so that they can be opened out flat. Readers who rely on scanners or magnifiers need to be able to place the document flat, so care should be taken with the number of pages in your document and the binding methods you choose.

Staples work well for shorter documents. Spiral or comb binding allows a larger document to be bound and still be opened out flat for use under a magnifier or photocopier.

5. Reformatting into Large Print

There are several instances where you need to **reformat** an existing document into clear, large print. Merely enlarging information using a photocopier will not produce clear large print if the original does not follow clear print principles. Also, photocopy enlargement may not produce material in an adequately large font size. Text in particularly small type, for example an extract from a train timetable, may need to be further enlarged. Print quality may be poor compared with computer generated material which has been digitally printed.

Reformatting is also common in an educational setting where textbooks and study material need to adapt to a student's low vision needs, to improve the readability and clarity of presentation.

It is important that the reformatted document provides the same information as the original print. You should retain formatting and graphics as much as possible, except where this contravenes clear print guidelines. This is especially important while reformatting a textbook, as students may be accessing a large print version while their classmates use the original print.

The following should be considered when reformatting existing material into large print.

5.1 Permission checks and requirements

Before commencing on any reformatting, check if permission is required. By reformatting existing material into large print, you are making a copy of the work, so it is important to be aware of relevant copyright legislation.

Creating a large print document may require obtaining the original print publisher's permission, negotiating a license, or using a print disability exception in your national copyright legislation.

It may be necessary to include information about the original publisher, the reformatting publisher and the copyright permission or license details in the text of the large print version.

5.2 Adherence to Clear Print Guidelines

When reformatting an existing print document into large print, ensure that the Round Table Clear Print Guidelines are followed.

Text formatting

- Ensure **font size** and **style** is appropriate. Readers with low vision will often have a preferred font size from 16 pt to 36 pt or larger. If producing material for an individual, it is important to use their preferred font size, if known.

- Avoid **italics** where it only serves a visual function as a whole block of text in italics is extremely difficult to read for a person with low vision. If Italics has been used to emphasise, ensure the sentence is not too long.

- Bold text can be used instead of italics, but be sure to retain the original intention. However, where both italics and bold are used within a single passage of text, with different intentions, it would not be appropriate to simply replace the italicised words with bold.

Refer to Appendix 1: Clear text formatting

Text Layout

- Ensure layout is simple, consistent, and logical. Consistency is the key when designing and reproducing publications to make them accessible to people with low vision.

- Use of white space, headings and icons in documents can provide a source of relief from the text for readers with low vision.

- Ensure that there is adequate spacing between lines and paragraphs of text. Depending on the font size being used, it may be necessary to adapt features such as line and paragraph spacing, first line and hanging indents to suit the font size.

Headings

- Headings within a document provide the reader with important information about the text. Use consistent heading styles throughout the document. The size and prominence of the heading should reflect its importance in the context of the document, and follow the heading hierarchy of the original publication.

Page margins

- Page margins should not be less than 1.5 cm, and should be adequate to allow the document to be bound and opened completely flat.

Page size

- Choose a page size that is manageable and fits the required information easily. Typically, A4 is the most commonly used paper size. It can be physically difficult to handle large page sizes such as A3, especially for readers who read best by holding print close to their eyes.

- Large-sized paper may be appropriate for large graphics or complex tables.

Headers and footers

- Headers and footers can both be useful in large print. However, they should be separated from the surrounding text to avoid confusion. A line can help provide this distinction.

- Footers are preferable to headers and should contain information relevant to the document, including the document name and page number.

- Text in the footer may be two pt lower than the body text. This gives it a visual distinction.

Boxes

- Boxed text in the original document should be presented boxed in the large print too. Ensure Round Table Guidelines on colour and contrast are adhered to. Replacing a coloured background with a coloured border line is a convenient and acceptable option.

- Boxes should have a clear border line, at least 1 point thick. Ensure the inset is appropriate so that there is sufficient space between text and border for legibility.

- Where there is wrapped text around a box in the original, reposition the box in large print as close to the relevant paragraph as possible.

Tables

When reformatting, the following guidelines should be borne in mind:

- Table headers should be repeated if the table continues over more than one page.

- Individual rows should not be split across pages.

