



Department  
for Education

# **Style and formatting guide for research publications**

**October 2024**

# Contents

Introduction	7
Planning and structuring your report	8
Choosing your research report formats	8
Sections	8
Planning your report	11
Writing in house style	14
Keeping content clear	14
Using headings to signpost content	15
Writing numbers and percentages	15
Writing dates	15
Styling and formatting content	17
Formatting text	17
Labelling images, tables and figures with captions	20
Links	23
Footnotes	24
Equations	24
Bibliography	26
Tables	27
Using tables appropriately	27
Table accessibility	34
Using colour	36
Approved colour palette	36
Colour in graphics	39
Avoiding relying on colour for meaning	50
Images	53
Using images impactfully	53
Accessibility of images	53
Adding alt text to images	54
Graphs	61
Using graphs appropriately	61

Creating graphics	62
Drawing	70
Using colour in graphics	71
Formatting graphs for accessibility	84
Alt text for charts	86
Theory of change models	100
Formatting your report for accessibility	101
Defining accessibility	101
Checking accessibility issues	103
Fixing accessibility issues	104
Editing document properties	105
Checking language, spelling and grammar	107
Appendix of checklists	111
Accessibility checklist	111
Colour checklist	113
Table checklist	114
Graph checklist	115
Alt text for graphics checklist	116
Flow chart checklist	117
Document checklist	118
Spreadsheet checklist	118

## List of tables and figures

Table 1: Example table .....	30
Table 2: Example table showing hourly delivery cost per child by age of child .....	30
Table 3: Example of merged cells in a table with double-row headings.....	30
Table 4: Example of avoiding merged cells in a table with double-row headings .....	31
Table 5: Example of visually distinguishing between data sets in a table .....	31
Table 6: Example of table with base information, showing school attendance from September to October 2020 by special educational needs (SEN) status .....	32
Table 7: How a cursor should move through a table.....	34
Figure 1: DfE colour palette .....	36
Figure 2: How colours can appear to those with different forms of colour blindness .....	38
Figure 3: Shades of a blue hue are easiest to distinguish .....	39
Figure 4: Example of keeping colours for data sets consistent when representing attendance during two weeks in May 2021 .....	42
Figure 5: Example of choosing inappropriate colours for a representation of favourite citrus fruits .....	43
Figure 6: Example of choosing appropriate colours for a representation of favourite citrus fruits.....	44
Figure 7: Example of a graph with two different data sets, viewed in greyscale .....	49
Figure 8: Example of relying on colour for meaning and making a graphic inaccessible .	50
Figure 9: Example of using symbols as well as colours in a key.....	51
Figure 10: Example of using positioning as well as colours in a key.....	51
Table 8: Example of using codes as well as colour-coded cells in a table.....	52
Figure 11: An image that could have a variety of different alt text .....	57
Figure 12: Image to show example alt text serving the same function as the image .....	58
Figure 13: Graph of investment data used to illustrate alt text .....	60
Table 9: Table summarising the types of graphs recommended for different types of statistical data relationship.....	61
Figure 14: Example of too many unnecessary markings in a graph showing annual trends in the percentage of children and young people aged 5 to 16 who engaged in at least 60 minutes of moderate activity per day, by gender .....	64
Figure 15: Example of good practice in a graph showing annual trends in the percentage of children and young people aged 5 to 16 who engaged in at least 60 minutes of moderate activity per day, by gender.....	64

Figure 16: Example of a graph with annotations .....	66
Figure 17: Percentage of children and young people aged 15 to 18 indicating concern about the impact of the pandemic on their mental health, by socio-demographic characteristic, in July 2021 .....	67
Figure 18: Example of a graph with annotations .....	68
Figure 19: Example of using multiple colours inappropriately in a pie chart.....	72
Figure 20: Example of using shades of the same colour appropriately in a pie chart .....	72
Figure 21: Example of a vertical bar chart showing most common communication methods with school during summer term 2020 (among pupils who had contact).....	73
Figure 22: Example of using different colours to distinguish data sets in a clustered vertical bar chart showing school attendance in two weeks in May 2021 .....	73
Figure 23: Example of a horizontal bar chart showing year 13 students' plans for September 2021 .....	74
Figure 24: Example of appropriate use of colour in a survey of students' reasons for undertaking work experience during their course .....	75
Figure 25: Example of inappropriate use of colour in survey of students' reasons for undertaking work experience during their course .....	75
Figure 26: Example of using multiple colours in a clustered bar chart appropriately to distinguish between subcategories in data showing the ethnicity and gender of students in a cohort.....	76
Figure 27: Example of differentiating between groups for invites and response rates for the Parent and Pupil Panel (PPP), using the same colours as elsewhere in the report...	77
Figure 28: Example of using shades of the same blue in a stacked bar chart showing parents reported participation of primary and secondary children in activities during the summer holidays in 2020 .....	78
Figure 29: Using different colours to distinguish data sets.....	79
Figure 30: Example of using colour to imply an order in a line graph showing the average reading level of each year group in a school each term.....	80
Figure 31: Example of ordered colours increasing confusion in a graph showing the percentage of families (singles or couples) owning their own home, by age group, 1961 to 2017, UK.....	80
Figure 32: Example of using different colours to improve clarity in a graph showing the percentage of families (singles or couples) owning their own home, by age group, 1961 to 2017, UK.....	81
Figure 33: Example of using greyscale to check the colours in a graph showing the percentage of families (singles or couples) owning their own home, by age group, 1961 to 2017, UK.....	81

Figure 34: Example of using texture as well as colour in a graph showing the percentage of families (singles or couples) owning their own home, by age group, 1961 to 2017, UK .....	82
Figure 35: Example of using texture and colour to distinguish between two data sets for men and women’s median weekly earnings by age and qualification level .....	83
Figure 36: Example of using shapes at data points to help distinguish between lines in a graph showing annual trends in the percentage of children and young people aged 5 to 16 who engaged in at least 60 minutes of moderate activity per day, by gender.....	84
Figure 37: Example of alt text for a clustered vertical bar graph where every data point is important.....	89
Figure 38: Example of alt text for a clustered horizontal bar graph where only the trend is important.....	90
Figure 39: Example of detailed alt text for a clustered horizontal bar graph showing how people who are deaf, hard of hearing, blind or have low vision are alerted to emergencies .....	91
Figure 40: Percentage of children and young people aged 16 to 24 who reported visiting a green and natural space in the last 14 days .....	92
Figure 41: Percentage of children and young people aged 16 to 24 who reported visiting a green and natural space in the last 14 days .....	92
Figure 42: Example of alt text for a simple line graph showing how anxious pupils were feeling between August 2020 and May 2021 .....	93
Figure 43: Example of alt text for a Venn diagram.....	94
Figure 44: Example of alt text for a scatter plot showing the percentage of students in the same region as their university at age 27 compared with their average score at key stage 4.....	95
Figure 45: Example of alt text for a pie chart showing the employment status of a cohort of students .....	96
Figure 46: Example of a step-by-step for a process flow chart .....	99

## Introduction

The Department for Education (DfE) commissions research for policy development. Research is published in the department's [research report series on GOV.UK](#).

This guide will help you produce reports for policy advisers, ministers and others outside the DfE. It has guidance on using [the department's research report template](#), writing in plain English and making reports accessible to comply with the Equalities Act 2010 and [The Public Sector Bodies \(Websites and Mobile Applications\) Accessibility Regulations 2018](#).

We hope the guide will save authors time by minimising the need for editing, redrafting and amending content for accessibility. We also hope it will help us produce consistently better reports.

This guidance is for anyone involved in producing research reports:

- staff
- contractors
- contracted agencies

# Planning and structuring your report

## Choosing your research report formats

Research reports can be split into 3 or more different documents. The most common formats are:

- **research report** – the main output
- **research brief** – a self-contained, jargon-free summary of 2,000 to 2,500 words for informed readers seeking an overview
- **technical report** – a more detailed ‘academic’ report with greater emphasis on the research methodology
- **data tables** – if there are lot of large tables, these may be better in a separate document in spreadsheet format

Discuss with your project manager which format(s) are most appropriate for your project.

## Sections

There are no set rules on structure, apart from the need for a concise executive summary.

A research report is likely to contain the following:

- title page
- contents
- acknowledgements
- executive summary
- main report
  - introduction
  - methodology
  - findings
  - conclusion and/or recommendations
- appendices
- references and sources
- back page

## Title page

The title should be short and interesting, and give an idea of the content of the report in a non-technical way. It should be simple enough that people can decide if the report is of use to them.



'Front-load' titles by putting the words people are most likely to search for at the front, and use colons as connectors. For example, 'Income Tax reform: technical assessment' is clearer and simpler than 'An assessment of the impact of proposed reforms to Income Tax'.

When your report is published on GOV.UK, the title of the webpage must be no more than 65 characters long (including spaces) and, ideally, the title of the report will match it. This helps people find the information they are seeking.

Use sentence case; do not capitalise every word. Refer to the section on writing and refer to the [style guide](#) for more information about house style.

Examples of helpful titles include:

- Pupil premium: an evaluation
- Family Fund Trust review

The title page should include a departmental logo, depending on who commissioned the research, and the Government Social Research (GSR) logo. It may also include the logo of other government departments or agencies involved in the project, especially if it is jointly commissioned. It should not include any company or organisation logos.

The title page should also include the month and year of publication, and a list of authors and their institutions, as shown in the [DfE research reports template](#).

## **Metadata title and author**

In the File tab, within the Info section, under Properties, make sure the correct report title is in the Title field. This will be the title of the PDF that is published, so it needs to be updated from, for example, 'External document template'. Make sure the author is 'Department for Education' or names the organisation or individuals that produced the report, as appropriate.

## **Table of contents and list of figures**

All reports that have more than 3 pages should have a table of contents. If the report has more than a few tables and figures, you may also want to include a list of these elements. Use your judgement for when they are required.

## **Acknowledgements**

It is not mandatory, but you may want to add acknowledgements to the report to thank those who contributed to the research.

## Executive summary

Ministers and senior policy advisers are most likely to read the executive summary. It should be:

- clear and concise
- 2 to 8 pages long, depending on the length of the report
- self-contained to be read independently.

It can also form the basis of a research brief, if one is being produced.

Ideally, it should include:

- the aims of the project and a brief description of the research methodology
- all the important findings and conclusions, with each finding pointing readers to the relevant section in the main body – for example, ‘Refer to the section on staff knowledge’
- policy recommendations, where appropriate

## Main report

This should include:

- the aims of the project
- the background
- a layperson’s guide to the research methodology, including an indication of how it affects the conclusions
- findings, ideally structured around the themes that emerge rather than the methodological timeline
- conclusions and recommendations – you may need to refer to policy developments in the area, and any recommendations should come from interpretation of the evidence, linked to specific findings, where possible

## Appendices

These are for detailed technical information – for example:

- the sample frame
- the sampling method
- response rates
- the theory of change model, if you have one and are including the raw data
- any other methodological information
- questionnaires, topic guides and other important field documents

## References and sources

References should be listed alphabetically by author, in a single bibliography at the end of the main report in the [Harvard style](#), not at the end of each section.

## Back page

The template for the back page of your report will include:

- copyright details
- a standard disclaimer
- DfE contact details
- a research report reference (RR) number
- an ISBN

The RR reference number will be provided by the DfE research programme team and the ISBN by the digital communications team. Remember to replace the Xs on the back page with the correct details and to ensure the copyright year and contact details are correct.

You do not need to include an enquiries email address, but it can help your readers connect with you.

## Planning your report

Before you start writing, plan your report to save time on editing and redrafting later.

## Tailoring your content to your readers

Make sure you know:

- who your readers are:
  - any assumptions you're making about them and what they already know
  - if there is background you need to explain that may seem obvious to you but might not be to them
- what information you need to include
- what information you can leave out because it is:
  - historic or out-of-date
  - part of the development process and not needed in the final report
  - only of interest to you and not your readers
- what your key messages are
- which information and findings should be grouped together
- how your content should be structured, written and presented

## Selecting the best format for your content

Decide on the best format to use to communicate your findings. Use text, tables, graphs and appendices appropriately.

- **Text descriptions** – use text as much as possible as it is the most accessible format.
- **Diagrams** – use diagrams if they help to communicate your message but avoid using them unnecessarily, as text descriptions are more accessible and often clearer.
- **Tables** – use tables to show data where possible, as tables are more accessible than graphs. Provide a table summary if there are clear trends or key points, or the table is complicated to navigate.
- **Graphs and charts** – describe these in the text as much as possible or provide alt text that communicates the same key information for non-sighted people who use an electronic screen reader.
- **Raw data/appendices** – if your readers need access to the raw data, put it in an appendix.

## Presenting your report and appendices

The [Government Digital Service](#) (GDS) prefers that all GOV.UK content is published in webpages as hypertext markup language (HTML), as this is the most accessible format. All webpages need to adhere to the [GDS style guide](#). Reports can be presented as downloadable portable document format (PDF) documents as long as they are accessible.

Appendices can be published in a variety of formats, depending on the content involved, but the format must be fully accessible:

- HTML webpages
- PDF documents
- Microsoft Excel spreadsheets
- comma-separated value (CSV) files for simple spreadsheets or raw data
- Extensible Markup Language (XML) files for programs that need to be read by machines

You should aim to publish any data so that it meets at least [the 5-star system](#) is:

1. Make it available online in any format under an open licence
2. Make it available online as structured data (such as in Excel instead of a PDF)
3. Make it available in a non-proprietary open format (such as CSV instead of Excel)
4. Use uniform resource identifiers (URIs) so that other websites can point specifically to your data
5. All the above, plus linking your data to other data to provide context

## Planning your structure

Find the most logical order for your content. Plan what you are going to communicate in each section and give each section a descriptive title. Someone scanning your document should be able to tell what information is in each section. Arrange how and where you present your data to make the most sense.

## Using a document template

Select the most appropriate template for your document. All research reports must be published in the most recent [DfE research template](#) so that all our documents are consistent, follow our corporate style and meet [accessibility requirements](#). The template has our branding embedded within it, including logos, font sizes, heading styles, bullet point styles and margin widths. This saves you time formatting your content.

Always download the latest template for each new report. Do not create a new report on top of an existing report, as old documents may have styles that are no longer correct or accessible.

# Writing in house style

## Keeping content clear

Write clearly, using plain English and avoid unnecessary technical jargon. Writing clearly helps people understand your research and reduces miscommunication. Simple writing helps everyone understand your message faster.

- **Use plain English:** Do not use formal or long words when easy or short ones will do. Use everyday words that are used in conversation. Remember: you are trying to engage rather than impress readers.
- **Avoid jargon:** If you need to introduce a technical term, make sure you explain it in plain English.
- **Explain acronyms:** The first time you use an abbreviation or acronym, write it out in full, with the acronym in brackets afterwards.
- **Be concise:** Leave out any unnecessary information. Keep sentences and paragraphs short; aim for an average of 15 to 20 words per sentence.
- **Make sentences active rather than passive:** Active sentences give your writing energy and clarity. They're quicker and easier to read and are more memorable. For example:
  - DfE asked students to join (active)
  - The students were asked to join by DfE (passive)
- **Be specific:** Avoid using words that are general and vague, as this can lead to misinterpretation or empty, meaningless text.
- **Use sub-headings:** Sub-headings break up text into shorter passages that appear less daunting. They also signpost information so people can find what they're looking for more easily. They can help you organise the points you want to make in a logical way.
- **Write in a balanced, value-free way:** Base commentary on evidence from the research, not conjecture.
- **Clearly distinguish content types:** Separate inferences, conclusions and recommendations from descriptions of findings.
- **Avoid contractions:** Shortened words such as 'don't' and 'can't' can be misread more easily than 'do not' and 'cannot'.
- **Cite all sources:** Insert a bibliography at the end of your report.

- **Follow house style:** The [GDS style guide](#) covers style, spelling, punctuation and grammar conventions for all content published on GOV.UK.

## Using headings to signpost content

Headings should be concise and descriptive, so that readers can quickly navigate your document. Keep them to one line or a maximum of 20 words. If you use long heading titles, they will be cut short in the navigation pane down the side of the document in Word or Adobe Acrobat. They can then lose their precise meaning.

## Writing numbers and percentages

GDS style is to write all numbers as numerals (including 2 to 9) except where they are part of a common expression such as 'one or two of them' or at the start of a sentence, where numerals would look odd.

Make it clear exactly what percentages are describing. This is especially important when discussing findings for sub-groups, or sub-groups of sub-groups, rather than the sample as a whole. Not all readers understand percentages correctly. Percentages over 100% are often misinterpreted: for example, some people think a 200% rise in a value means that it has doubled, rather than tripled. In these cases, use words rather than figures to make the point.

Fractions should be written out in body text and hyphenated – for example, one-third and two-fifths. In tables and diagrams, they should be presented in numerical form.

Where fractions or proportions are given in body text, the percentage should be given in brackets afterwards – for example, 'Three-quarters of parents (75%) were dissatisfied'.

Figures of 0.5 or above, in both text and tables, should be rounded to the nearest whole number, except in special cases – for example, where showing slowly changing indices. Large numbers can be rounded for the sake of simplicity but use your judgement if you think this could be confusing or misleading.

## Writing dates

Write dates in the order date, month, year. If the day of the week is relevant, put it before the date. Do not use 'st', 'nd', 'rd' or 'th' after a number. Write out months in full unless space is an issue – for example, when fitting text into tables or graphs.

Academic years should be written out in full, with a 'to' between, such as '2023 to 2024'. Financial years can be written with a slash and an abbreviation, such as 2023/24. Make sure it is clear which type of year you mean.

## Writing email addresses

Write email addresses in lower case (even if they are names) and embed them as active links – for example, [emailaddress@statistics.gov.uk](mailto:emailaddress@statistics.gov.uk). Do not include any other words in the link text.



# Styling and formatting content

## Formatting text

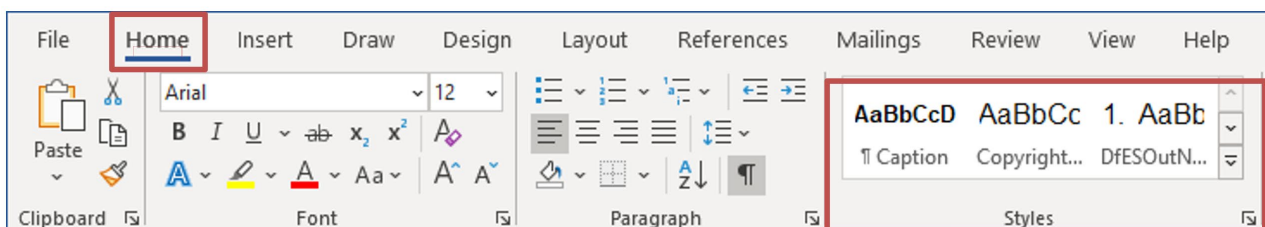
### Using styles

All content should be styled using only the [pre-set options in Microsoft's Styles menu](#). Our corporate text styles are embedded in the template to help you meet corporate branding and accessibility requirements.

Most content and all body text should be presented like this paragraph, using the 'Normal' style in the Styles menu. Do not create new styles, import styles from other documents or change any settings in the template, including margins.

#### To apply a style:

1. Highlight the text you're formatting.
2. Select the Home tab in the top menu bar.
3. Go to the Styles menu
4. Scroll through the menu using the down arrow to search for more styles, or use the arrow below that to display all options.
5. Select the style you want.