- Complex tables could be split into more than one table.

- Tables should have a clear border line, at least 1 point thick. Ensure the cell insets are appropriate.

- A key or description in the accompanying text can be used to reduce the amount of information in the table.

Some tables can be challenging to reformat in large print. To fit the table contents, consider the following:

- Changing the orientation of the page from portrait to landscape might be a solution.

- Some tables can be converted into lists.

Refer to Appendix 4 Example #3 – Tables

Transcriber's notes

A transcriber's note should be inserted to indicate any changes made to the original version, such as formatting changes or omissions. Transcriber's notes can appear at the beginning or end of the file, or within the text where the note relates to a particular point.

Make it clear where text is a transcriber's note rather than part of the original text, for example by adding the words "Transcriber's Note" and "End of Transcriber's Note".

5.3 Graphics

All images should adhere to the clear print guidelines.

Consider if all the graphics in the original document are necessary for the large print version. Do they provide the reader with information or are they a distraction and only add to visual clutter? Graphics which contribute information or enhance the text should always be included.

If graphics are required, ensure you meet the following guidelines.

Position and layout

- Graphics should not interrupt the flow of the text and, if necessary, should be repositioned while still being close to the pertaining text.

- There should be sufficient white space around images to clearly separate them from the surrounding text.

Size and clarity

- Keeping in mind the size of the base font used, enlarge the images that are too small.

- Thicken and darken lines that are too faint. If needed, redraw lines.

Simplify graphics

People with low vision may be able to see an image, however they may only see a small part of it at a time. Therefore, simplify complex images to make them easier for a reader with low vision to interpret.

If altering a graphic, consider the important components of the graphic and what information it conveys. Simplifying a graphic may involve:

- **splitting a graphic into multiple images**. A complex graph that shows two data sets can be split into two separate graphs. Complex collages, maps and diagrams may need to be presented both in their original format and a deconstructed format to allow for interpretation.

- **showing only the important details.** If any information in the graphic is reduced or removed, ensure that the graphic remains structurally correct.

- **increasing contrast.** Where increased contrast is required on a graphic, line thickness and style can be adapted and areas can be coloured or shaded using distinctive patterns. If a key is required it should be in a prominent position.

- **enlarging graphics.** Scale diagrams need to be handled with particular care to ensure that the scale remains correct.

Refer to Appendix 4 Example #4 – Example of a map that is simplified and presented differently

Colour

Where the original graphics include colour, the enlarged version should also be in colour. Make sure that

- colour is not the only means of conveying information

- colours or patterns are clearly differentiated from each other

- for individuals who have colour vision limitations, reformatting takes this into account.

Labelling

Labelling on diagrams should be clear and not overlay the graphic. Consider the following.

- Ensure that any labelling on diagrams is the same font size as the body of the text.

- Graphic headings are placed above the graphic, regardless of where they appear in the original. Any labelling such as 'not drawn to scale' should be placed at the top left of a diagram so that it is not overlooked.

- Labelling arrows should be straight and at least 1pt thick and not intersect.

- If simplifying labels within a graphic, make sure you provide a key.

Refer to Appendix 4 Example #5 — Labelling graphics

Descriptions

Written descriptions may be necessary for complex graphics. Take care to keep all descriptions neutral and concise. For further information on this topic please see the Round Table *Guidelines for Producing Accessible Graphics.*

5.4 Navigational aids

Original print page number

When a document is converted to large print, the print page numbers from the original document should be retained in the large print. This is especially important in educational documents where students with low vision may be accessing a large print version while their classmates use the original print.

Print page numbers can be indicated in a number of ways, but must be consistent within the document. The numbers need to be easily distinguished from the surrounding text and should be unambiguous.

Some common methods of indicating the print page number:

- position the print page number on the right margin and indicate by leader dots.
- position the print page number on the left margin and increase the leading.
- include a border line above the print page number.

Where references are made to page numbers in the original, ensure the reformatted page number is also mentioned alongside in the large print version.

It is good practice to insert the large print page numbers within brackets next to the original page numbers on the contents page, index, glossary, etc.

Refer to Appendix 4 Example #1 – Navigational aids

Footers

Page numbers and the title of the document should be included in a footer, normally the same size as the body of the text. If the body of the text is in a very large font it may be necessary to reduce the font size in the footer.

Icons

Many documents contain simple icons which serve as navigational aids or indicators of recurring features. These should be retained from the original wherever possible, but may need to be adjusted or relocated to improve their clarity and readability.

Refer to Appendix 4 Example #2 – Recurring icons

5.5   Footnotes and endnotes

Footnotes should usually be located on the same page where the reference occurs, so that they are easy to locate. However, if there is a significant number of footnotes, other options may need to be explored. Methods of organising footnotes include:

- placing them together at the end of the document as endnotes.

- creating a separate endnote section at the end of each chapter or section.

- placing footnotes on the facing page.

- creating a separate large print volume. This option may be useful where there are almost as many footnotes as text (for example, in some editions of Shakespeare).

Footnote text should be the same size as main font size of the document. Footnote reference numbers may be slightly smaller.

5.6   Cover page

The cover image of the original should be reproduced into large print to allow for easy identification.

If documents produced in a very large font size need to be split into separate volumes, ensure the volume number is displayed on the cover and title page.

Refer to Appendix 4 Example #5 – Cover of a book

5.7   Source files

When source files are obtained from a regular source such as a workplace, school or educational provider, request that the files adhere to the following accessible guidelines:

- content is legible

- the original print document follows clear print and plain English principles

- templates and styles as specified in *Round Table eText Guidelines* are used

- tables, images and graphics are used effectively.

5.8 Examination and assessment material

When designing examination or assessment material, use Round Table Clear Print Guidelines.

When reformatting material into large print, ensure the examiner's instructions are followed, converted material adheres to the individual student's needs as requested by their vision support specialist.

For detailed information on making examinations and assessment accessible to people with vision impairment, refer to Round Table's *Guidelines on Accessible Assessment*.

While reformatting

- ensure that material is formatted in the font style and size, paper size and colour as requested by their vision support specialist.

- retain all visual material (maps, diagrams, illustrations etc).

- retain page layout, colour and text formatting from the original document.

- if reformatting of graphics is necessary, clarify with the examiner before any adaptation are made.

- provide all information and documents (e.g., answer booklets and reference material) in clear large print, in the same font size as the main paper.

- ensure that line numbers (e.g., in poetry) and references to original print page numbers are retained where necessary.

- ensure that answer spaces and lines are sufficient for larger handwriting. Where the size of an answer space reflects the length of answer required, ensure the available length is specified in the large print version.

- keep page layout consistent and simple. Avoid splitting questions over more than one page if possible, and keep diagrams and graphics with the questions they relate to.

6 Special types of print material

6.1 Forms and questionnaires

When designing forms or questionnaires, use the Clear Print Guidelines. In particular

- ensure that text is left aligned and well-spaced.

- avoid using italics, block capitals or underlining.

- ensure that there is good colour contrast between text and background.

- ensure that tick boxes, if any, are aligned left, **before** the option. **(Appendix 1 – Checklist for Clear Print)**

- If there is a gap between a question and the space for completing the answer, always provide a leader line between the two. Make sure that any leader line is formatted differently from an answer-line, for example use a dotted line as a leader line and a solid line as an answer-line.

- Solid answer-lines and the lines around the boxes should be at least 1pt thick. Ensure that you provide plenty of space for responses, as some people with low vision may have larger than average handwriting.

6.2 Posters

To maximise the reach of any posters you are displaying, you should aim to follow the Round Table Clear Print Guidelines. In particular

- keep the layout simple.

- use clear, easily recognisable fonts.

- avoid using large amounts of italics, underlining, or blocks of UPPER CASE.

- ensure there is good colour contrast between the text and its background.

- do not place text over images or a textured background.

- make sure the poster contrasts with the wall it is placed on.

- use images that convey a clear message.

Positioning of posters

Posters are used in a variety of ways and in a variety of situations. The further away someone is from a poster at the point they are expected to read it, the larger the text will have to be in order to ensure the message is accessible to as many people as possible.

Within a confined space, such as a waiting room or within a corridor, it is easier to specify font sizes. In situations such as these a minimum font size of 26 pt is recommended for the smallest information on the poster e.g., contact information.