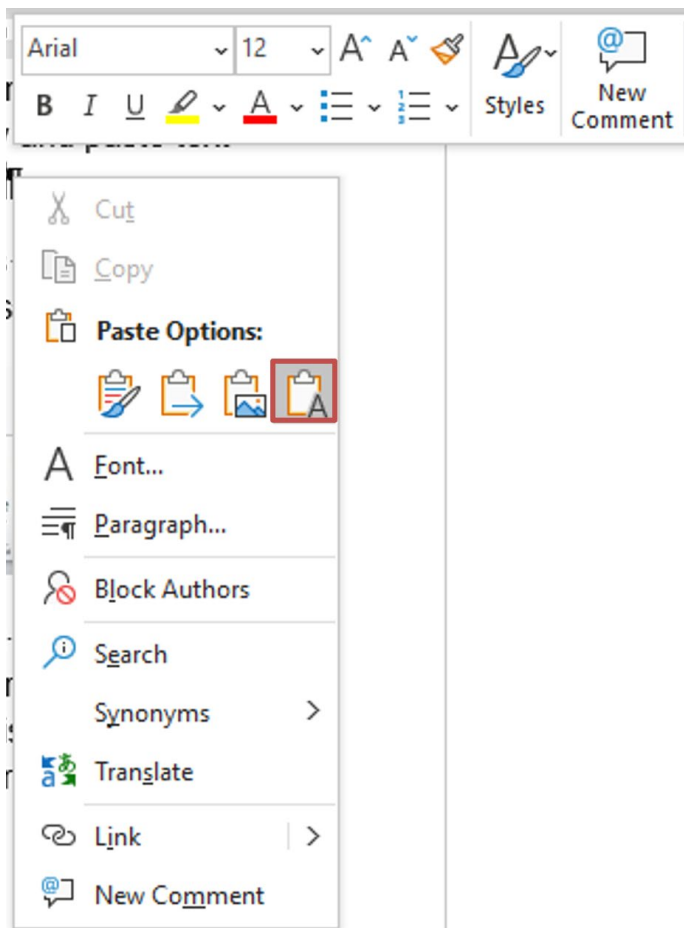


### Pasting in text

Avoid copying and pasting content into the template from other documents, software packages or emails, as this can import other text and paragraph styles. If you must paste in content, use the 'Keep Text Only' option in the paste options.

#### To correctly paste in content:

1. Place the cursor where you want to paste in content.
2. Right-click and select Keep Text Only on the right.



Alternatively, copy all the content into a program that strips formatting, such as Notepad, then copy that content from Notepad, paste it into the template and apply the correct style.

## Creating a heading hierarchy

Plan how you want your report to be structured and make sure the headings describe the content beneath. Then consider the hierarchy and make sure you format each type of heading correctly, using Heading 1 first, then Heading 2, then Heading 3, then Heading 4, without skipping a level. Headings 1 and 2 will automatically populate the contents page.

## Inserting a new page or white space

### Avoiding using repeated blank characters or carriage returns

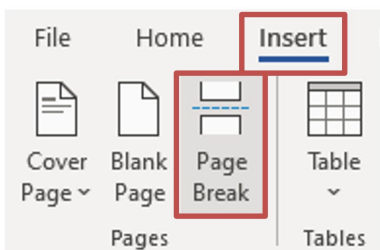
Do not use carriage returns, the space bar or blank characters to space out content. People who use a screen reader to read documents electronically may perceive extra spaces, tabs, empty cells or paragraph returns as blanks. After hearing 'blank' several times, those users may think they have reached the end of the text.

Also do not use long sequences of full stops, dashes or underscores, as a screen reader may read this out literally – for example, ‘full stop, full stop, full stop’, which can be frustrating and confusing for a non-sighted user.

Instead, use formatting, indents and [styles](#) to create white space or the insert a page break option to shift content to the next page. Use the Show/Hide tool on the top right of the Paragraph menu (which looks like a mirror-flipped P) to show the non-printing characters in your document and check that all white space and page breaks have been correctly inserted.

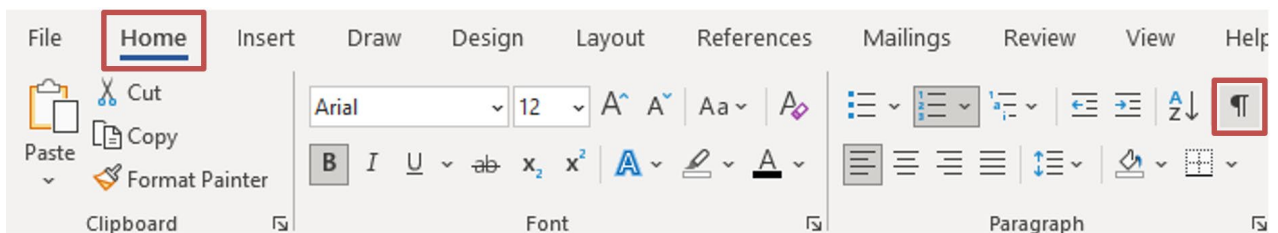
### To insert a page break:

1. Place the cursor where you want to start a new page.
2. Select the Insert tab in the top menu bar.
3. Select Page Break.



### To remove a page break:

1. Select the Home tab in the top menu bar
2. Click on the Show/Hide symbol in the Paragraph options.



3. Double-click on the page break you want to delete.
4. Press Delete to remove the page break.

## Emphasising text

Do not highlight information by using different fonts or different colours. Do not use italics or underline words. Italics can be hard to read and underlined text should only be used for hyperlinks. Avoid using bold text for emphasis.

If you want to summarise a key point or finding, it is best to create a heading for it. You can also use a box with a background colour that separates the content from the rest of the text, but you should be aware that this can cause a problem for some screen readers.

## Emphasis box

You can use a coloured text box like this to emphasise a point or give a summary. However, you should not include important information only in an emphasis box and nowhere else in the document, as content in a box is not always picked up by a screen reader. For screen reader users to access content in a text box, it needs to be formatted to be 'inline with text'. You can find out how to do this in the [avoid creating floating objects](#) section.

If you choose to use an emphasis box, the background colour should be one of the palest blues in DfE's [approved colour palette](#) and the text should provide a clear contrast. Refer to the [Using colour](#) section for more information about using colour.

Do not use a table cell instead of a text box to emphasise text, as a table will confuse a screen reader, which will be expecting column headings and data cells.

## Numbering paragraphs

Numbered paragraphs are only used for legal or legislative publications.

Instead of using numbered paragraphs to help people find and refer to content, [add hyperlinks to a location within the same document](#) to jump to the title of the section that paragraph is in. This is more accessible for non-sighted users.

Do not use language that refers to positioning, such as 'see above', or 'as shown below', as this is not accessible. It is better to write 'as discussed/demonstrated in the '[insert name] section'.

## Labelling images, tables and figures with captions

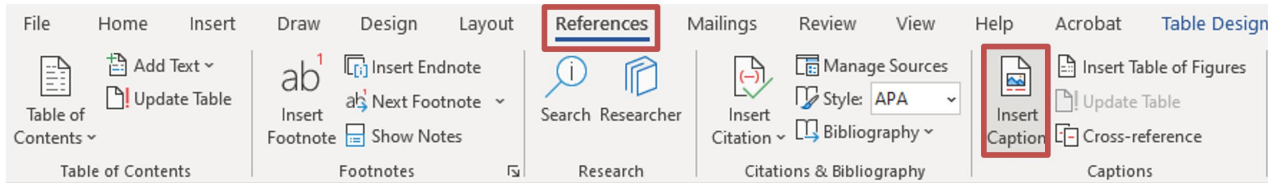
### Captions

A caption is a numbered label, such as 'Figure 1' or 'Table 2'. You can add a caption to a figure, a table, an equation or other object. It has customisable text you can type in, such as 'Figure', 'Example' or 'Equation', followed by an ordered number or letter ('1, 2, 3...' or 'a, b, c...') and a descriptive title.

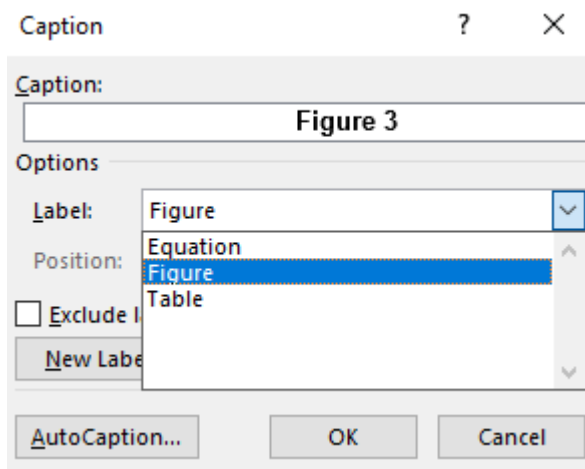
Every table, diagram, graph and image should be labelled with a caption unless it is entirely decorative and conveys no extra information beyond what is already described in the on-page text. If so, it can be marked as decorative. Consider whether you need it at all and delete it if not – extra images could unnecessarily complicate your message. You do not need to add a caption for a decorative image.

## To add a caption:

1. Select the object you want to add a caption to.
2. Click on the References tab in the top menu bar.
3. Go to the Captions group. Click on Insert Caption.



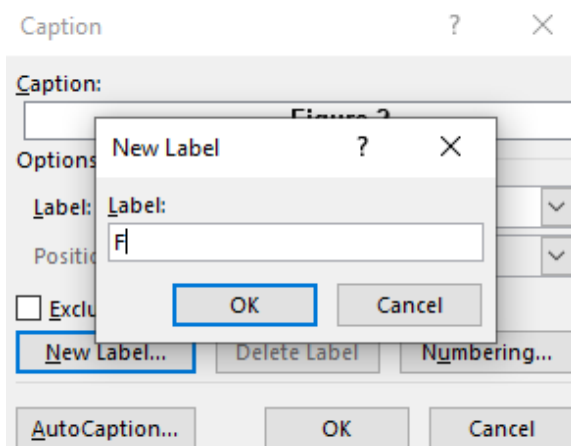
4. Choose the appropriate option from the dropdown **Label** list.



5. Type the title you want to appear after the initial label in the Caption field.
6. Click OK.

## If the list does not have the label you need:

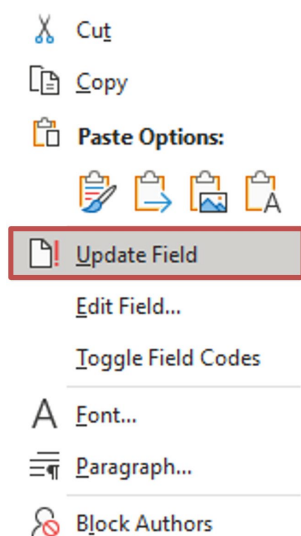
1. Click on New Label.
2. Type the new label in the Label box.
3. Click OK.



Word automatically updates the caption numbers as you add them. If you delete or move a caption, you must update the numbers. Captions added in the correct way will automatically be added to your list of tables or figures.

### To update caption numbers:

1. Click anywhere in the document.
2. Click on Ctrl and A at the same time to select the entire document.
3. Right-click, and then choose Update Field on the shortcut menu. The caption numbers will be automatically updated.



Further guidance on how to [add, edit or delete a caption](#) is available from Microsoft.

Captions added in the correct way will automatically be added to the list of tables/figures.

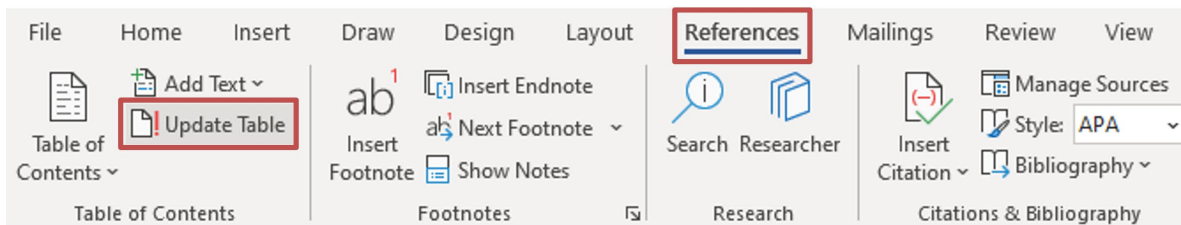
## Updating the list of tables and figures

As well as a table of contents, your report should have a list of figures and tables, if you have more than a couple of each. If you only have one or two tables or figures, or the report is short, you do not need to include a list. The list can be created and updated automatically if the titles for tables and figures are labelled using the Insert Caption option in Word.

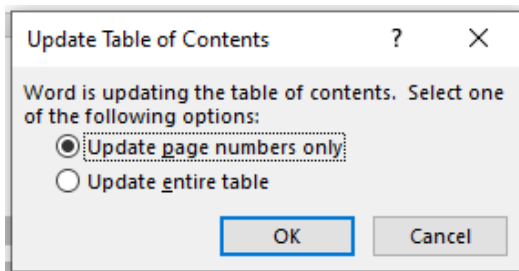
Always [update the table of contents, list of figures and tables using Microsoft's functionality](#). Remember to do this when you have finished editing your report so that the titles and page numbers are correct in the final version.

### To update the list of figures and tables:

1. Click on the References tab in the top menu bar.
2. Click on Update Table.



3. Select Update entire table to update the list for any changes you've made to the titles or numbers of figures or tables, as well as any page number changes. Select Update page numbers only if you've not changed the titles or numbers of any figures but just added text to the report and need to update the page numbers.



4. Select OK.

## Links

Always [add links using Microsoft's functionality](#).

Hyperlinked text should provide a clear, meaningful description of what the visitor will find at the link destination. Instead of giving the full URL or using ambiguous labels like 'click here' or 'read more', or the inaccessible 'see this', it should describe the content of the link with a short concise label. The label should be the same or similar to the page title, so the reader is able to predict where the link will take them before they click on it. The same link should be given the same name whenever it is used throughout the report.

For example, 'Refer to [Understanding Techniques for WCAG Success Criteria](#) for information about how to meet the web content accessibility guidelines (WCAG) 2.1 criteria.'

You can direct people to the correct section or link direct to that section if it is on a GOV.UK page.

Avoid giving the full URL. For example, write [Munro review of child protection: final report](#) rather than <https://www.gov.uk/government/publications/munro-review-of-child-protection-final-report-a-child-centred-system>. The full URL can be included in footnotes, if needed, but avoid including it in the main body of the publication unless the document is to be printed and/or the URL is short and descriptive.

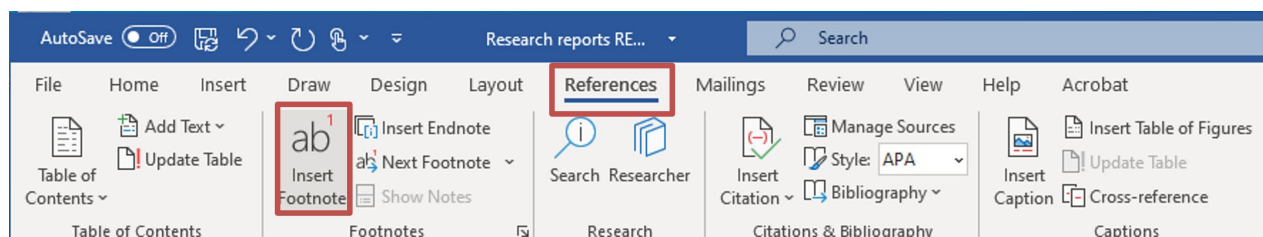
Do not link directly to a PDF, but instead link to the webpage where the PDF is hosted. If a PDF is updated, the link to it could break. It is also helpful to link to the webpage to provide context to the PDF.

Always test all the hyperlinks in your document to check they work and take the reader to the correct page. It is good practice to revisit your content regularly to check links still work as expected.

## Footnotes

Always [add footnotes using Microsoft's functionality](#).

1. Place the cursor at the point in the text where you want to add the first footnote number like this<sup>1</sup>.
2. Go to the References tab in the top menu bar.
3. Select Insert Footnote.



4. Type what you want the footnote to read at the bottom of the page.
5. Click back into the body text of the document to continue writing.

Following the correct process adds functional footnote formatting to link the reference on the page to the note added to the bottom of the page. Do not create footnotes manually or use asterisks for footnotes, as these will not be accessible to screen reader users.

## Equations

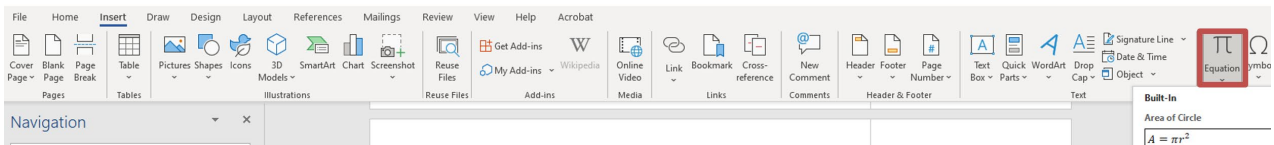
Always [insert equations using Microsoft's functionality](#) and present them in professional format, if possible.

1. Select Insert in the top menu bar.
2. Click on Equation on the far right.
3. Choose the type of equation you want from the available options and edit accordingly.

---

<sup>1</sup> This is what a footnote should look like.





4. After inserting the equation, the Equation Tools Design tab opens with symbols and structures that can be added if necessary.
5. If your equation is not in a standard, available format, select Insert New Equation from the bottom of the gallery.

#### Quadratic Formula

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

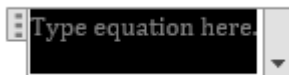
[More Equations from Office.com](#)

**Insert New Equation**

Ink Equation

Save Selection to Equation Gallery...

6. Type your equation into the dialogue box that opens. Equations should be displayed in professional format unless they are clearer or there is a good reason to use linear format.



Errors can occur with mathematical equations when converted to PDF. It is usually the brackets that cause the issue. Change the font of the particular symbol or bracket from Cambria Math to Arial.

Alternatively, you can:

- reflow into a linear equation, save the whole equation as an image and add the 'linear equation' as the alt text to the image
- insert the equation as a linear equation in Word instead of a mathematical professional equation
- enlarge the font size of the equation to stop letters running into each other when converted to PDF

## **Bibliography**

Many reports will not need a bibliography, but if you are including one, always [create a bibliography, citations and references using Microsoft's functionality](#) and in [Harvard style](#).

## **Summary of content and styling tips for reports**

Refer to the [document checklist](#) for a summary of guidance on creating reports.

# Tables

## Using tables appropriately

Tables should only ever be used to show data. Do not use tables to lay out or arrange content or lists. This confuses screen reading software, which will be looking for column headings and data cells.

Avoid creating large tables with many columns and rows. In some cases, two smaller tables would show the data more clearly than one large table. Try to present one idea or one pattern in data in each table. If you have very large tables, or lots of raw data, consider providing the data in a spreadsheet or appendix instead of in tables in the main report. Consider very lightly shading every other row in a large table to help readers follow data cells across a large table.

Tables should always be created using the DfE table style embedded in the [template](#), so they are all consistently formatted. They should also be clearly described and labelled in a similar style throughout the report.

Avoid merging or splitting cells, as it is clearer for everyone, including users of screen readers, if every column or row has a clear heading. Remember to include the units in the heading, if appropriate.

Do not leave rows or columns blank, or have lots of blank cells in a table, as this can sound like an error to screen readers. If there is no data for the cell, it is generally better to input N/A, 0 or a hyphen than to leave it entirely blank, forcing readers to guess why it is empty.

Never paste images, symbols or other tables into tables, as these become inaccessible to screen readers and can upset formatting.

Do not use tables in isolation, but include a summary of the information, key points and findings within the body of the text in the main report. If your table is complicated to navigate, you might want to complete the [table summary](#) (accessed similarly to alt text) to explain its layout or key points.

## Simplifying table structure

The more complex your table, the harder it is to understand and the more difficult it is for a screen reader user to navigate. Keep your tables as simple as possible. Aim to group data to communicate only one idea or message per table.

Tables with one header row or column or two headers (a row and a column) are very accessible. Tables with irregular headers or header cells that span multiple columns and/or rows can cause issues for screen readers and confusion for everyone, so avoid

merging or splitting cells as far as possible. Aim to simplify tables that have multi-level headers where data cells have many associated headers. Consider whether repeating headings or separating data into several smaller, less complex tables would help.

## Specifying headers

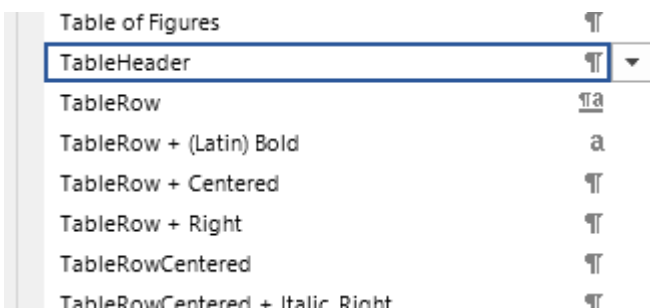
Having clear column headings at the top of the table provides context and helps users navigate the contents.

### To specify the header row:

1. Click the top row(s) of your table that you wish to turn into the header(s)
2. Click on the Table Layout tab in the top menu bar.
3. In the data section on the far right, click Repeat Header Rows.



Choosing 'Repeat Header Rows' while your header row is selected will make the row appear at the top of each page your table occupies. You can also access this option in the Row tab in the Table Properties pop-up. If you check the font style of the table headings, it should be TableHeader.

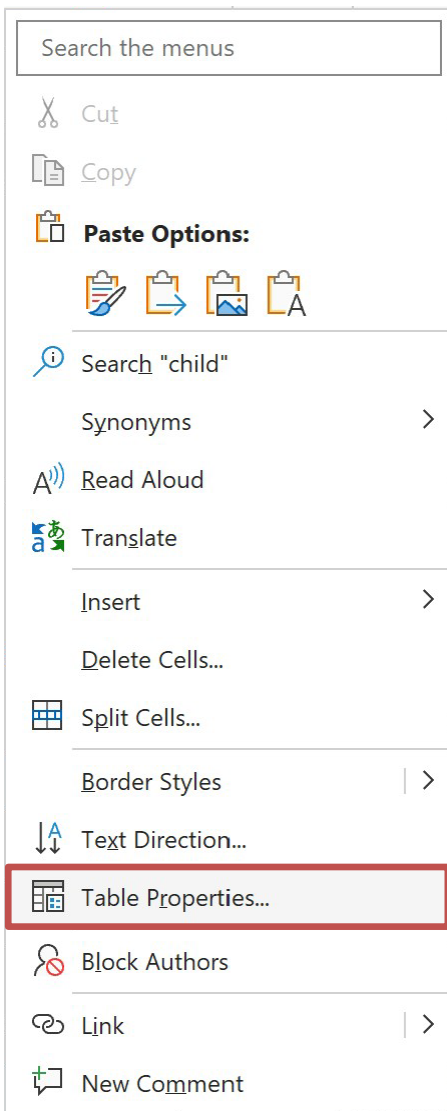


## Preserving table row structure

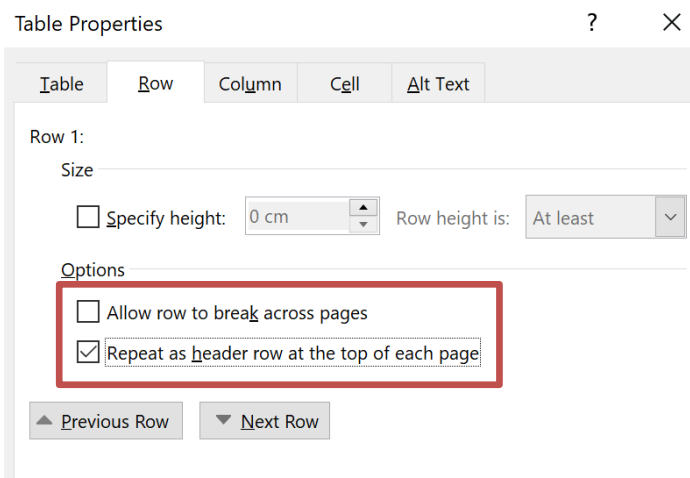
To prevent the table structure breaking when converted to PDF, make sure 'Allow row to break across pages' in Table Properties is not ticked.

### To keep row contents together:

1. Select your table.
2. Right-click to open the table options.



3. Select Table Properties.
4. Click on the Row tab in the Table Properties window.



5. Make sure that Allow row to break across pages is not selected.
6. Check that Repeat as header row at the top of each page is selected.

Choosing these settings will stop accessibility issues occurring when the table is converted to PDF. However, it can lead to white space under rows in the document if the table rows are very deep. Make sure you are using tables appropriately – that is, for data, and not to lay out large amounts of text, which is often better displayed as body text under headings.

## Aligning content in tables

Numbers in a table are easier to read when right-aligned and given in a consistent format to the same number of significant figures or decimal places, for ease of comparison.

Text is easier to read if left-aligned. Section headers should be bold.

**Table 1: Example table**

	Heading	Heading	Heading	Heading	Heading	Heading
Row	Data	Data	Data	Data	Data	Data
Row	Data	Data	Data	Data	Data	Data

Source: Source of data goes here

**Table 2: Example table showing hourly delivery cost per child by age of child**

Age of child	Mean	95% confidence interval for mean	Median	Number of observations
Two-year-olds	£4.30	£4.01 – £4.60	£3.96	140
Three- and four-year-old pre-school children	£3.72	£3.47 – £3.96	£3.32	158

Source: SEED Cost Study 2015

## Avoiding merged cells

Avoid using merged cells that span more than one column, as these cause navigation issues for screen reader users. Repeat the headings as necessary instead.

**Table 3: Example of merged cells in a table with double-row headings**

Level		School Type:			
Leader	Teacher	Primary	Secondary	Academy	Comprehensive to 16
Data	Data	Data	Data	Data	Data

**Table 4: Example of avoiding merged cells in a table with double-row headings**

<b>Level: Leader</b>	<b>Level: Teacher</b>	<b>School Type: Primary</b>	<b>School Type: Secondary</b>	<b>School Type Detail: Academy</b>	<b>School Type Detail: Comprehensive to 16</b>
Data	Data	Data	Data	Data	Data

## Distinguishing between blocks of data

If you want to clearly separate data types, you can use column width, typeface or colour to visually distinguish blocks of data. Be sure to use very pale DfE shades so there is enough contrast between the text and the background.

**Table 5: Example of visually distinguishing between data sets in a table**

<b>LEVEL: Leader</b>	<b>LEVEL: Teacher</b>	<b>SCHOOL TYPE: Primary</b>	<b>SCHOOL TYPE: Secondary</b>	<b>SCHOOL TYPE DETAIL: Academy</b>	<b>SCHOOL TYPE DETAIL: Comprehensive to 16</b>
Data	Data	Data	Data	Data	Data

## Table titles

Give tables concise and informative titles that indicate the main data sets within the table and the column and row headings – for example, titles such as the following:

- Number of vacancies on offer by employer
- Breakdown of the respondents by year group
- Summary of the associations between home environment variables and children's outcomes during school years 1 to 2
- Number of case study interviewees by area

Insert titles using the Caption style in the Styles menu, which is bold, centred 12pt Arial.

## Base and source information

Below the table, describe the base – for example, 'Base: all respondents (1,520)'. If the difference between weighted and unweighted numbers is small, give the unweighted bases in the table. If the weights are large and the two sets of numbers are very different, include both bases.

The base or total should be styled using the Base style in the Styles menu, which is italicised, left-aligned 10pt Arial font.

**Table 6: Example of table with base information, showing school attendance from September to October 2020 by special educational needs (SEN) status**

Whether child attended school in person in September to October 2020	Child has SEN %	Child does not have SEN%	Total %
Yes, every weekday	89	96	95
Yes, some weekdays	3	1	1
No, they were not attending school in person at all	8***	3	3
<i>Unweighted base</i>	245	1,577	1,825

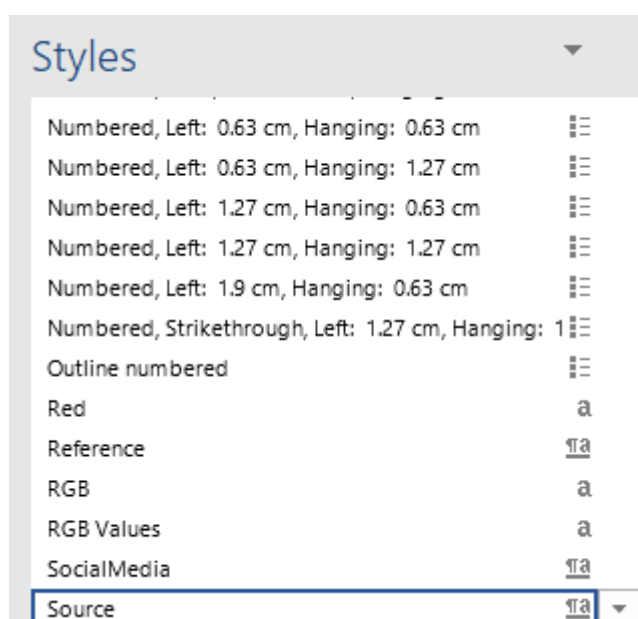
Base: All households

Outcome tested: not attending school. Reference category: children without SEN

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

Source: [Study of Early Education and Development \(SEED\): Findings from the Coronavirus \(COVID-19\) follow-up \(page 31\)](#)

If applicable, the source should be quoted beneath the table and styled using the Source style in the Styles menu, which is right-aligned Arial 10pt font. You can include a link to the source or page information if it would help the reader find it. Do not link directly to a PDF – instead, link to the webpage that hosts the PDF, so if the PDF is changed, the link does not break.





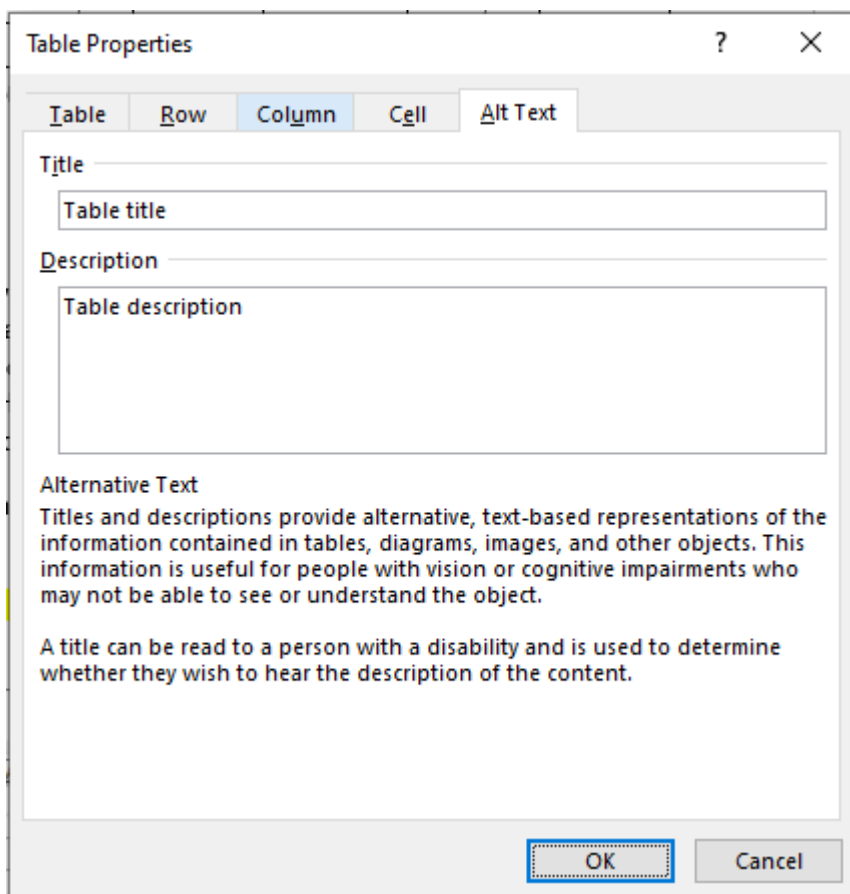
## Table summaries

If you have a large or complex table, consider writing a summary of the table content. This is helpful for screen reader users, who may find it challenging to navigate or get information from a complex table.

For example, if you were including the table to show regional areas where schools are underperforming, you could say, 'Table shows significant underperformance in Hull, Rotherham and Barnsley'. If this information is already stated in the text, or the table is simple, you do not need to include a table summary.

### To add a table summary:

1. Right-click on your table.
2. Select Table Properties.
3. Select Alt Text.
4. Enter your table summary in the Description box.
5. Click OK.



## Table accessibility

Data is more accessible in a table than in a chart.

Screen readers tab through a table one cell at a time and read out its associated header cell. Some users of screen readers use customised style sheets to zoom in to cells, change text size and colours, and display the information as a list rather than a grid.

The simpler the table structure, the easier it is to navigate and render in alternative ways.

Avoid using tables within tables (known as ‘nesting’) and merging or splitting cells, as those who rely on a screen reader or keyboard shortcuts will have difficulty navigating through them. Complex tables are especially difficult to navigate, and screen-reader software might read the contents in a meaningless, confusing or unpredictable order.

Avoid reducing the font size of data in a table to fit a page. Use Arial 12pt, whenever possible, and never less than 10pt. If necessary, change the orientation of the page featuring the table to landscape. If your table is very large, consider including it in a spreadsheet appendix instead of in the main report.

### Checking the reading order in a table

Microsoft’s automated accessibility checker will always show the warning ‘Check reading order’ when a Word document contains a table. This is because the check cannot be done automatically and needs to be done manually.

To check the reading order is logical, place your cursor in the top-left cell and tab through the table using the Tab key. The cursor should move from left to right and top to bottom in English-language documents. This will usually be the case – as long as you’ve not used a lot of merged or split cells.

**Table 7: How a cursor should move through a table**

Start with the cursor here in the left corner	If tabbing correctly, the cursor should move to here when you press Tab	then here	then here	then here
And only when the top row is complete, should the cursor go here	and then here	and then here	and then here	and then here

### **Summary of creating tables in reports**

Refer to the [table checklist](#) for a summary of table guidance.

### **Summary of creating tables as spreadsheet appendices**

























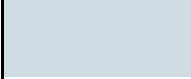
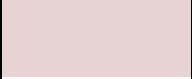
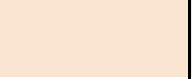
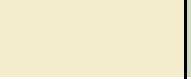
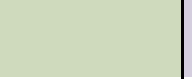
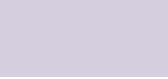
Refer to the [spreadsheet checklist](#) for a summary of spreadsheet guidance.

# Using colour

## Approved colour palette

Only use the approved DfE colour palette. Colour should only be used for graphics, charts, diagrams and highlighted emphasis boxes. Do not change the heading colours embedded in the template.

**Figure 1: DfE colour palette**

	Blue	Red	Orange	Yellow	Green	Purple
100%						
	RGB R16 G79 B117	RGB R138 G37 B41	RGB R232 G125 B30	RGB R194 G162 B4	RGB R0 G71 B18	RGB R38 G8 B89
80%						
	RGB R64 G114 B145	RGB R161 G81 B84	RGB R237 G151 B75	RGB R206 G181 B54	RGB R51 G108 B65	RGB R81 G57 B122
60%						
	RGB R112 G149 B172	RGB R185 G124 B127	RGB R241 G177 B120	RGB R218 G199 B104	RGB R102 G145 B113	RGB R125 G107 B155
40%						
	RGB R159 G185 B200	RGB R208 G168 B169	RGB R246 G203 B165	RGB R231 G218 B135	RGB R153 G181 B160	RGB R168 G156 B189
20%						
	RGB R207 G220 B227	RGB R232 G211 B212	RGB R250 G229 B210	RGB R243 G236 B205	RGB R207 G218 B189	RGB R212 G206 B222

## Avoiding difficult colour combinations

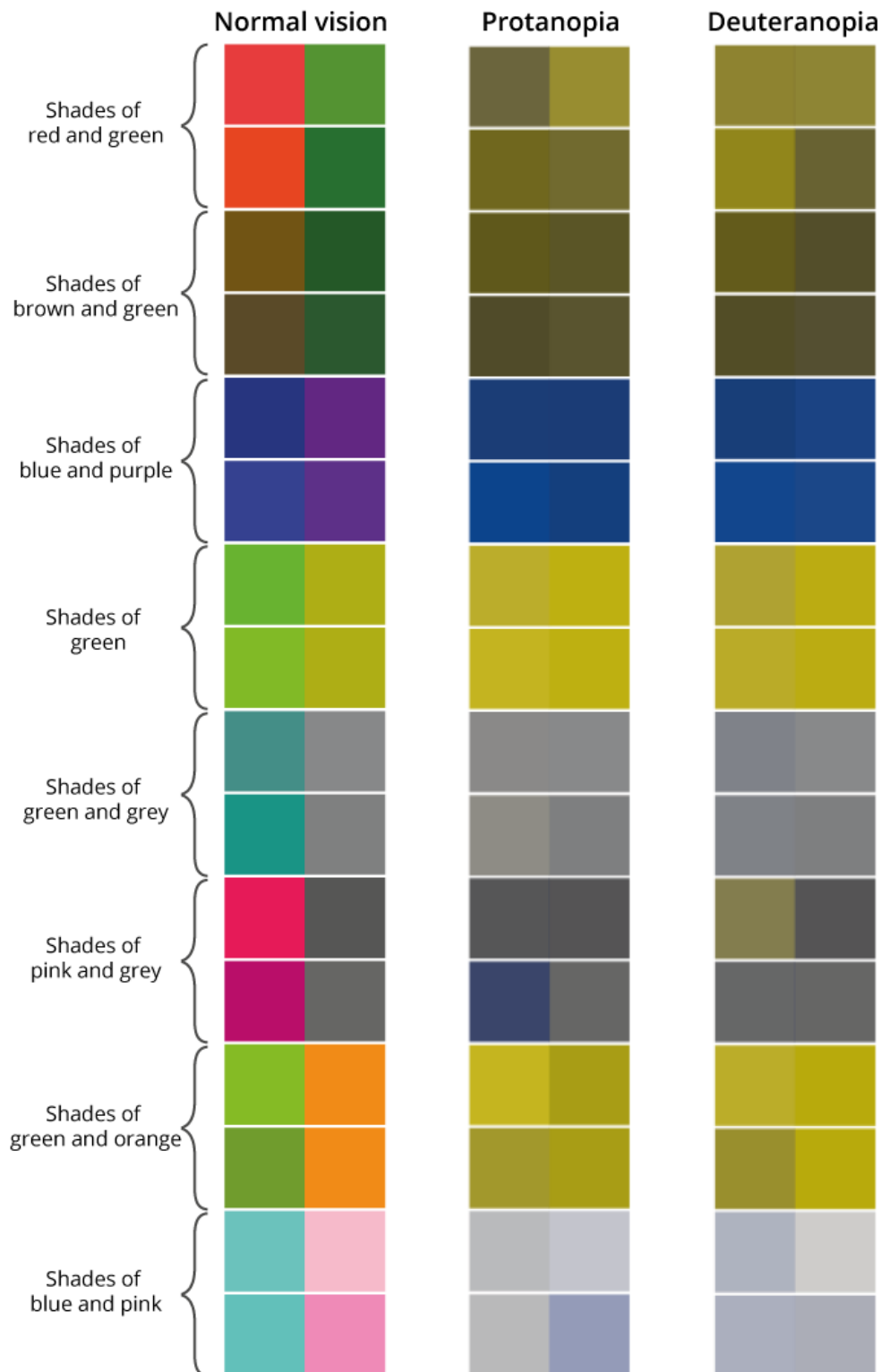
Colour blindness affects 1 in 12 men (8%) and 1 in 200 women. In Britain, approximately 3 million people are colour blind (about 4.5% of the population).<sup>2</sup> The following combinations are hard for some colour-blind people to tell apart:

- red and green – for example, protanopia (difficulty detecting red) and deuteranopia (difficulty detecting green), which are the most common forms
- brown and green
- blue and purple
- different shades of green
- green and grey
- pink and grey
- green and orange
- blue and pink

---

<sup>2</sup> Source: <https://www.colourblindawareness.org/colour-blindness>

**Figure 2: How colours can appear to those with different forms of colour blindness**



Source: Office for National Statistics

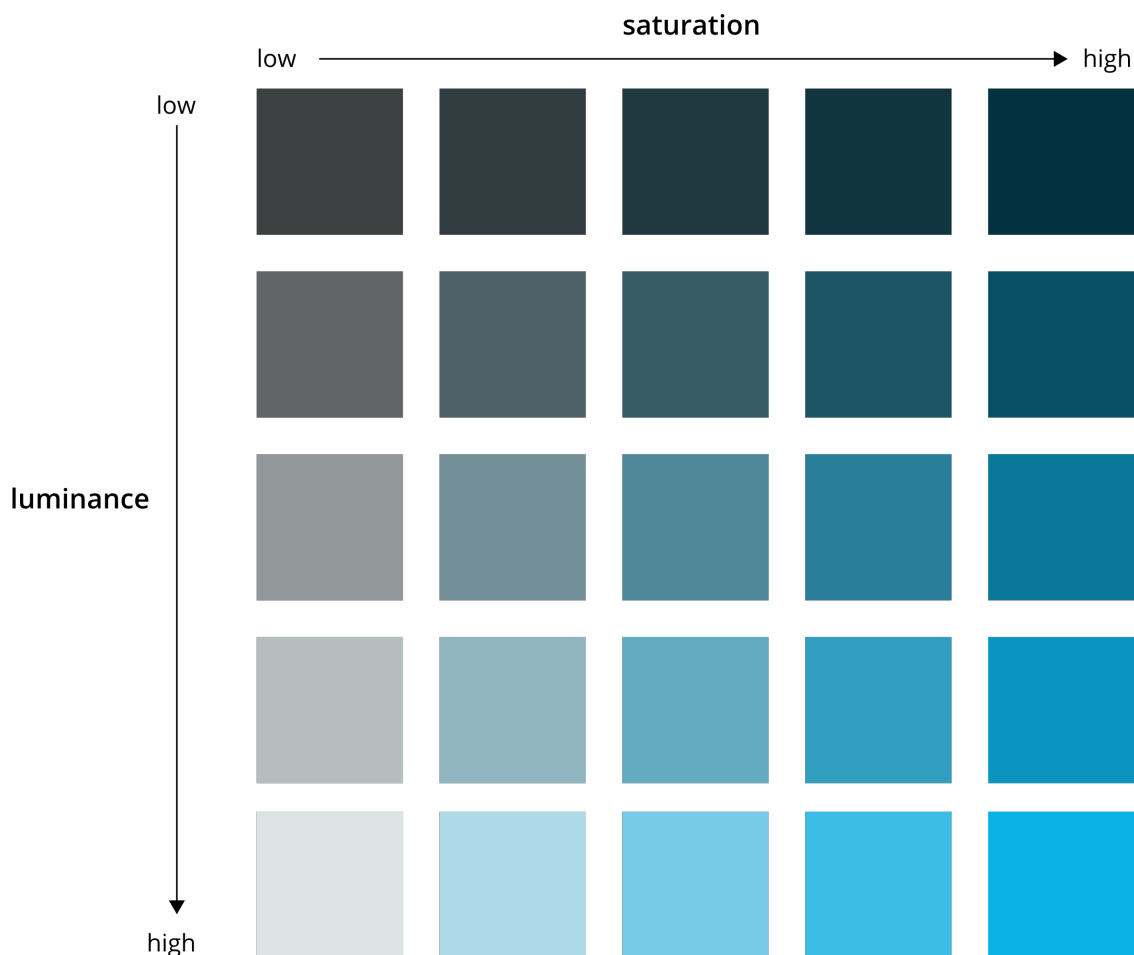
You can use a [colour-blindness simulator](#) to check how your colour choices might appear to those with different forms of colour blindness.