There will always be some people who cannot read information provided on posters. In a work or educational environment, it is common for posters to promote internal events. This practice can lead to the exclusion of colleagues or students with vision impairment. Additional methods of conveying the information should be found, such as the use of email or an intranet.

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Appendix 1: Checklist for Clear Print

The checklist below outlines key elements that should be considered when creating clear print documents. The checklist follows the four general principles discussed in The guidelines.

Clear text formatting

Contrast

- ☐ High contrast colours are used for text and background.
- ☐ Contrast ratios between foreground and background colours are checked and pass.

Font

- ☐ Font type is a standard sans serif font.
- ☐ Font size of at least 12 pt is used for clear print documents.
- ☐ Audience is considered and text is enlarged accordingly.
- ☐ Symbols and superscripts/subscripts are enlarged as necessary.
- ☐ Font weight/thickness is normal or medium.
- ☐ Italics, underline and blocks of UPPERCASE letters are limited.
- ☐ Text is left-aligned and set horizontally.
- ☐ Spacing between letters and words is not condensed or stretched.

Spacing

- ☐ Spacing between lines of text, the leading, is between 1.2–1.5 pt.
- ☐ Spacing between paragraphs is consistent, and vertical space has been increased if needed.

Clear page layout

Layout

- ☐ Layout is consistent and logical.

- ☐ Different elements of information are clearly separated and easy to find.
- ☐ Navigational aids, such as page numbers and headings, are consistently placed in the same position on each page.
- ☐ Layout is left-aligned.
- ☐ Information on the right of the page is visually connected to the left.

Headings

- ☐ Heading styles are consistent throughout the document.
- ☐ Headings are logically nested in a hierarchical fashion.
- ☐ Spacing before headings is adjusted according to the font size.

Columns

- ☐ Columns are clearly separated.
- ☐ Vertical lines between columns are 1pt thick.

Tables and borders

- ☐ Table borders are visible and at least 1pt thick.
- ☐ Adequate spacing is between text and border.
- ☐ Header rows are repeated across pages.
- ☐ High contrast colours are used if table cells are shaded.

Text boxes

- ☐ Text boxes are easily located and do not interfere with the flow of text.
- ☐ Shading within a text box has been contrast checked.
- ☐ Boxes have borders at least 1pt thick.

Clear graphics

Colour and contrast

- ☐ Colour combinations contrast adequately.
- ☐ Colour combinations are suitable for those with colour vision limitations.

Text

☐ Text within graphics is the same size at the main text.

☐ Text labels are positioned horizontally.

☐ Labels placed over graphics are within a box with sufficient background contrast.

☐ Image captions are in consistent positions.

Layout

☐ Adequate spacing exists between graphics and surrounding text.

☐ Graphics are not overlayed.

☐ Graphics do not interrupt the flow of text in columns.

Other considerations

☐ Information is not solely conveyed through colour or graphics.

☐ Graphical materials are clearly designed with good contrast.

Printing and binding

☐ Document can be laid flat for magnification or scanning.

☐ Paper prevents show-through and reflection.

☐ Paper size is manageable.

Appendix 2: Checklist for reformatting into Large Print

The checklist below outlines key elements that should be considered when creating large print documents.

☐   Copyright permission has been obtained before commencing reformatting.

Text meets Clear Print Guidelines

Font

☐   Font type is a standard sans serif font.

☐   Font sizes over 16 pt have been used.

☐   Symbols and superscripts/subscripts are enlarged as necessary.

☐   Italics, underline and blocks of UPPERCASE letters are limited.

Layout

☐   Layout is simple, consistent and logical.

☐   Line and paragraph spacing has been adapted to the font size and increased as necessary.

☐   White space and navigational aids are used.

☐   Original print page numbers have been inserted.

Headings

☐   Size and prominence of headings follow the heading hierarchy of the original document.

Page size

☐   Page size is manageable.

Headers and footers

☐   Headers and footers are clearly separated from surrounding text.

☐   Page numbers are provided in a footer.

Boxes

- ☐ Text boxes are easily located and do not interfere with the flow of text.
- ☐ Shading within a text box has been contrast checked or removed.
- ☐ Boxes have borders at least 1pt thick.