For more information on how to choose colours to go together in charts, and making charts accessible, refer to the [Government Statistical Service visualisation guidance](#).

## Use blue by default

Using various shades of one strong, bright colour is better for colour-blind people than using lots of colours. Blue is the best colour to use, as it is easier to distinguish between different shades.

**Figure 3: Shades of a blue hue are easiest to distinguish**



Source: Office for National Statistics

## Colour in graphics

When using colour in diagrams and charts, use the same DfE colour to represent the same data set throughout your report. Use the DfE dark blue in the first instance, and the minimum number of additional colours that will get your message across.

Only use additional colours to differentiate data sets or show secondary relationships. When selecting other colours, consider the relationships presented in the data – colour should be used to visually group the same or related items. For data of the same type that cannot be organised into groups or subdivided into sets, use the same colour and shade. For data of the same type that can be subdivided into sets (for example, age

groups), use colours from the same colour hue but in differing shades. Only use different colours to show distinct data sets or groupings, or to highlight changes. Contrasting colours can be used to focus attention on differences between data sets.

Use colour carefully to reinforce meaning and try not to rely on it to denote meaning. It should also be possible to understand the data if the graphic is viewed in greyscale or if the user is colour blind. When using colours next to each other, use different tones by choosing shades from different rows of the DfE colour palette table. If it adds clarity to a line chart, use coloured solid, dotted and dashed lines to distinguish between large data sets. Using different intensities of colour with different patterns can help communicate your message more clearly, but it also has the potential to confuse, so try different options to check what works best.

## Avoiding white text

Do not use white text to communicate information. When users of screen readers reflow information into an easy-read format, all white text is removed and cannot be seen or read aloud by assistive technology.

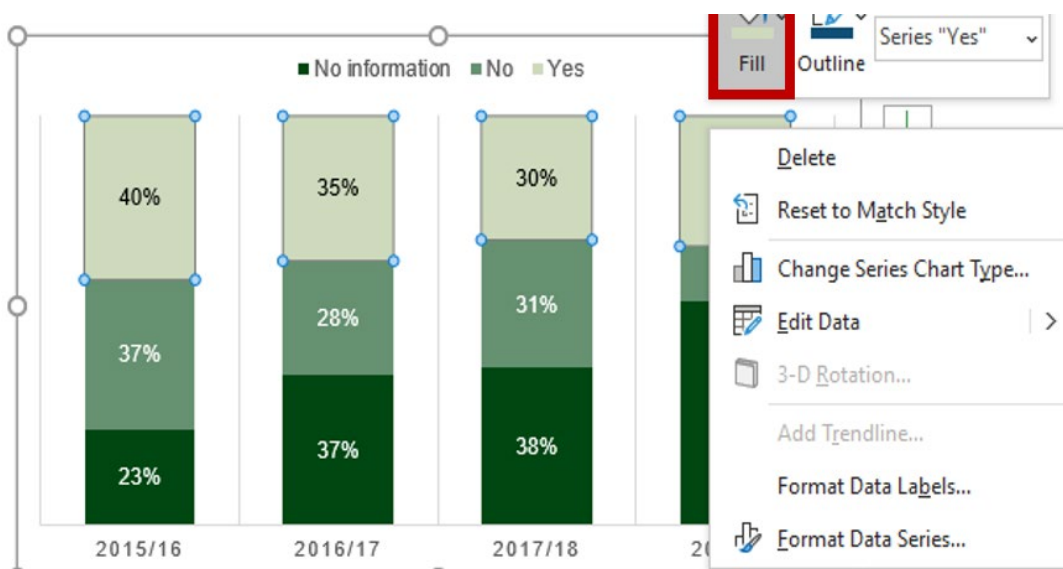
For further guidance about how to use colour to enhance meaning in graphics, refer to the [using colour in graphs section](#).

## Changing colours

Use the [Microsoft functionality to change the colours in a graphic](#).

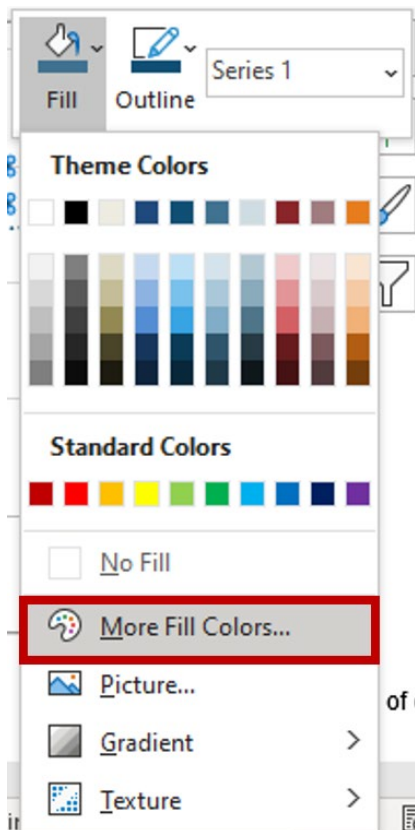
**To change the colour in a graphic:**

1. Click on the item you want to change the colour for.
2. Right-click on it.
3. Click on Fill.

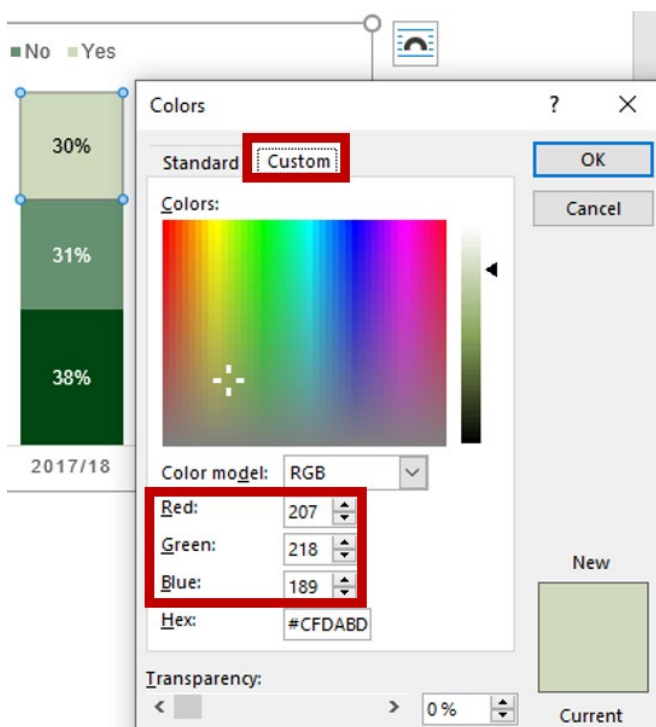




4. Scroll down to More Fill Colours.



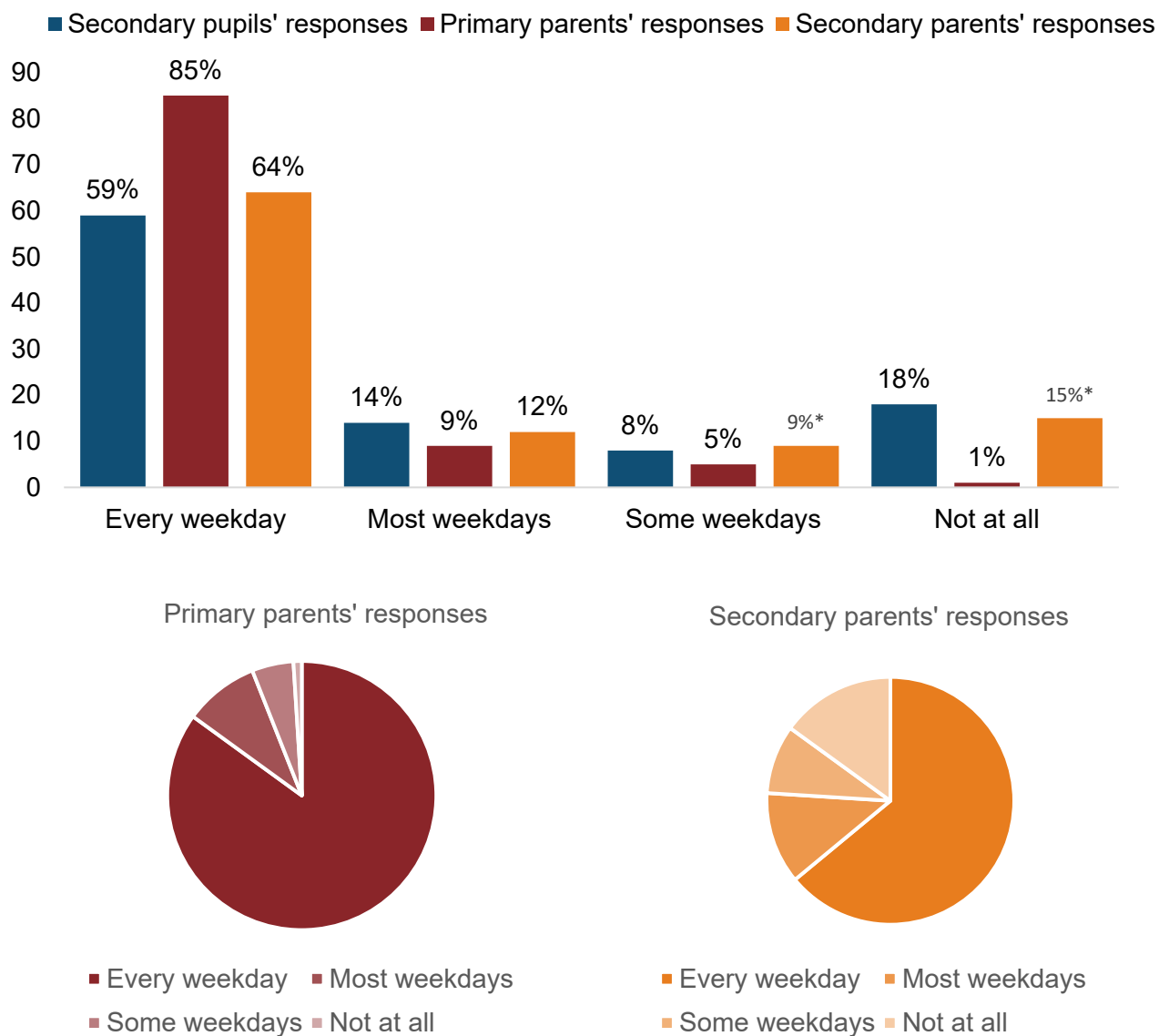
5. Click on Custom.
6. Enter the RGB codes given in the [DfE colour palette](#) into the Red (R), Green (G) and Blue (B) fields.



## Keeping colours consistent

If you use a colour for one set of data – for example, red for primary-school pupils' parents and yellow for secondary-school pupils' parents – use the same colour for the same type of data in each graphic. This helps the reader follow the data and avoids the confusion that can be caused by changing what colours represent.

**Figure 4: Example of keeping colours for data sets consistent when representing attendance during two weeks in May 2021**



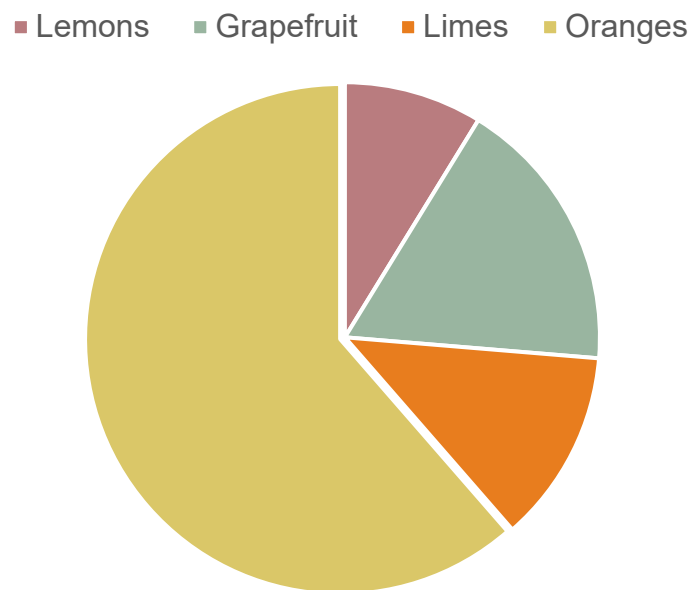
\* Indicates significant difference between primary and secondary parents' responses

Source: [PPP July 2021](#), Wave L16A/L16B\_P2W10. 'How often, if at all, have you physically attended school or college in the past two weeks of term time?' All pupils (n=1,511), Primary parents (n=1,537), Secondary parents (n=1,543)

## Choosing appropriate colours

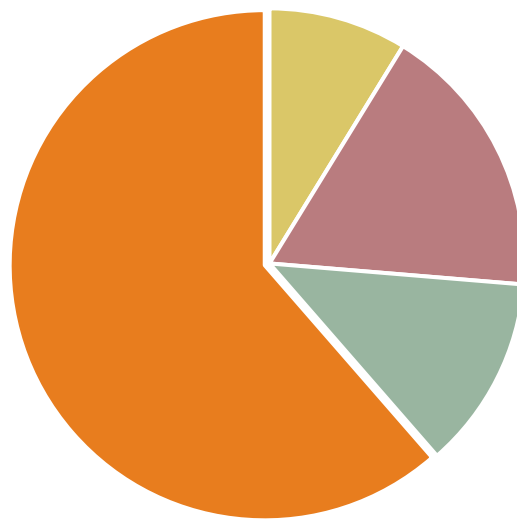
If there are colours already associated with the data set you are presenting, use DfE versions of those colours. Avoid challenging the reader and adding to their cognitive load by changing a colour that might already be associated with the data category in question. For example, orange fruits are associated with the colour orange, so use the colour orange from the DfE colour palette to represent them in a graphic. If instead you use the colour green to represent oranges and the colour orange to represent lemons, many people will find the graphic harder to interpret.

**Figure 5: Example of choosing inappropriate colours for a representation of favourite citrus fruits**



**Figure 6: Example of choosing appropriate colours for a representation of favourite citrus fruits**

■ Lemons ■ Grapefruit ■ Limes ■ Oranges



### Checking colour contrast

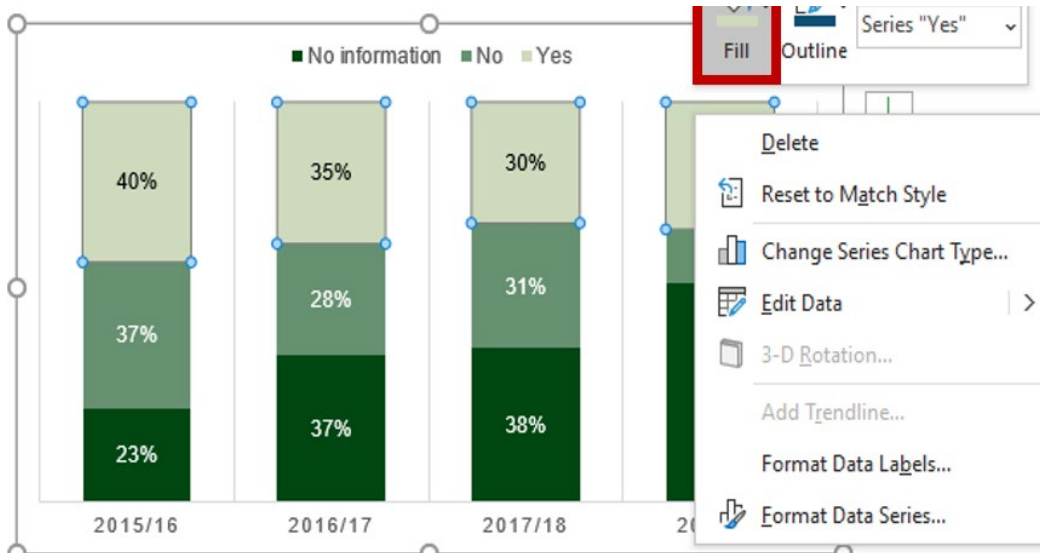
Make sure there is a strong contrast between:

- two colours next to each other in a chart – make sure they are from different rows of the DfE colour palette as well as from different columns
- text and its background

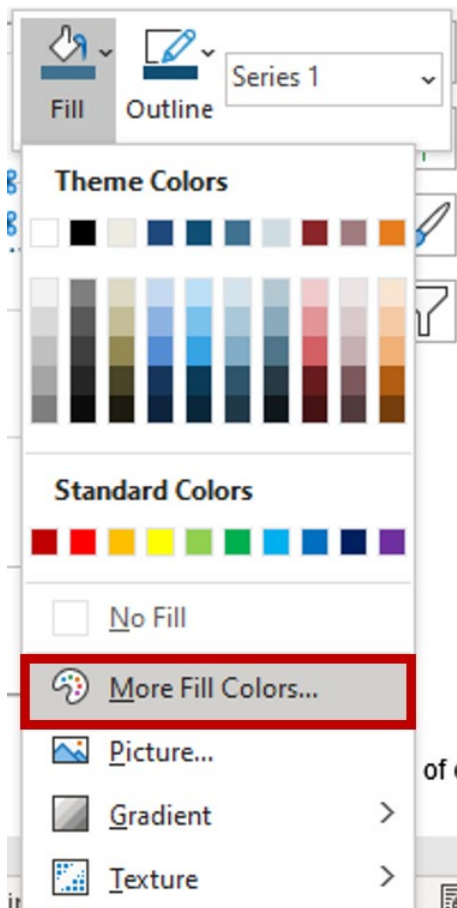
## To check colour contrast

### Find the colour codes

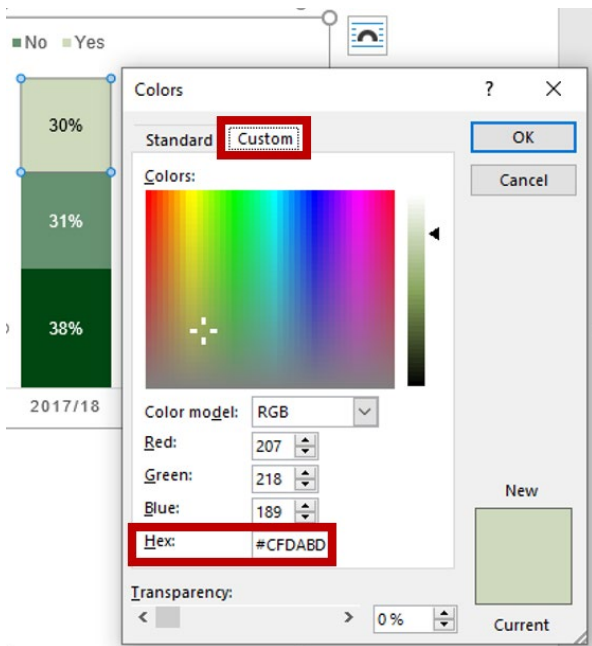
1. Click on the item you want to check the colour for.
2. Right-click once the part is selected.
3. Click on Fill.



4. Scroll down to select **More Fill Colours**



5. Click on Custom.



6. Make a note of the hex code.

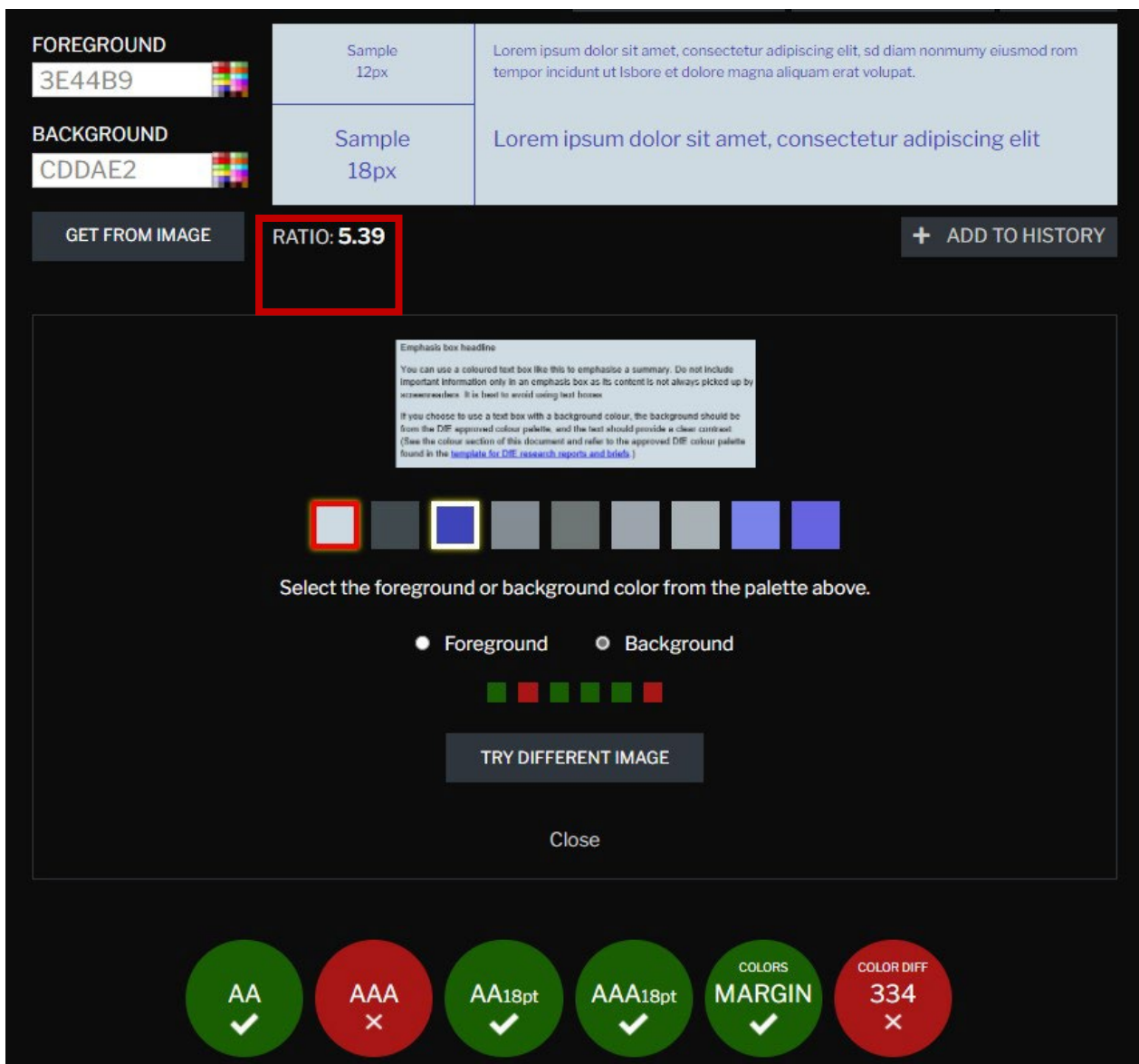
Note: You cannot do this for an image, which is one reason why graphs should not be saved as images.

#### **Check the colour contrast ratio:**

7. Go to an online [colour-contrast checker](#).
8. Type in the foreground and background hex codes.
9. Check the contrast ratio.

#### **Alternative way to check the colour contrast ratio:**

1. Take a screenshot of the area of concern.
2. Upload the screenshot to a [colour-contrast checker that accepts images](#).
3. Select the foreground text colour.
4. Select the background colour.
5. Note the results.



## Web content accessibility guidelines (WCAG) requirements

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

WCAG 2.1 requires a contrast ratio of at least 3:1 for graphics.

WCAG Level AAA requires a contrast ratio of at least 7:1 for normal text and 4.5:1 for large text.

Large text is defined as bolded 14pt (typically 18.66px) or larger, or un-bolded 18pt (typically 24px) or larger.

Government publications need to pass WCAG 2.0 Level AA as a minimum standard to meet our legal requirement, but we should be aiming to pass AAA.

Aim for maximum colour contrast between text and its background.

When using highlighted emphasis boxes, ensure there is a good contrast between the text and background colour. Use an online [colour-contrast checker](#) to do this. The example text box in the template is both the correct colour and accessible.

## Checking your colours in greyscale

When placing text on a coloured background or using colours next to each other, use different tones or intensities of colour in case the graphic is viewed in greyscale or printed in black and white. If you are concerned that the contrast is not sufficient, use a [colour-contrast checker](#) or [colour-blindness simulator](#) so you can check how your graphic appears in greyscale.

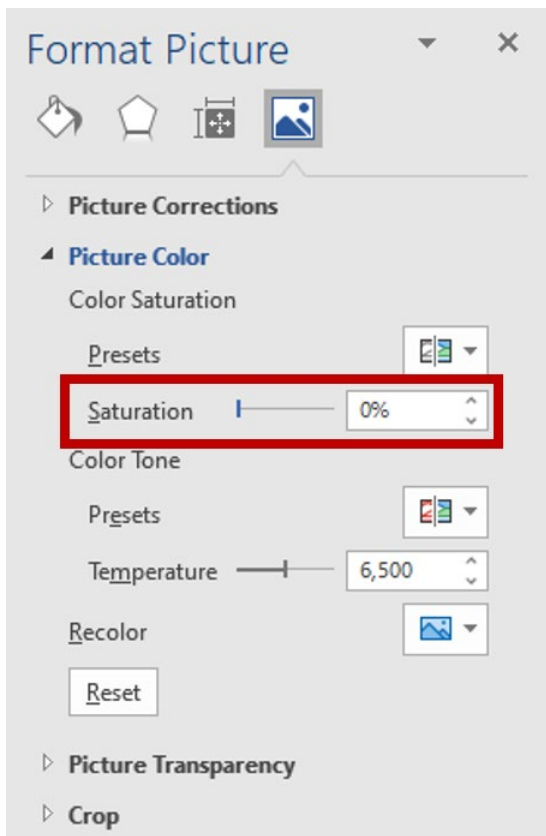
### To check a graphic in greyscale in Word:

1. Copy your graphic.
2. Paste the graphic into a temporary document using the Picture option.

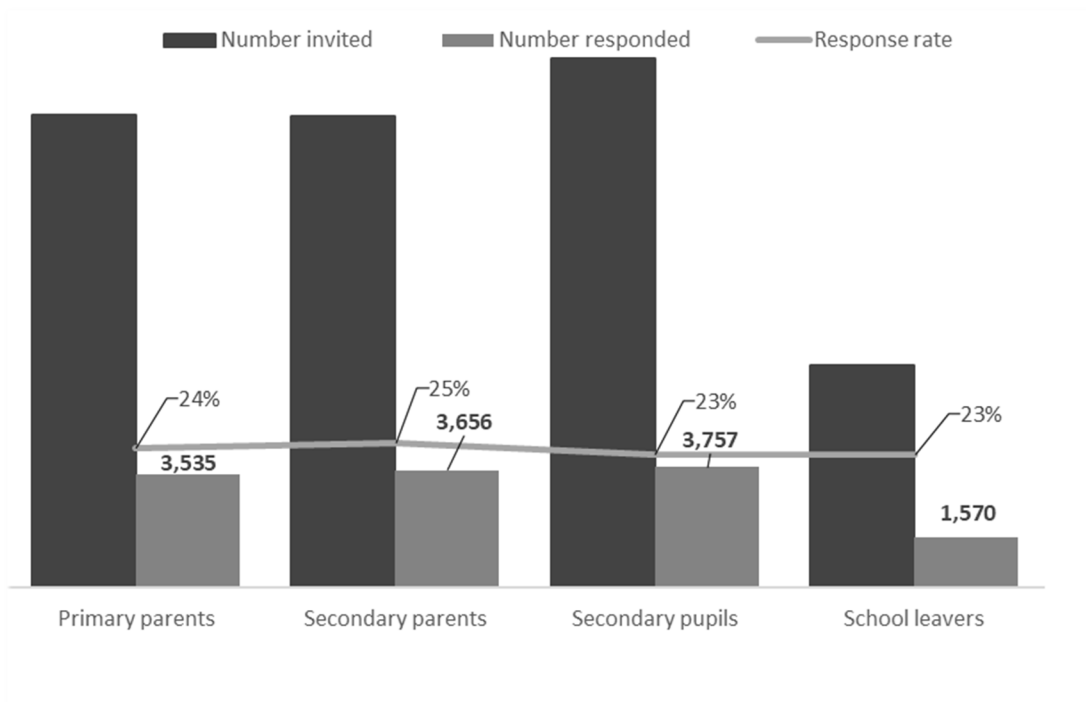


3. Right-click on the picture.
4. Click on Format Picture.
5. Click on the Picture options.
6. Open Picture Color options by clicking on the small arrow.
7. Set Saturation to zero by dragging the slider to 0%.





**Figure 7: Example of a graph with two different data sets, viewed in greyscale**



## Avoiding relying on colour for meaning

Do not rely on colour to denote meaning. Make the information the colour is communicating available by an alternative method.

Consider how someone with colour blindness would see your content. Use a [colour-blindness simulator](#) to check how graphics look if a reader has a certain type of colour blindness and how graphics appear in greyscale. You can also check colour appearance using online tools such as [Vischeck](#) and [Wave](#).

Do not use a colour-coding key – instead, try to communicate the information in a more inclusive way. If you cannot avoid using a key, you will need to add an accessible alternative, because you are likely relying on colour to denote meaning. In this example, Figure 8 uses only a colour-coding key and is therefore not accessible.

**Figure 8: Example of relying on colour for meaning and making a graphic inaccessible**

Mon	Tues	Wed	Thurs	Fri	Sat	Sun
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	28	30	31			

Key:  Available  Not available

### Alternatives to a colour-coding key

If you use a colour-coding key, provide an alternative for people who cannot see or determine colours. Symbols can be used but will still need to be explained to those who cannot see them if they are the only way of conveying the information.

**Figure 9: Example of using symbols as well as colours in a key**

✓	45
✓	20
✗	904
!	0.3
✓	35
✓	78
✗	489

Source: Government Analysis Function guidance on data visualisation for charts

Positioning can be used, but the meaning of the positions in the key will still need explaining to people who cannot see them, especially if they are the only way of conveying the information.

**Figure 10: Example of using positioning as well as colours in a key**

●●●	45
●●●	20
●●●	904
●●●	0.3
●●●	35
●●●	78
●●●	489

Source: Government Analysis Function guidance on data visualisation for charts

Codes are a much better alternative to colour-coding, but a key for what the codes mean also needs to be provided. In this example, codes as well as colours are used in a colour-coded table to show strong (s), medium (m) and weak (w) relationships.

**Table 8: Example of using codes as well as colour-coded cells in a table**

<b>Outcome measure</b>	<b>Emergent literacy</b>	<b>Emergent numeracy</b>
<b>Emergent numeracy</b>	0.83* (s)	-
<b>Inhibition</b>	0.15* (w)	0.28* (m)
<b>Mental flexibility</b>	0.52* (s)	0.57* (s)
<b>Working memory</b>	0.65* (s)	0.74* (s)
<b>Emotion identification</b>	0.59* (s)	0.54* (s)
<b>Emotion attribution</b>	0.34* (m)	0.34* (m)
<b>Prosocial behaviour</b>	0.40* (m)	0.37* (m)
<b>Trust</b>	0.27* (m)	0.21* (m)
<b>Non-disruptive behaviour</b>	0.21* (m)	0.18* (w)
<b>Physical development</b>	0.42* (m)	0.46* (m)

### Summary of using colour in reports

Refer to the [colour checklist](#) for a summary of colour guidance.

# Images

## Using images impactfully

[GDS guidance](#) is to avoid using images. Only include images if they provide context for your content or help users understand information in a different way – for example, showing a process as a diagram or data as a graph.

If the images are fully described in the on-page text or are an additional way rather than the only way to communicate information, they can be marked as decorative.

## Accessibility of images

Text is easier to read than an image when scaled up by people using a screen magnifier. When zoomed in on, images such as graphs and charts may become pixelated and need to be scrolled vertically and horizontally before being pieced together so as to understand the whole. Text is therefore more accessible and the preferred format for content.

Avoid pasting in images as pictures. If you must paste in an image as a picture from other software, save it as an SVG (scalable vector graphic). SVGs are 'scalable' so retain the same quality no matter what screen resolution or size they are viewed at. This means users can magnify images by zooming in and out without pixelation. The quality of bitmap file types such as JPG and PNG is reduced when they are magnified. If you only have a bitmap file, you should recreate it as an SVG.

To create an SVG file from the tool you use to create graphs and charts, select the 'save as SVG' or 'export as SVG' option. Changing a bitmap file type into an SVG does not make it scalable – saving as SVG must be done in the source file, so it is created in the correct format.

### **Free tools you can use to create SVGs include:**

- [diagrams.net](https://diagrams.net)
- [draw.io](https://draw.io)
- [Figma](https://www.figma.com)
- [Inkscape](https://inkscape.org)
- [Google Drawings](https://www.google.com/drawings/)

## **Paid tools you can use to create SVGs include:**

- Adobe Illustrator
- Affinity Designer
- InDesign
- PowerPoint (newer versions only)
- Sketch

Older versions of PowerPoint can export a slide in an EMF format, and you can convert this to SVG using an online file converter tool such as [CloudConvert](#).

## **Saving your chart as an SVG**

1. Prepare the chart in Excel. Make sure the whole of the chart figure is 25.4cm wide (the same as 960 pixels) and 16.93cm tall (the same as 640 pixels).
2. Copy the whole of the chart figure.
3. Open a blank slide in PowerPoint and use the paste option 'Keep Formatting & Embed Workbook'. (Do not paste it in as a picture.)
4. Check that the whole of the chart figure is still 25.4cm wide and 16.93cm tall. Resize it if necessary.
5. Right click on the chart in PowerPoint, select 'Save as Picture' and save as 'Scalable Vector Graphic' (SVG).
6. Insert the SVG image into your document in the usual way.

As an alternative method, at point 3, you can change the size of your PowerPoint slide to the dimensions you want. After you've pasted the chart into the slide (using the 'Paste Special' option), go to File > Save as and select SVG from the dropdown menu. You will be asked if you want to save only the slide you're on. Confirm that you do and an SVG of the slide will be created.

Do not create images that contain text. Text in an image is not accessible to screen readers.

## **Adding alt text to images**

### **Understanding what alt text is**

Alt text is a hidden description of an image that is read aloud to users of screen-reading software. Alt text helps people understand the content and context of images and graphics.

On the web, alt text appears as you roll over or hover your mouse over a picture or object, depending on your settings. It resembles a text box label and provides more

information about the item or image. In the same place that you have the option to add alt text, you are offered the option to mark an image as 'decorative'.

Alt text should be included for:

- photos and images
- graphs and charts
- diagrams, flow charts and graphics

Read the [WCAG 2.2 accessibility guidelines for alternative text](#).

## Knowing when to add alt text

If the image gives new information, or a new perspective on information presented in the body text, add alt text.

If you have described the image in the body text, do not add alt text and mark the image as 'decorative'. On encountering such an image, a screen reader will ignore it.

If the image is purely decorative, do not add alt text or describe it in the body text – mark it as 'decorative'. If an image adds nothing of value, consider removing it.

If the image is a graph that is live-linked to its source in Excel, you do not need to add alt text as the graph can be interrogated by a screen reader.

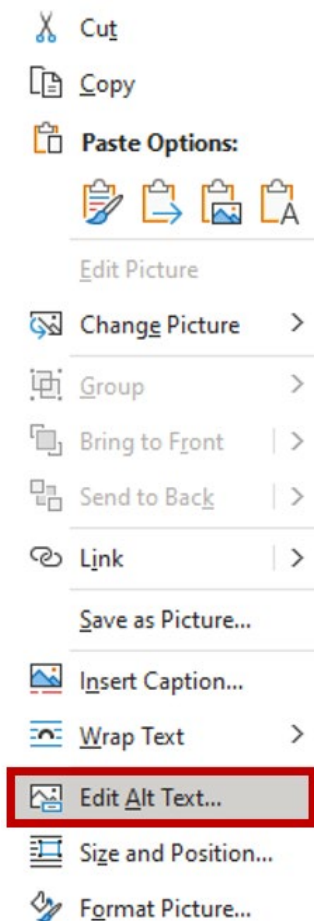
## Writing effective alt text for images

Make sure alt text fits in the flow of the page and is written in the same style as the main document. It should not distract from the rest of the content when read out by a screen reader. Keep it as succinct as possible. Do not repeat information such as the image title, caption, graph axes or key points, trends or conclusions if they're covered in the on-page text. This causes 'auditory clutter' for screen-reader users, who would hear the same information repeated.

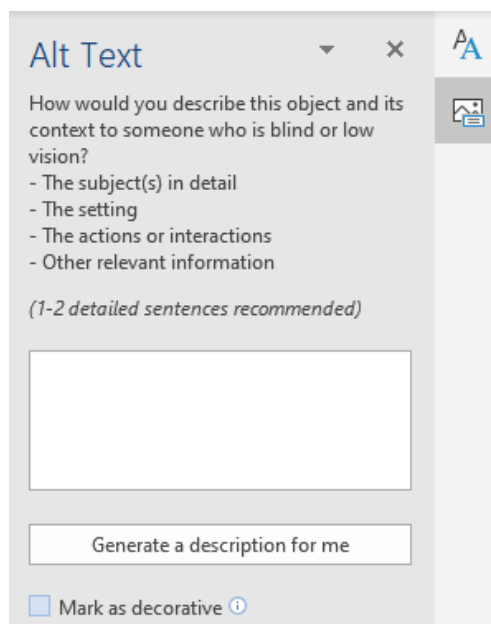
Do not include the words 'image of', 'photo of' or 'picture of' as screen-reading software will tell users it is an image.

## To add alt text:

1. Right-click on the item.
2. Select Edit Alt Text. A panel will open on the right-hand side where you can type in the alt text or mark the graphic as decorative.



3. Enter your alt text or select the 'Mark as decorative' tick box.





## Alt text depends on context

The context in which an image is being used will determine what the alt text should be. For example, a black-and-white photo of trees along a road in a flat, misty landscape, as shown in figure 11, will need different alt text in different scenarios. The alt text is determined by why the image has been included in the document.

**Figure 11: An image that could have a variety of different alt text**



Source: [Dietmar Rabich / Wikimedia Commons / Dülmen, Leuste, Bäume im Nebel – 2020 – \(5042\)](#)

- If the image has been included to illustrate a specific style of art, the style, date and artist might be important, and the alt text might be ‘A black-and-white landscape photo taken in 2020 by Dietmar Rabich.’
- If the image has been included to illustrate the landscape in the area, it might be ‘The flat landscape of Leuste, North Rhine-Westphalia, Germany.’
- If the image has been included to illustrate the effect of weather on visibility, it might be ‘Trees in the mist by a road show how visibility decreases with distance.’
- If the image has been included to serve as a historical record before an event, it might be ‘The road to the hamlet of Leuste in 2020, before the development.’
- If the image has been included as an example of a particular type of road, the alt text might be ‘Example of a straight Roman road.’

If the context is not clear, give a simple description, such as ‘A straight road stretching into the distance of a flat, misty landscape with trees to one side.’