Tables

- ☐ Table borders are visible and at least 1pt thick.
- ☐ Header rows are repeated across pages.
- ☐ Individual rows are not split across pages.
- ☐ Complex or large tables have been modified as needed.

Footnotes and Endnotes

- ☐ Footnotes are repositioned according to the amount of space they require.

Cover page

- ☐ Original cover artwork is reproduced with volume details.

Graphics meet Clear Print Guidelines

Size and colour

- ☐ Images have been enlarged according to the low vision needs of the reader.
- ☐ Graphics have been simplified, split, or adapted as needed.
- ☐ Colours and patterns are clearly differentiated from each other.
- ☐ Transcriber's notes indicate changes or omissions.

Modifications

- ☐ Keys or descriptions are provided if necessary.
- ☐ Graphic headings and important notes are placed above the graphic.
- ☐ Labelling arrows are at least 1pt thick.
- ☐ Transcriber's notes indicate changes or omissions.

Other considerations

☐ The needs of the individual reader have been accommodated.

☐ Source files are obtained in a state ready for reformatting.

Appendix 3: Examples of Clear Print

Example #1 – Contrast and colour

WCAG 2.0 level AA requires a minimum contrast ratio of 4.5:1 for normal text and 3:1 for large text.

The **WebAIM Contrast Checker** was used to check the following contrast ratios.

Good colour contrast

Black on white provides the best contrast. Contrast ratio: 21:1	Reading white text on a dark background is preferred by some people. Contrast ratio: 7.01:1
This has good contrast but white text can appear smaller and may require enlarging. Contrast ratio: 15.26:1	Off-white or pale background colours with black text can reduce glare for some people. Contrast ratio: 18.82:1.

Poor colour contrast

Subtle colour combinations such as pastels with white do not contrast sufficiently. Contrast ratio: 2.37:1	White text on a mid-grey background has low contrast and, therefore, reduced legibility. Contrast ratio: 2.12:1
Background and text colours of a similar tone are hard to distinguish. Contrast ratio: 2.94:1.	This contrast would be improved by using a darker background or using black text. Contrast ratio: 2.52:1.

Example #2 – Font type and size

Clear print documents should use a sans serif font type and a minimum font size of 12 pt. Keep in mind that different font types can appear bigger or smaller as indicated below.

Clear print fonts (sans serif)	Serif fonts
N12 font size: This is Arial This is Calibri This is Verdana **N14 font size:** This is Arial This is Calibri This is Verdana	**N12 font size:** This is Times New Roman This is Garamond *This is Monotype Corsiva* **N14 font size:** This is Times New Roman This is Garamond *This is Monotype Corsiva*

Example #3 – Mathematical symbols

It may be necessary to increase the font size of superscripts/subscripts and other mathematical symbols. The symbols below have been increased by two pt.

	Clear Print	Standard Print
Superscript	See note[1]	See note[1]
Subscript	H_2O	H_2O

Example #4 – Font thickness

Avoid light-weight fonts as they are not dark or thick enough to provide good contrast.

Light thickness	This is Calibri Light
Normal thickness	This is Calibri normal
Bold thickness	**This is Calibri bold**

Example #5 – Font style

Limit the use of Italics, underlined text or blocks of text in uppercase. If you need to add emphasis to your text, try a bolder font weight.

This is written in italics.

This is written in underlined text.

THIS IS WRITTEN IN UPPERCASE.

This is written in bold text.

Example #6 – Text alignment

Text should be left-aligned with a ragged right margin.

Fully justified text, which is aligned to both the left and right margins, distorts the spacing between the words and can create stretched or cramped lines of text. Readers with low vision can mistake large gaps between words as the end of lines, particularly when using a magnifier to read the print.

   Aligning text to the right, which produces a ragged left margin, also makes text more difficult to read for people with low vision. This is because each new line starts in a different place and is difficult to find.

   Centred text, where each line starts and ends in a different place, is even more difficult to follow and should not be used for blocks of text. You can, however, centre titles or main headings.

The way text is justified can have a significant impact on its readability. In general, **text should be left aligned** with a ragged right margin. Left justification also ensures that the spacing between words and characters is consistent.

Example #7 – Line spacing

The recommended line spacing is 1.2 pt for a standard document which will assist readers to move their eyes more easily to the next line of text.