If you leave the alt text blank, Microsoft will suggest alt text. In this case, it generated ‘A dirt road leading to a tree.’ For graphs, it will usually be even less accurate than this, so you should always write your own alt text or mark an image as decorative.

## Writing good alt text

When writing alt text, think of it as a replacement for, not a description of, the image. Alt text should provide the same message in words as the image communicates visually.

To help work out what the alt text should be, consider the value of the image:

- Why has it been included in this document?
- What is the image intended to tell the reader in this context?
- What is the simplest explanation for the image on this page?

### Figure 12: Image to show example alt text serving the same function as the image



If you were to describe the image in figure 12, you might say, 'Image of a mobile phone charging'. However, if the function of the image is to show the owner of the phone how to charge it, the alt text should be 'To charge the phone, plug the small end of the charging lead into the bottom of the phone, under the button.'

## Alt text for simple images

### Logos

Simply say what organisation the logo represents – for example, 'Department for Education logo'. Do not rely on auto-generated alt text.

### Photographs

Do not say 'photograph of' as screen-reading software will usually say 'image' anyway.

### Icons

Icons need alt text where there is no text already provided next to them – for example, 'Settings', 'Delete' and 'Menu', so screen-reader users know what they represent.



## **Alt text for decorative images**

Alt text is not required for decorative images. Examples of decorative images include:

- images that communicate nothing new
- images used to fill space
- graphs and pie charts, if the data is described in the body text or an accompanying table

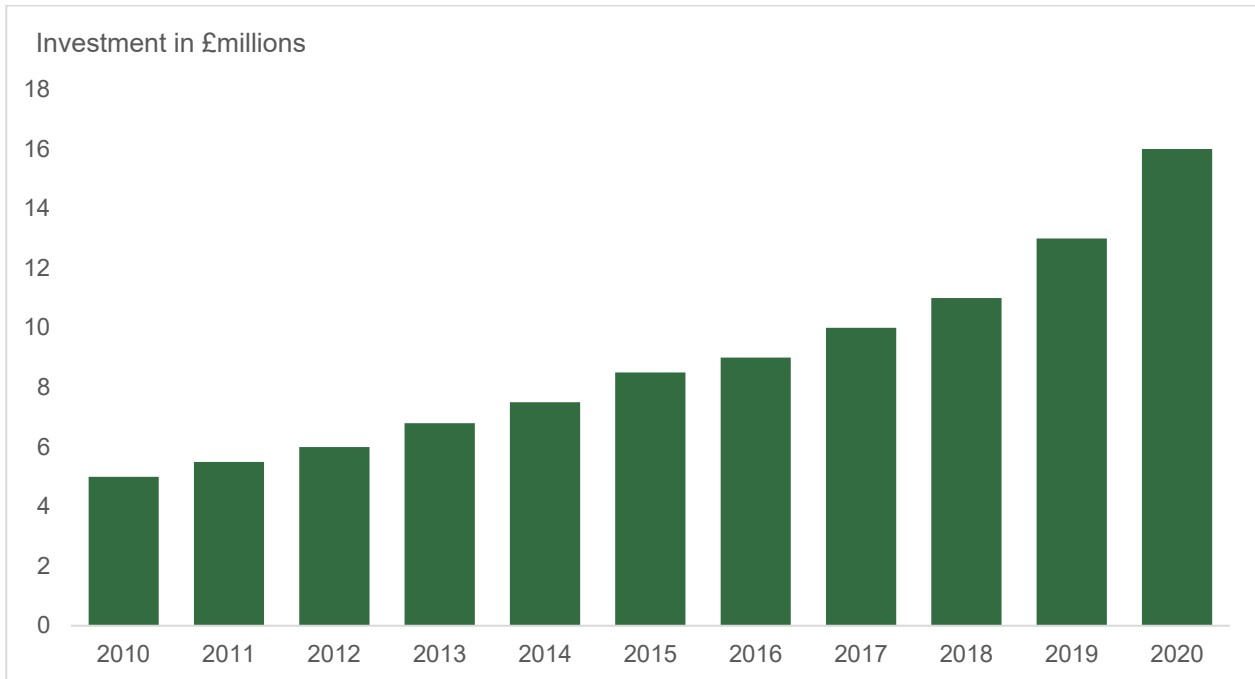
## **Alt text for collages of images**

If a collection of images is used to form a collage or create one image, provide alt text just once. To do this, use the ctrl and shift keys to select each image in turn, right-click and select 'Group', and add alt text to the grouped image.

## **Alt text for complex images**

Complex images such as charts, graphs and flow charts often require more extensive alt text, but it should still be as succinct as possible. Identify the main information the image communicates and consider what you would say about the image to an interested colleague by phone. This will give you a good indication of what the alt text should be. Focus on what the image says in the context of the document and avoid repeating information that is already given on the page.

**Figure 13: Graph of investment data used to illustrate alt text**



If the point of including the graph in Figure 13 in your report is to show the pattern of data, you may not need to give the value of every point and a simple sentence might suffice. For example, 'Investment steadily increased from £5 million in 2010 to £16 million in 2020.'

However, if it is important that the reader is made aware of every year's investment, all the figures need to be listed in the alt text.

The [section on making complex graphs accessible](#) contains more information and examples of how to add alt text.

# Graphs

## Using graphs appropriately

Graphs can be used to:

- summarise complex data
- find patterns
- show trends
- highlight outliers
- find errors
- tell a story in a quick, visual way

## Communicating your data effectively

The [Government Analysis Function guidance hub](#) provides resources and reference information to help you with all aspects of creating data visualisations, accessible charts and tables, statistical spreadsheets and data dashboards.

## Choosing the right graph for your data

The best graph depends on the type of relationships within your data and what you are wanting to show. The Government Analysis Function guidance on data visualisation for charts has [guidance on the type of graph to use](#) in different statistical situations.

**Table 9: Table summarising the types of graphs recommended for different types of statistical data relationship**

Relationship	Example	Recommended
Distribution	Population by age	Bar graph, <a href="#">population pyramid</a> , <a href="#">box plot</a> , <a href="#">dot plot</a>
Time series	Price inflation over time	Line graph, <a href="#">calendar heat map</a>
Ranking	Schools ranked by performance	Bar graph, <a href="#">lollipop graph</a>
Deviation	Rail company performance compared with target	Bar graph
Correlation	Relationship between weight and height	<a href="#">Scatter plot</a> , line graph

Relationship	Example	Recommended
Magnitude	Average income by region	Bar graph
Spatial	Geographical clusters of notifiable diseases	Map
Part-to-whole	Total economic production by industrial sector	Pie chart, donut chart, <a href="#">treemap</a> , <a href="#">bubble chart</a>
Flow	Trade between countries	<a href="#">Sankey diagram</a>

Source: Office for National Statistics

An alternative reference for statistical relationships is given in the [Financial Times Visual Vocabulary](#).

## Creating graphics

Graphics such as charts, graphs, and diagrams should be created as simply as possible to make sure their message is clear. Their style should be consistent throughout your report. Live-link graphs to their source where they were initially created wherever possible. If you haven't created them in Word, paste them in from Excel using the Paste Option 'Keep Source Formatting & Link Data'. If you have created them using other software, you will probably need to paste the graphic in as an image and add alt text.

Paste Options:



Avoid updating copied graphics within your report. Always update them in the original data source instead, which will usually be Excel.

If you are creating a flow diagram or chart, use the tools within Microsoft and do not separate objects or add your own text boxes, shapes or arrows. Deviating from the standard functionality can cause major accessibility issues.

Make sure information is labelled correctly and legibly. The font size should be 12pt or larger. Avoid using 3-D charts and drop shadows as they are more difficult to read.

Avoid creating pie charts, as these are the least accessible data visualisations when magnified. They also need extra consideration regarding the use of colour, colour contrast and labelling.

It is good practice to:

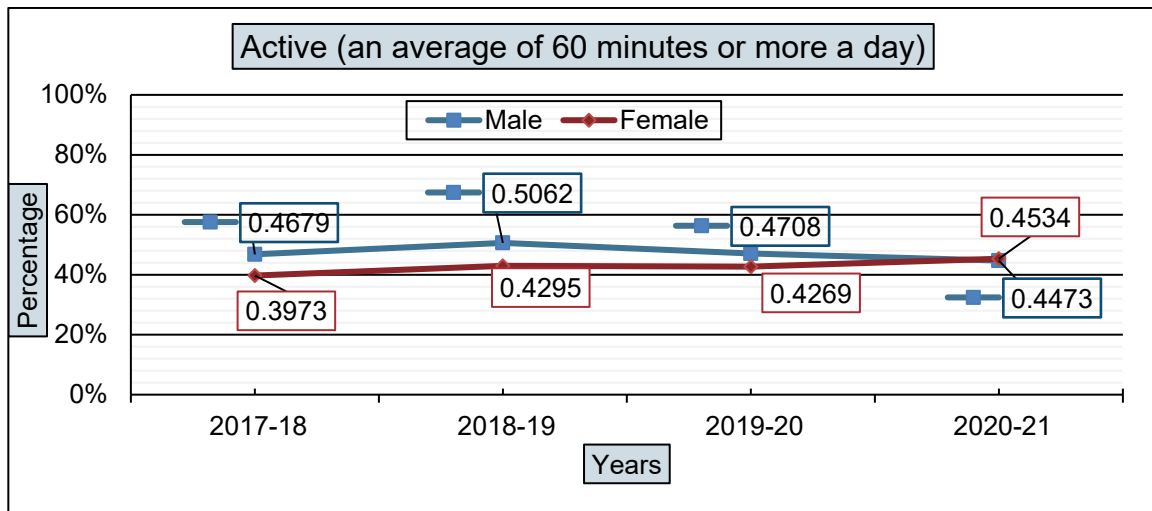
- keep your graphic as simple as possible
- do not include so much data that there are too many lines or data points to distinguish between them
- if you have a lot of data, consider including multiple smaller charts where only one set of data is highlighted against a background of other data greyed out
- display all content in charts – including axes, keys and other labels – horizontally
- choose a density of gridlines at useful intervals that helps readers work out values easily
- make gridlines pale and remove them where values are given
- try to use a maximum of 10 very pale gridlines, if you need to use them
- ensure labels are displayed in full and not cut off by label boxes
- make sure that the font size of labels is the same as the body text or a minimum of 10-point Arial font
- explain abbreviations in footnotes or on first use
- do not rely on colour alone to convey information
- make sure there is a high colour contrast ratio between chart details and background colour
- display dates and numerical content consistently for all charts
- the key or legend should be above the chart for easy reference and should follow the same order as the series in the chart

## Simplifying charts

When designing graphics:

- focus on the story you want to tell your audience
- maximise the 'data-to-ink' ratio to make every mark count
- remove 'chart junk' created by software, such as unnecessary:
  - borders round labels or the graph
  - shaded backgrounds or shaded label boxes
  - 3D shapes
  - shadows
  - dark grid lines
  - unnecessary textures or patterns
- include only those formatting details necessary for users to understand the data

**Figure 14: Example of too many unnecessary markings in a graph showing annual trends in the percentage of children and young people aged 5 to 16 who engaged in at least 60 minutes of moderate activity per day, by gender**

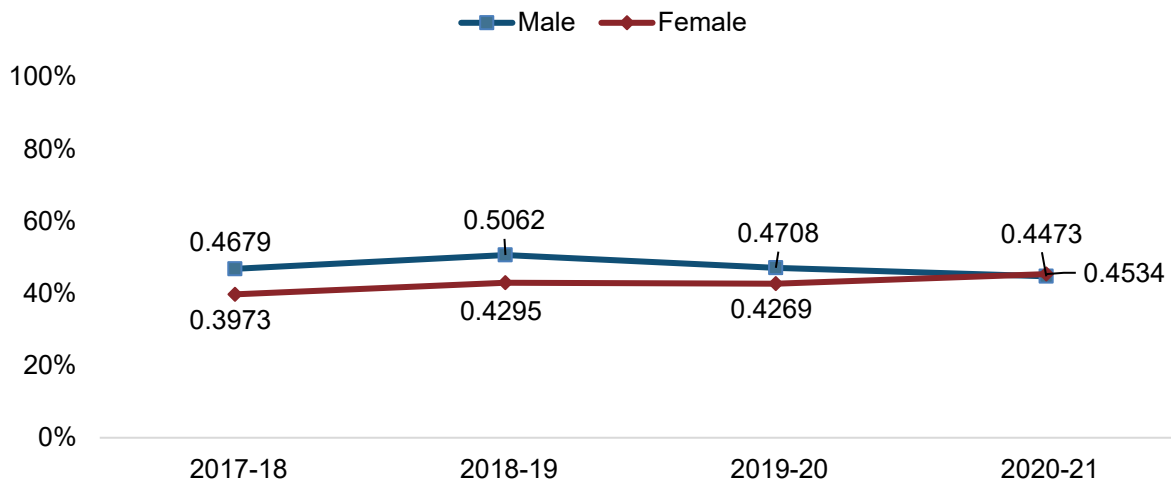


Coverage: England. Note: (Highest n = 2018/19; 113,728, Lowest n = 2020/21; 86,828), responses from those in year 1 to 2 was by parent report.

Source: Sport England

It would have been better practice to have removed the gridlines and the label borders, as well as the labels on the axes, as it is clear from the context what they represent.

**Figure 15: Example of good practice in a graph showing annual trends in the percentage of children and young people aged 5 to 16 who engaged in at least 60 minutes of moderate activity per day, by gender**



Coverage: England. Note: (Highest n = 2018/19; 113,728, Lowest n = 2020/21; 86,828), responses from those in year 1 to 2 was by parent report.

Source: Sport England



Once unnecessary detail is removed, the graph is calmer and less cluttered, and the focus is on the data.

Note that you do not always need to label every point with its value – only do this if you think your audience would be interested in these details. If you do not label data with its values, you may wish to keep some pale gridlines to help people interpret the graphic. Only use gridlines if your audience is likely to want them to help read the data. Use the level of annotation and gridline frequency appropriate for the graphic and the level of detail you want to communicate to your audience.

Be careful not to reduce clarity and cause confusion by deleting too much detail or removing helpful titles from axes. Only delete an axis title if you think it is obvious what is being represented – for example, a year or a percentage.

Do not place labels vertically or diagonally, as these orientations are more difficult to read – keep all text horizontal and place y-axis labels horizontally at the top of the axis instead of vertically along the side.

## Choosing axes

Always aim to start axes at zero unless this makes the story unclear or the differences between data points is too small. If you need to start at a different value, make sure it is clear in the axis that you have not started at zero.

Put the y-axis on the left or centre unless there is a good reason to put it on the right (for example, to draw attention to data points near that axis).

When setting the regularity of tick marks, choose an interval that is legible and helpful for your data. Always label the first and last tick marks and regular spaces between them. Centrally align labels over tick marks for clarity.

The labels and legends should be in a legible font size of 12pt. Make sure that text is not cut off in a label box if you change the font size. Resize and reposition labels and chart elements to make the chart as easy as possible to read.

## Deciding on a title

Give every graphic a meaningful title so that even if it is removed from its original context, it will be clear what it shows. Use a concise descriptive title that summarises its main message. Add titles by using the Insert Captions functionality, as for tables and images. Refer to the section on [labelling images, tables and figures with captions](#) for further information.

## Providing the source

Where applicable, the source for data or images should always be quoted under the graphic and formatted using the [Source styling](#) in the Styles menu. This aligns text to the right in Arial 10pt font. The source information is usually just one line, saying where the information has come from – for example, ‘Data from [Coronavirus \(COVID-19\) Infection Survey, UK - Office for National Statistics](#)’. Include a link to the source if you think that could help your readers. Do not link directly to a PDF – instead, link to the webpage that hosts the PDF, so if the PDF is changed, the link does not break.

## Adding annotations

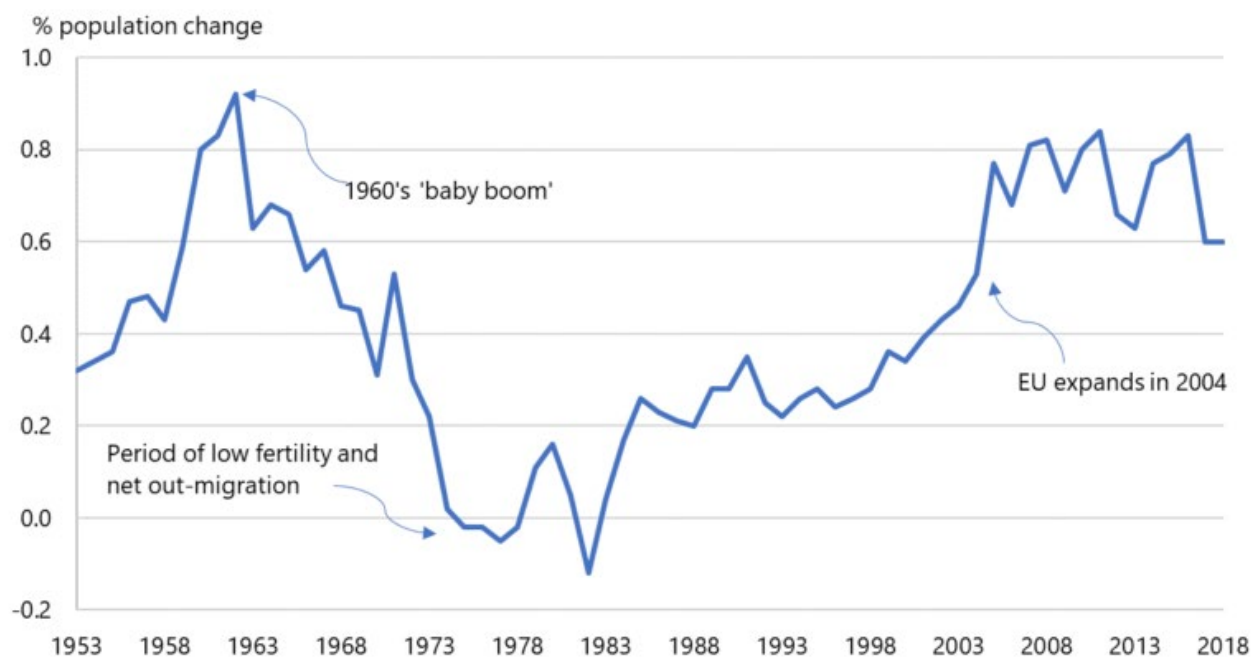
You can add annotations to your graphic if you think it would be helpful for your audience, but [use Microsoft’s functionality to add rich-data labels](#). Do not add annotations as text boxes floating over the graphic, as these are not accessible.

If you need to add some text to a graphic, use a [sans serif font](#). The correct font and size, Arial 12pt, is embedded in the template. Avoid reducing it unless necessary to add clarity.

**Figure 16: Example of a graph with annotations**

### UK population continues to grow, but at a slower rate than any year since 2004

UK, 1953 to 2018



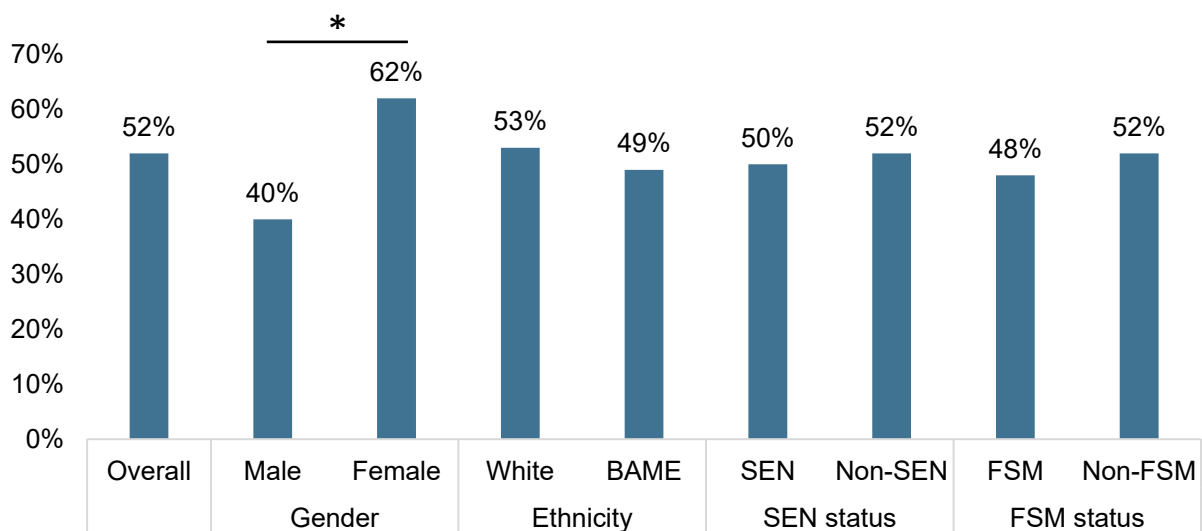
Source: Government Statistical Service

Avoid adding headings or information about sources into the graphic itself. Add these to the body text instead and style as a heading or a source, or as a caption for titles.

If you add extra annotations such as text boxes, additional lines, shapes or drawings, these are likely to cause accessibility errors in Adobe, when the Word document is converted to a PDF. Mark these as 'decorative', but make sure any important information they convey is given elsewhere, ideally in the body text of the report.

If the short horizontal line and asterisk in figure 17 are marked as 'decorative', the live-linked graphic will pass accessibility checks.

**Figure 17: Percentage of children and young people aged 15 to 18 indicating concern about the impact of the pandemic on their mental health, by socio-demographic characteristic, in July 2021**



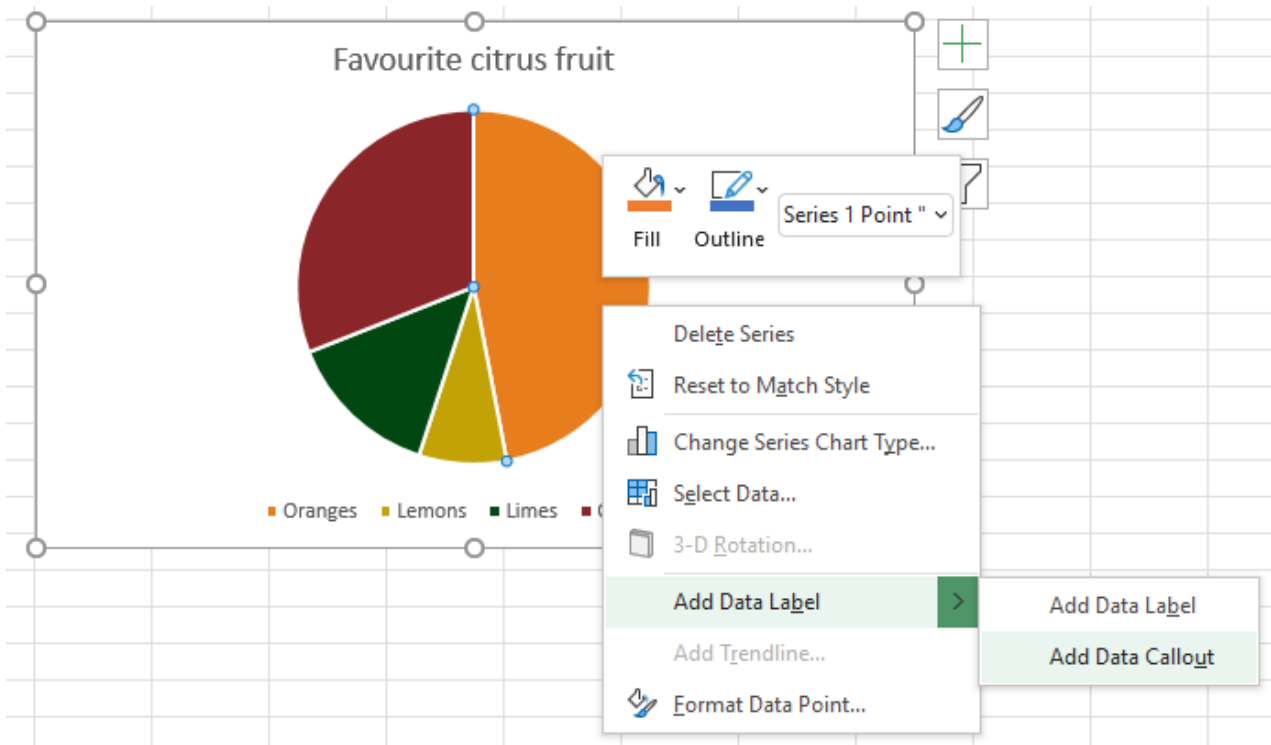
Coverage: England. Note: Secondary pupils; July 2021 (n=1,511), \*indicates a significant difference between groups in highlighted wave.

Source: [State of the nation 2021: children and young people's wellbeing](#) (page 77)

To [add labels to graphs](#), use the functionality embedded in Microsoft.

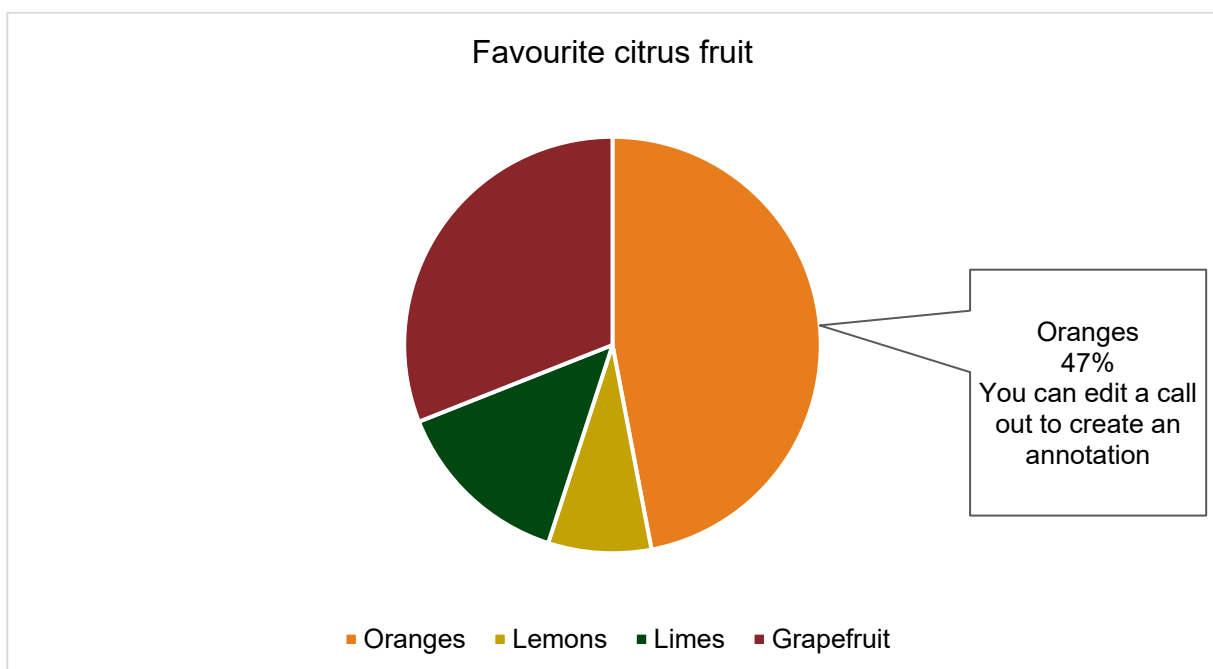
### To add labels or annotations to a graphic:

1. Click on the graphic you want to label.
2. Click the data series of interest.
3. Click on the data point you want to highlight.
4. Right-click on the data and scroll down to Add Data Label.



5. Either select Add Data Label to add the value to the data point, or select Add Data Callout to add the name and value of the data point into a callout box. You can click and drag on the callout box to move its location.
6. If the text inside the data label is too small, resize the data label by clicking it, then dragging the box to the size you want.
7. If you want to add an annotation, select Add Data Callout, then click into the callout box and edit the text. Add any explanation you want and delete the text you do not need.

**Figure 18: Example of a graph with annotations**

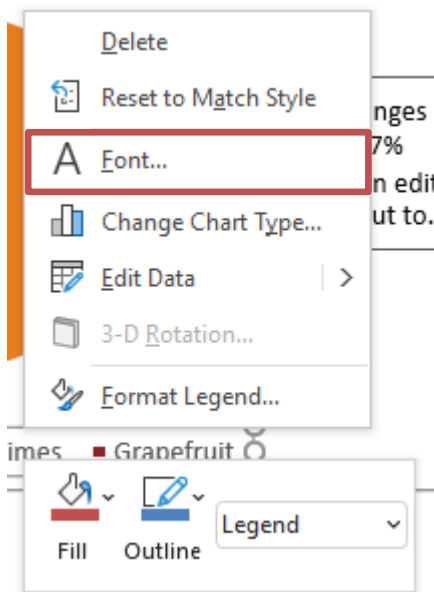


### To delete labels in or annotations to a graphic:

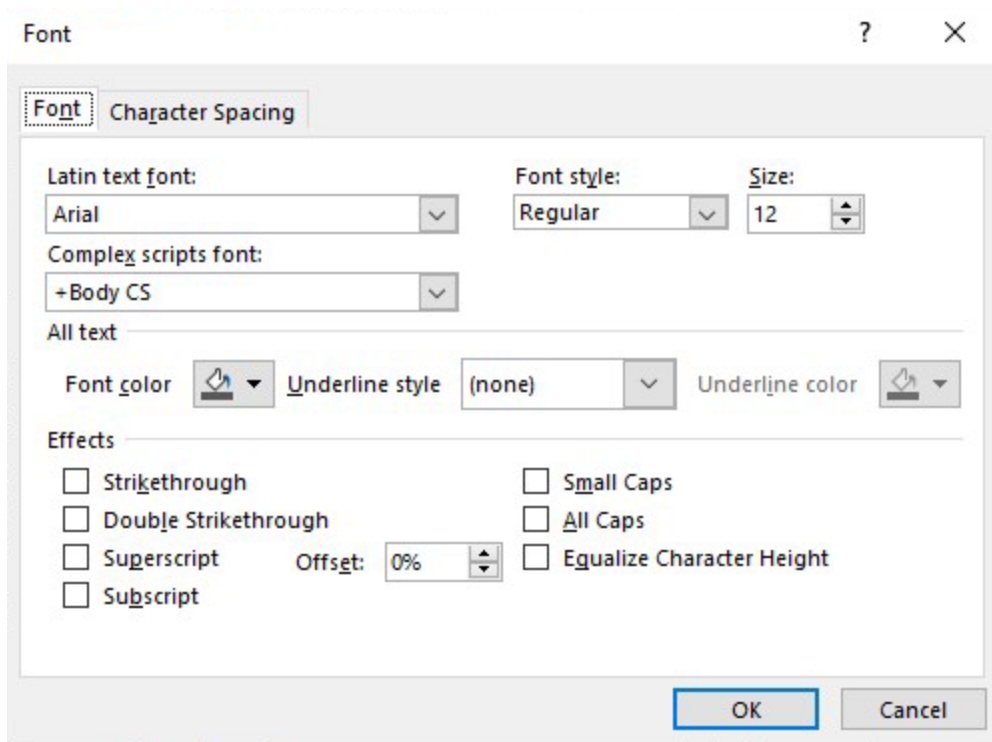
1. Click on the labels or annotations you want to remove.
2. Select the Delete key.

### To resize the font of labels or annotations in a graphic:

1. Click on the labels you want to resize.
2. Select Font.



3. Change the size to 12pt wherever possible. The font should be Arial.



## Drawing diagrams

Before deciding to use a diagram, work out whether what you're trying to convey is best conveyed with text, or a diagram supported by text.

If you can convey the information in a clear and succinct way with text, you probably do not need a diagram. If a diagram helps you to make a subject clearer, or summarises a large amount of information, it is helpful to include it.

Consider whether you can reduce the complexity of the concept you're trying to convey, and work with a content designer to make sure your message is communicated clearly and effectively.

### Keeping diagrams simple

Diagrams need to be clear and easy to understand. Try to stick to one idea per diagram and follow the [Government Analysis Function guidance on data visualisation for charts](#).

To help clarity:

- follow the usual reading direction, from left to right
- avoid overlapping connector lines
- use simple shapes and as few different shapes as possible
- make it clear where the starting point is for process and flow charts
- do not place text diagonally or vertically
- do not rely on colour alone to convey meaning

Make sure the diagram is accessible to everyone by using black and white as a default. If you use colour, make sure the contrast meets WCAG AA standard by using [a colour contrast checker](#).

Include a detailed explanation in the body text of the processes and relationships explained in the diagram for people who cannot see it. If you have fully described the diagram in the body text, leave the 'Alt text' field empty and mark the diagram as 'decorative'. If you have not fully described it in the body text, you will need to write [suitable alt text for a diagram](#).

Where possible, keep your diagrams as live-linked objects in Word. However, if you have altered the standard diagram templates, you may need to publish your diagram as an image, in [SVG format](#), which allows users to zoom in and out without the image pixelating. For useful tools and information about how to do this, refer to the [accessibility of images section](#).

## Using colour in graphics

Graphs presented in one colour are most accessible. Using one colour, or tones of one colour, allows the reader to focus on the data instead of the colours so the message the graph conveys is clearer. Use the DfE dark blue as your preferred colour for all graphics.

When selecting colours, consider the relationships presented in the data.

- Use the DfE dark blue as your preferred colour for all graphics.
- Use the same colour for the same or similar types of data.
- Use different tones of the same colour to suggest a link between similar data types or an order within data – for example, age ranges or phases of a project.
- Use contrasting colours to focus attention on differences between data, compare different data sets or to show secondary relationships.

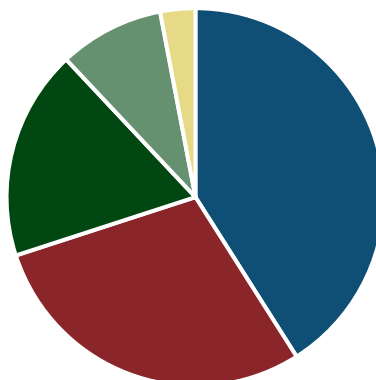
Avoid using lots of colours, particularly if they are of a similar colour density or similarly dark. Check your graphic in greyscale to see how it appears in black and white. If it is still easy to [distinguish between the colours in greyscale](#), your graphic should be accessible.

Do not use white text on a dark background. When content is converted to PDF and users reflow the information into an easy read format, all white text is removed and cannot either be seen by the user or be read aloud by assistive technology.

Refer to the [section on colour](#) for more information about how to use colour.

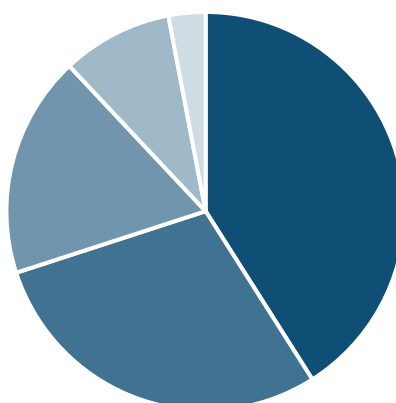
**Figure 19: Example of using multiple colours inappropriately in a pie chart**

■ Full-time employed ■ Part-time employed ■ Studying ■ Unemployed ■ Other



**Figure 20: Example of using shades of the same colour appropriately in a pie chart**

■ Full-time employed ■ Part-time employed ■ Studying ■ Unemployed ■ Other



## Bar charts

Use vertical bar charts, where possible. Only use horizontal bar charts when you have lots of categories or long category labels that do not easily fit under vertical bars.

The gaps between the bars should be slightly narrower than the width of one bar.

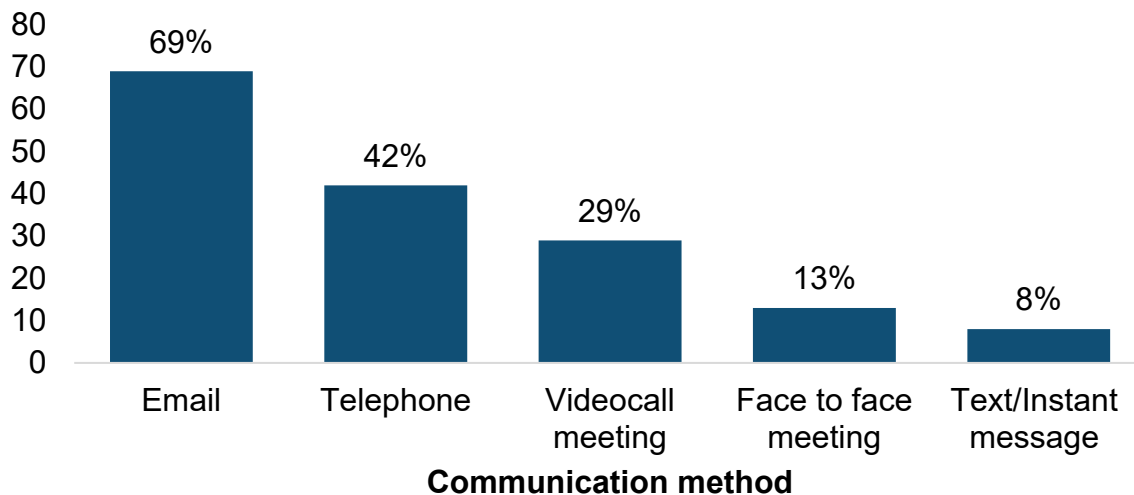
For clustered bar charts, the gaps between sets of bars should be wider than one bar.

If you are labelling bars, align labels centrally to the bottom of bars.

If your bar chart is simple, consider using a table instead, as tables are more accessible.



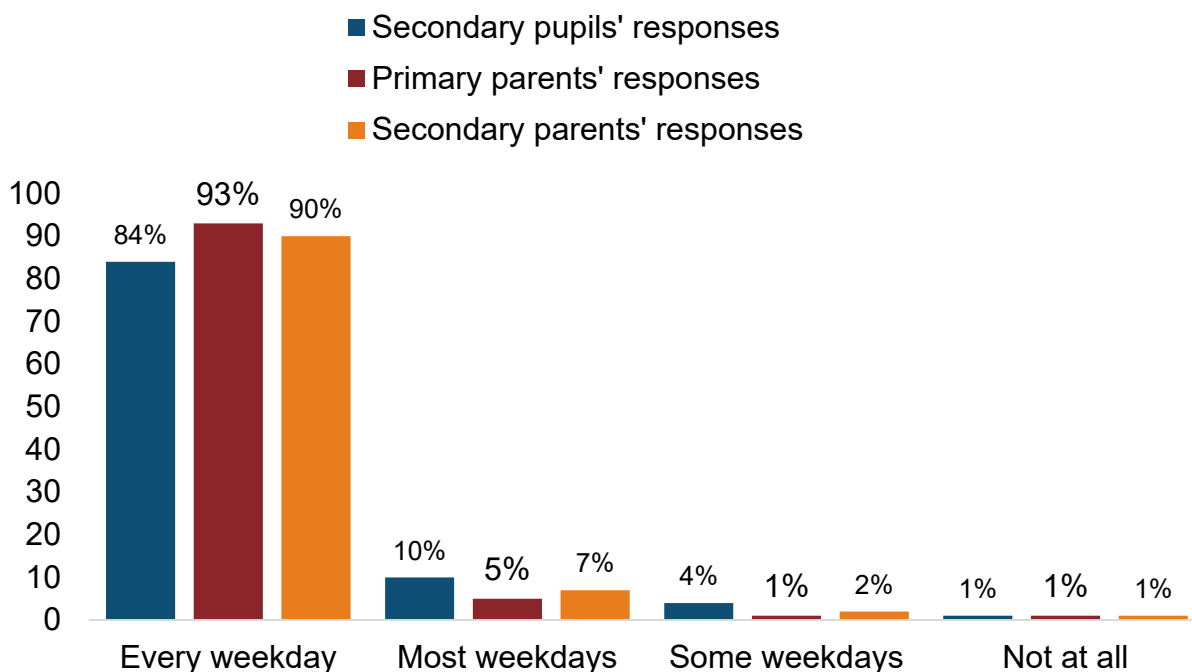
**Figure 21: Example of a vertical bar chart showing most common communication methods with school during summer term 2020 (among pupils who had contact)**



*'In which of the following ways has your school been in contact with you?' Secondary pupils who had contact with current school during term time (n=4,043).*

Source: [Parent and pupil panel: omnibus surveys](#): COVID-19 Parent and Pupil Panel, August to October 2020 findings (page 61)