The space between lines of text, also known as leading, needs to be adequate. If the space between lines is too narrow, the print can be difficult to read. Lines of text may appear to merge with the text on the lines above and below, making it difficult to recognise word shapes.

The recommended line spacing is 1.2 pt for a standard document which will assist readers to move their eyes more easily to the next line of text.
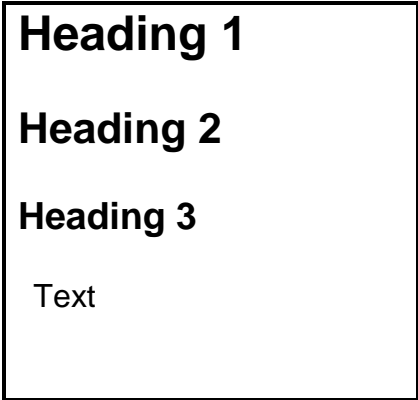
For larger font sizes (greater than 14 pt), 1.5 line spacing would be recommended.

Example #8 – Heading hierarchy

The size and prominence of the heading should reflect its importance in the context of the document.

Heading 1

Heading 2

Heading 3

Text

Example #9 – Columns

When setting out text in columns, make sure the space between the column is adequate, or a 1pt line is inserted in between the columns.

When setting out text in columns, make sure the space between the columns, also known as the gutter, clearly separates them.

Columns that are too close together may introduce confusion as the reader may read across the page rather than down.

When setting out text in columns, make sure the space between the columns, also known as the gutter, clearly separates them.

If space is limited, use a vertical line of at least 1-point thickness to separate the columns.

Example #10 – Tables and borders

Tables need to have sufficient space around text within the cell so that the cell contents do not merge visually with the borders of the table.

ISBN	TITLE	PRICE	QUANTITY	TOTAL
1 84000160 7	Garden Planning	$15.00	100	$1500.00
1 84000159 3	Water Gardening	$15.00	2	$30.00
1 84000157 7	Garden Structures	$10.00	47	$470.00
1 84000151 8	Pruning	$15.00	3	$45.00

ISBN	Title	Price	Quantity	Total
1 84000160 7	Garden Planning	$15.00	100	$1500.00
1 84000159 3	Water Gardening	$15.00	2	$30.00
1 84000157 7	Garden Structures	$10.00	47	$470.00
1 84000151 8	Pruning	$15.00	3	$45.00

Example #11 – Text boxes

Note: Text boxes are not accessible to screen readers. An alternative option is to use a single cell table such as the example below.

> Text boxes should be consistently placed and should not interfere with the flow of text. They should be positioned between paragraphs as close as possible to the text to which the box is referring.
>
> If using background colour within a text box, ensure that there is good colour contrast between the text and its background.
>
> Boxes should have a clear border line, at least 1pt thick. Ensure that there is sufficient extra space between leading text and the box border so that they do not merge visually.

Example #12 – Graphic colour and contrast

Make sure graphics can be understood without colour. Printing a copy of the graphic in black and white is a simple way of assessing whether the main features contrast adequately.
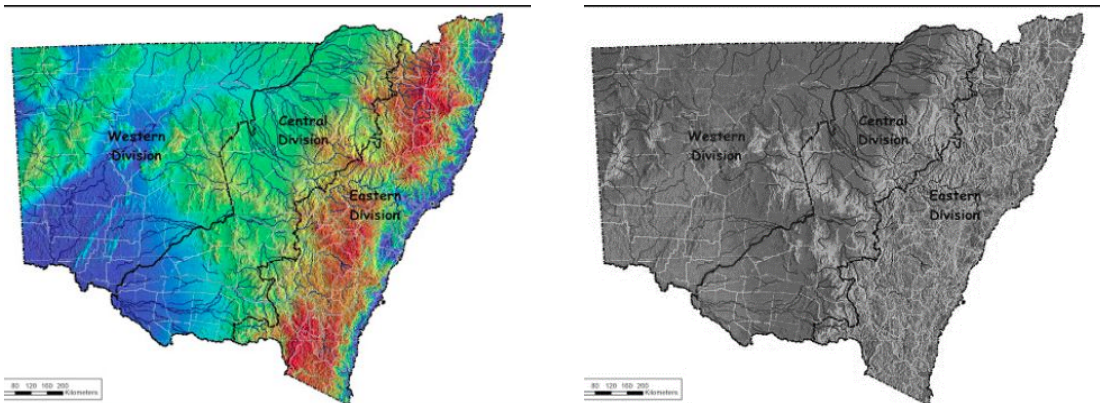

Image source: **Pinterest**

Example #13 – Graphic text labels

Text labels within a graphic should be of the same size as the main text. Labels should normally be placed horizontally.

When placing graphics on a page, ensure that there is adequate spacing between graphics and the surrounding text.

In order for the text to remain left aligned, wrap the text to the left of the graphic so that the start of each line is on the left margin.

Appendix 4: Large Print Examples

Example #1 — Page numbers (Navigational aids)

Page 21

Methods of indicating the original page number in a large print document

When a document is converted to large print, the print page numbers from the original document should be retained in the large print. This is especially important in educational settings, where students with low vision may be accessing a large print version while their classmates use the original print.

You could position it on the left margin as seen here. Ensure it is easily visible by increasing space above and below it.

Page 22

A second method is to use a rule above the page number to make it stand out. Be aware that this will use up one more line space, though.

…………………………………………………………………………………….. p 23

Another option is to position them on the right with leader dots to help draw the eye towards it as shown above. This is useful in maintaining visual differentiation while saving valuable space on the page. It is a matter of choice to abbreviate "Page" to "P" or "p".

Example #2 — Recurring icons

Some icons that used repeatedly across a book should be retained where possible as this provides a visual clue to the reader.

Writing Task — writing about the text

Example #3 — Reformatting tables

Text-heavy column headers take up too much space and it is difficult to accommodate many columns on a page. By reformatting, this problem can be resolved without compromise. In the example here the columns were converted to rows, and the rows to columns.

This is the original table. (The table title has not been included for this example).

	Military deaths	Civilian deaths due to military action	Civilian deaths due to famine, disease & accidents	Total deaths	Deaths as % of population	Military wounded
ALLIES						
BRITAIN	886,939	2,000	107,000	995,939	2.19%	1,663,435
FRANCE	1,397,800	40,000	260,000	1,697,800	4.29%	4,266,000
RUSSIA	1,811,000 to 2,254,369	500,000	1,000,000	3,311,000 to 3,754,369	1.89% to 2.12%	3,749,000 to 4,950,000
USA	116,708	757	-	117,465	0.13%	205,690

Below is an alternative way of presenting this table. Note that none of the information has been lost.

	ALLIES			
	Britain	**France**	**Russia**	**USA**
Military deaths	886,939	1,397,800	1,811,000 to 2,254,369	116,708
Civilian deaths due to military action	2,000	40,000	500,000	757
Civilian deaths due to famine, disease & accidents	107,000	260,000	1,000,000	-
Total deaths	995,939	1,697,800	3,311,000 to 3,754,369	117,465
Deaths as % of population	2.19%	4.29%	1.89% to 2.12%	0.13%
Military wounded	1,663,435	4,266,000	3,749,000 to 4,950,000	205,690

Example of a table which could be converted into a list:

|		
Buff colour paper	A4	80 gsm
		120 gsm
	A3	80 gsm
		120 gsm
Blue colour paper	A4	80 gsm
		120 gsm
	A3	80 gsm
		120 gsm

Merged cells could give rise to difficulty in accessibility as well transcription to a large font. The table above could also be written as a list:

- ❖ Buff colour paper
  - ▪ A4
    - • 80 gsm
    - • 120 gsm
  - ▪ A3
    - • 80 gsm
    - • 120 gsm
- ❖ Blue colour paper
  - ▪ A4
    - • 80 gsm
    - • 120 gsm
  - ▪ A3
    - • 80 gsm
    - • 120 gsm

Example #4 — Simplifying a graphic

Example of a map that is simplified and presented differently

Sometimes maps can be very crowded (see example below), with a lot of information presented on a single map. If possible, while formatting to large print, this may be simplified and presented in a different form, but retaining all the original content and meaning.
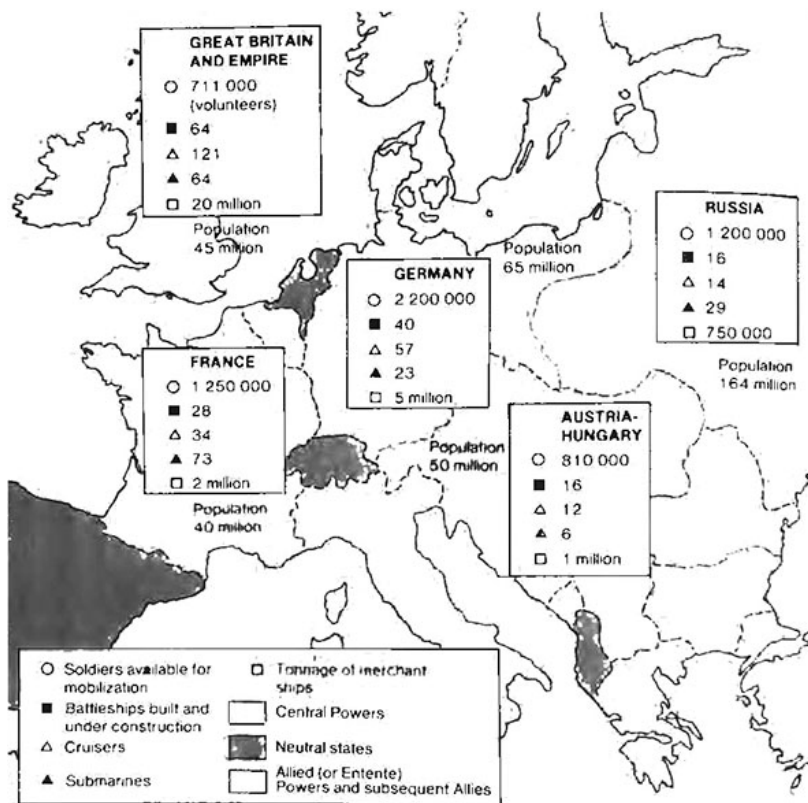
The map can be simplified as below and the factual content represented similarly but in larger and clearer terms as separate items. Care should be taken to tell the reader that the information follows on the consecutive page.

[TN: See enlarged version of the map legend, and also enlarged version of text contained on the map, below.]

Map legend:

○ Soldiers available for mobilisation

■ Battleships built and under construction

△ Cruisers

▲ Submarines

□ Tonnage of merchant ships

▨ Central Powers

▨ Neutral States

□ Allied (or Entente) Powers and Subsequent Allies

Great Britain and Empire

Population 45 million
○ 711 000 (volunteers)
■ 64
△ 121
▲ 64
□ 20 million

Germany

Population
65 million
○ 2 200 000
■ 40
△ 57
▲ 23
□ 5 million

Russia

Population
164 million
○ 1 200 000
■ 16
△ 14
▲ 29
□ 750 000

France

Population
40 million
○ 1 250 000
■ 28
△ 34
▲ 73
□ 2 million

Austria–Hungary

Population
50 million
○ 810 000
■ 16
△ 12
▲ 6
□ 1 million

Example #5 — Labelling graphics

Ensure that any labelling on diagrams is the same size font as the body of the text and does not impede the interpretation of the graphic.

chlorine
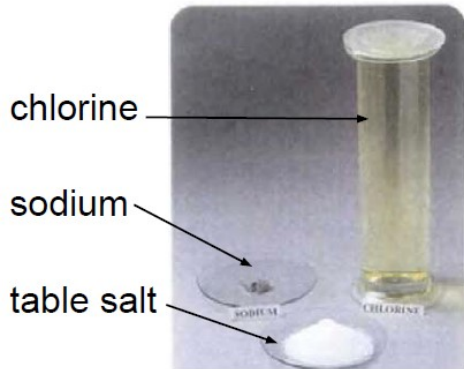
sodium

table salt

A compound is completely different from the elements that it is made of. Table salt consists of the elements sodium and chlorine.

Example #6 — Cover of a book

Example of a cover of a book that has been transcribed into several volumes

The original cover image is to be retained and if text runs into more than one volume in the large print version, this has to be clearly indicated with the relevant information.

Volume 1 of 5
Print pages 1 – 166

INHERITANCE
Christopher Paolini