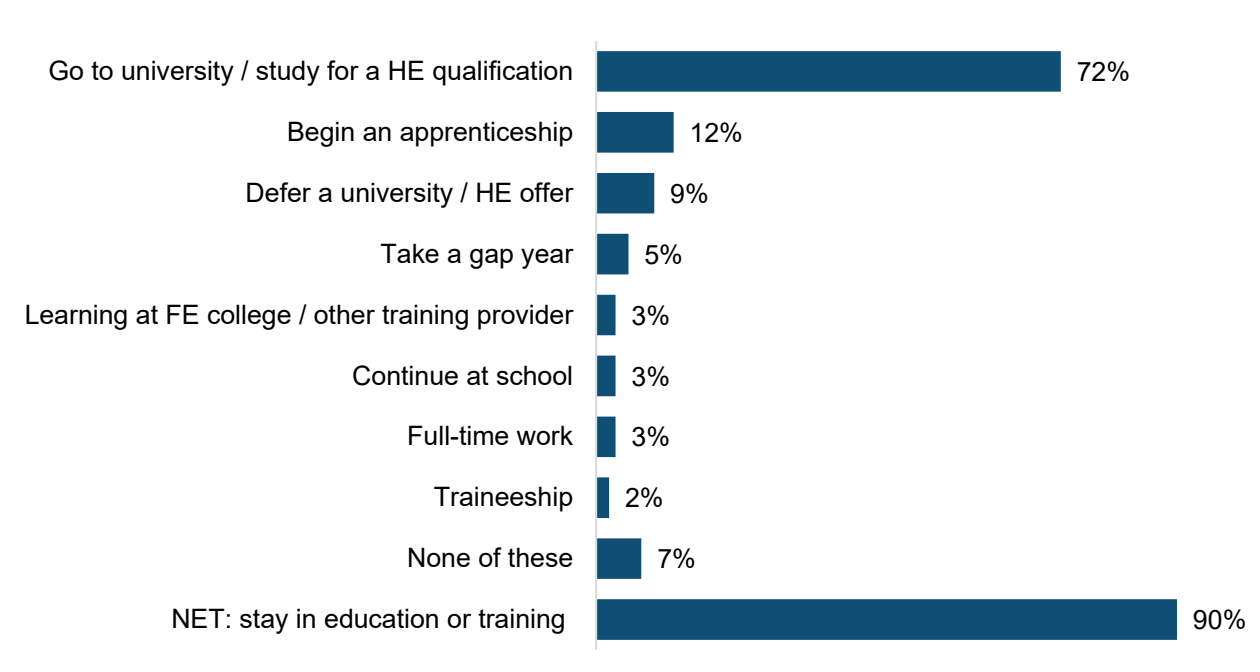
**Figure 22: Example of using different colours to distinguish data sets in a clustered vertical bar chart showing school attendance in two weeks in May 2021**



*'How often, if at all, have you physically attended school or college in the past two weeks of term time?' All pupils (n=1,537), Primary parents (n=1,544), Secondary parents (n=1,540)*

Source: [Parent and pupil panel: omnibus surveys](#): COVID-19 Parent and Pupil Panel, May 2021 findings (page 23)

**Figure 23: Example of a horizontal bar chart showing year 13 students' plans for September 2021**



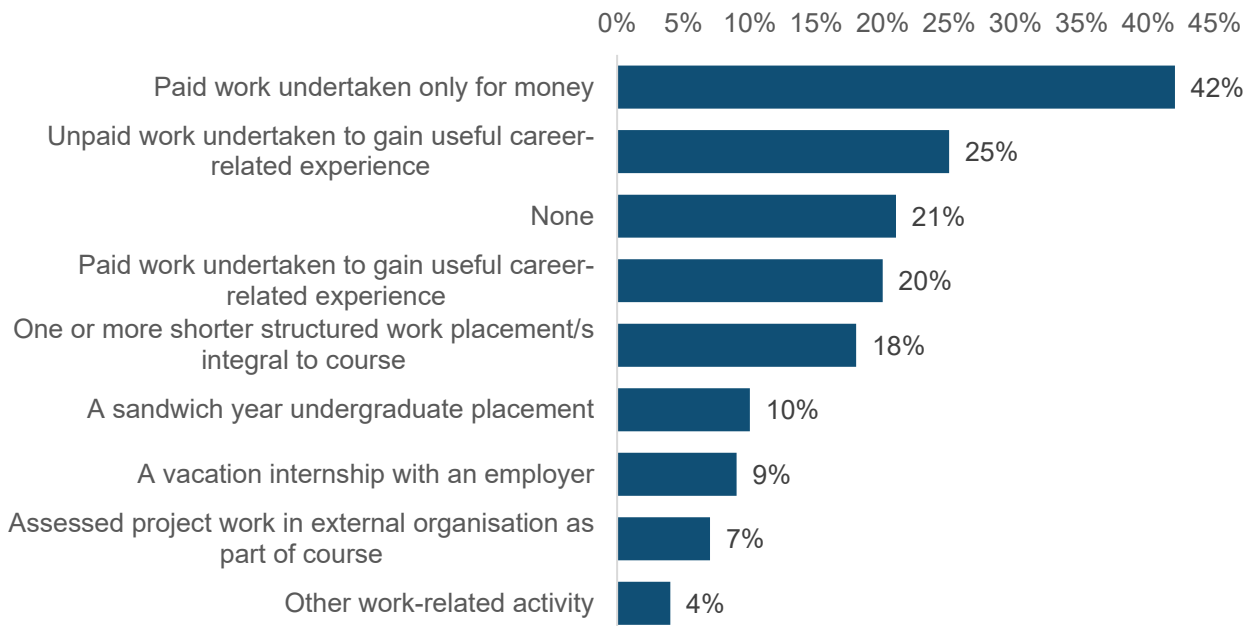
*'Are you planning on doing any of the following next year?' or 'What are your plans for next year?' All year 13 pupils (n=282).*

Source: [Parent and pupil panel: omnibus surveys](#): COVID-19 Parent and Pupil Panel, May 2021 findings (page 52)

### Using colour in bar charts

For data that is of the same type which cannot be organised into groups, use the same colour and shade.

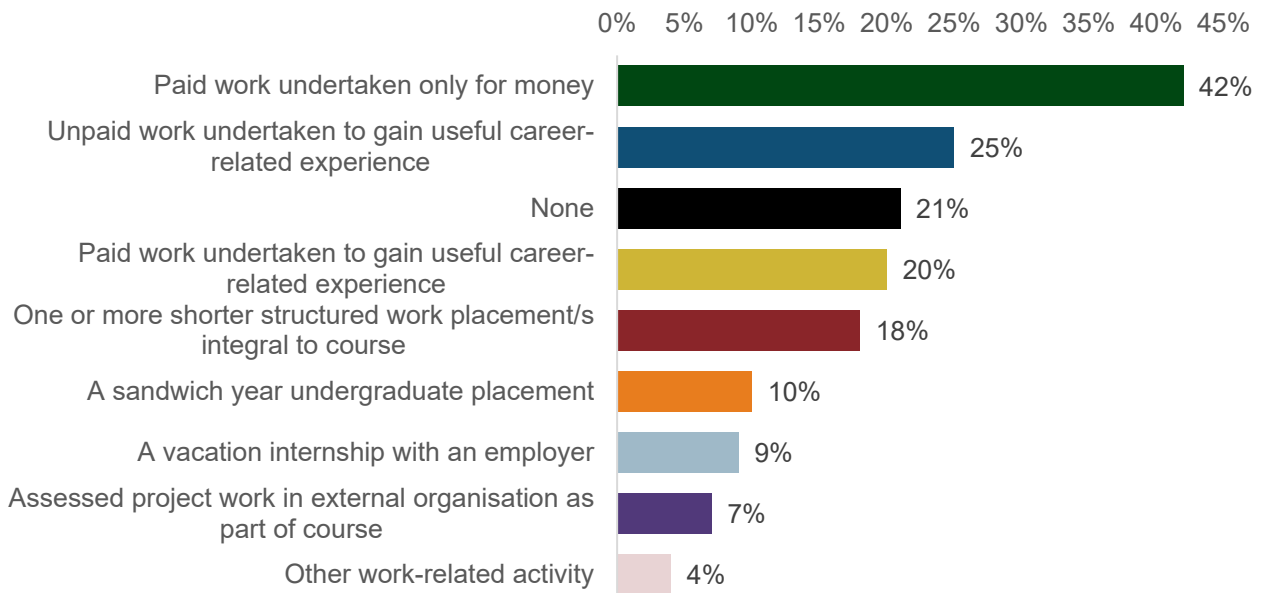
**Figure 24: Example of appropriate use of colour in a survey of students' reasons for undertaking work experience during their course**



All UK-domiciled graduates (weighted) who have an undergraduate degree and are no longer in full-time study. Respondents were able to select multiple options, so the percentages add up to more than 100%.

Source: [Futuretrack Stage 4: Transitions into employment, further study and other outcomes](#) (page 97)

**Figure 25: Example of inappropriate use of colour in survey of students' reasons for undertaking work experience during their course**

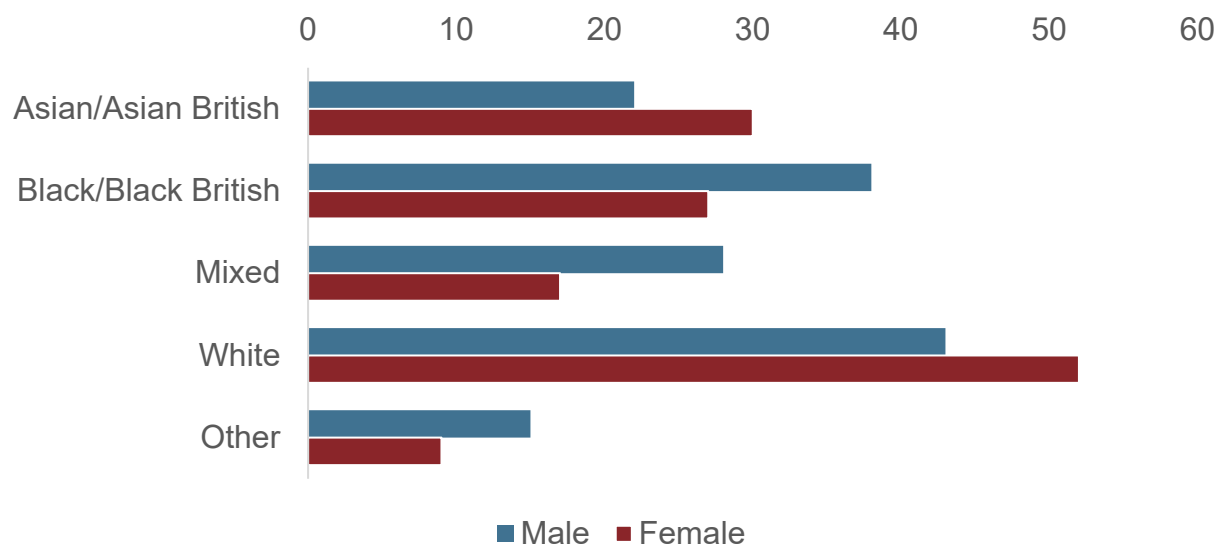


All UK-domiciled graduates (weighted) who have an undergraduate degree and are no longer in full-time study. Respondents were able to select multiple options, so the percentages add up to more than 100%.

Source: [Futuretrack Stage 4: Transitions into employment, further study and other outcomes](#) (page 97)

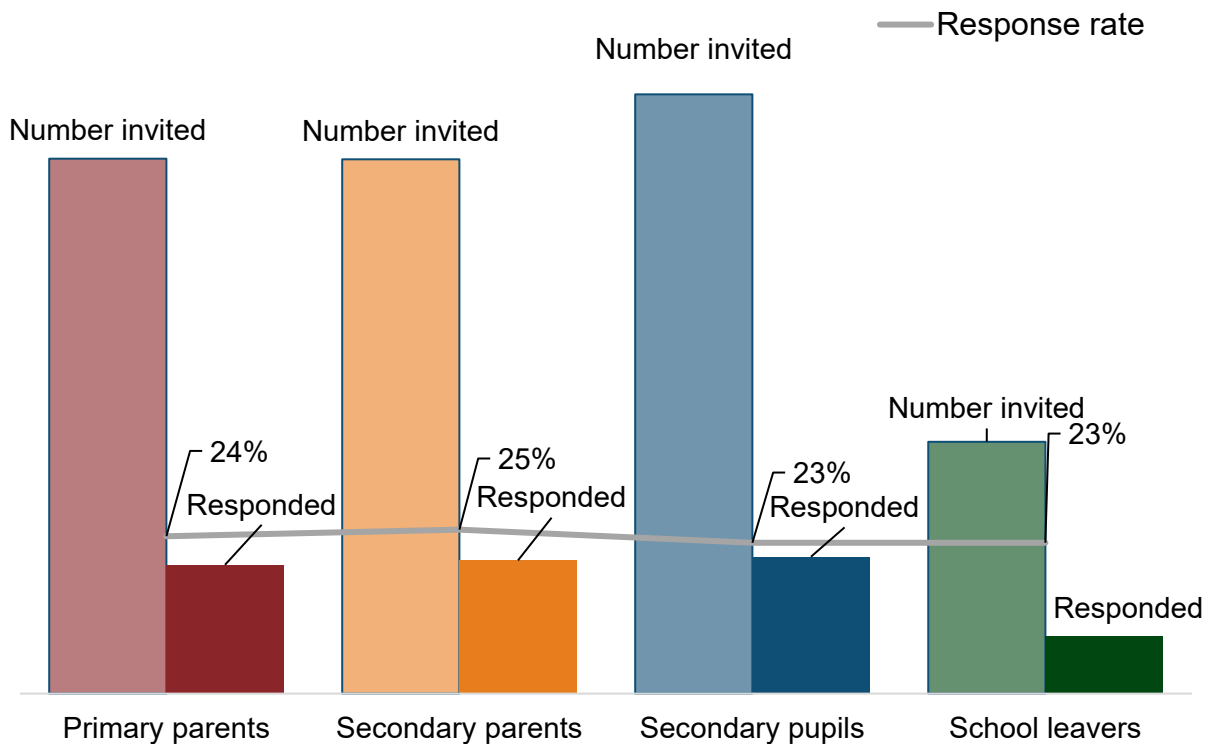
Use colour to group data sets and show secondary relationships. Different colours can highlight differences when subcategories are common across broad categories.

**Figure 26: Example of using multiple colours in a clustered bar chart appropriately to distinguish between subcategories in data showing the ethnicity and gender of students in a cohort**



Use colour consistently – try to use the same colour or shade for the same subgroup and avoid changing colours in different charts across your report. For example, if you have used red for primary-school pupils’ parents, blue for secondary-school pupils’ parents and yellow for secondary-school pupils in other graphics in your report, use the same colours to represent the same group in every graphic, if that adds clarity. Using the same colour for the same groups of data helps your audience draw connections and understand relationships much faster.

**Figure 27: Example of differentiating between groups for invites and response rates for the Parent and Pupil Panel (PPP), using the same colours as elsewhere in the report**

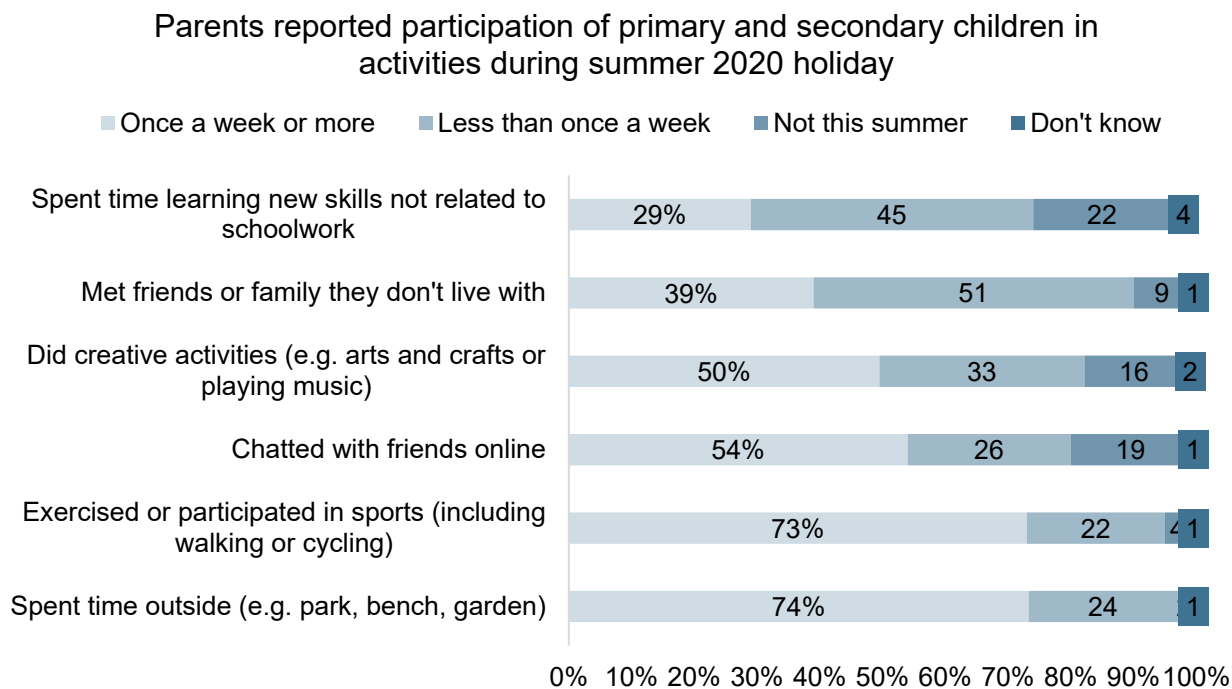


Source: [Parent and pupil panel: omnibus surveys](#): COVID-19 Parent and Pupil Panel, technical report, July 2021 (page 21)

### Using colour in stacked bar charts

In stacked bar charts, aim to use shades of the DfE blue unless there is a reason not to – for example, because you want to use the same colours for the same categories as you have elsewhere in the report.

**Figure 28: Example of using shades of the same blue in a stacked bar chart showing parents reported participation of primary and secondary children in activities during the summer holidays in 2020**



*'How often, if at all, has Pupil [code text] this summer?' Parents in Cohort B (n=3,714)*

Source: [Parent and pupil panel: omnibus surveys](#): COVID-19 Parent and Pupil Panel, August to October 2020 findings (page 73)

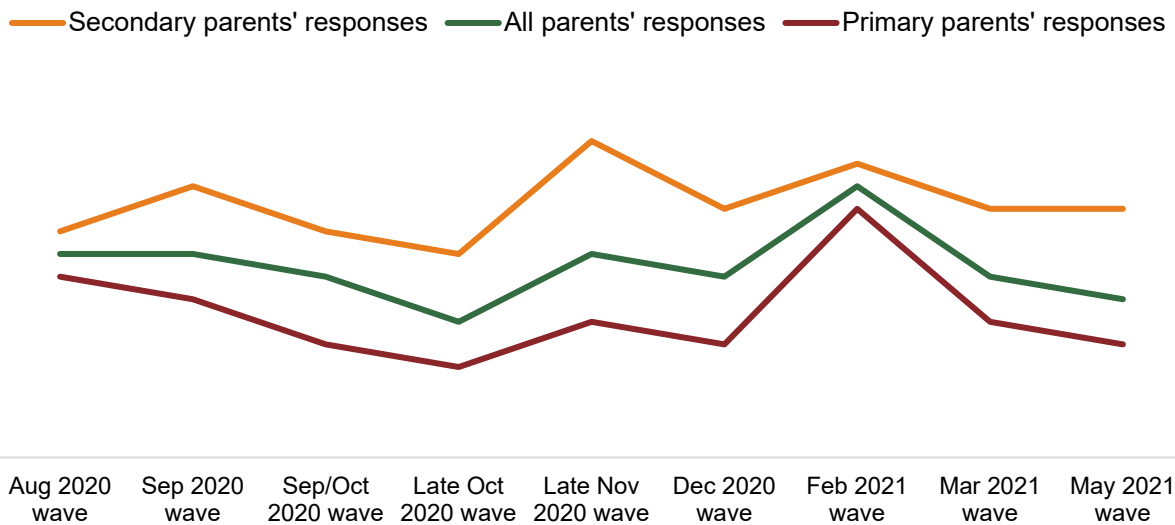
## Line graphs

Line graphs should be as clear and simple as possible. Use the minimum number of pale grid lines to help users read the data and the minimum number of colours and labels to ensure the message is clear.

### Using different colours when the data is not ordered

If there is no order to the data, or no relationship between the data sets, you can use different colours for different data sets. If you are using different colours, choose different intensities shades of darkness of colour in case the colours are [viewed in greyscale](#). This will help people with colour blindness distinguish between data sets.

**Figure 29: Using different colours to distinguish data sets**



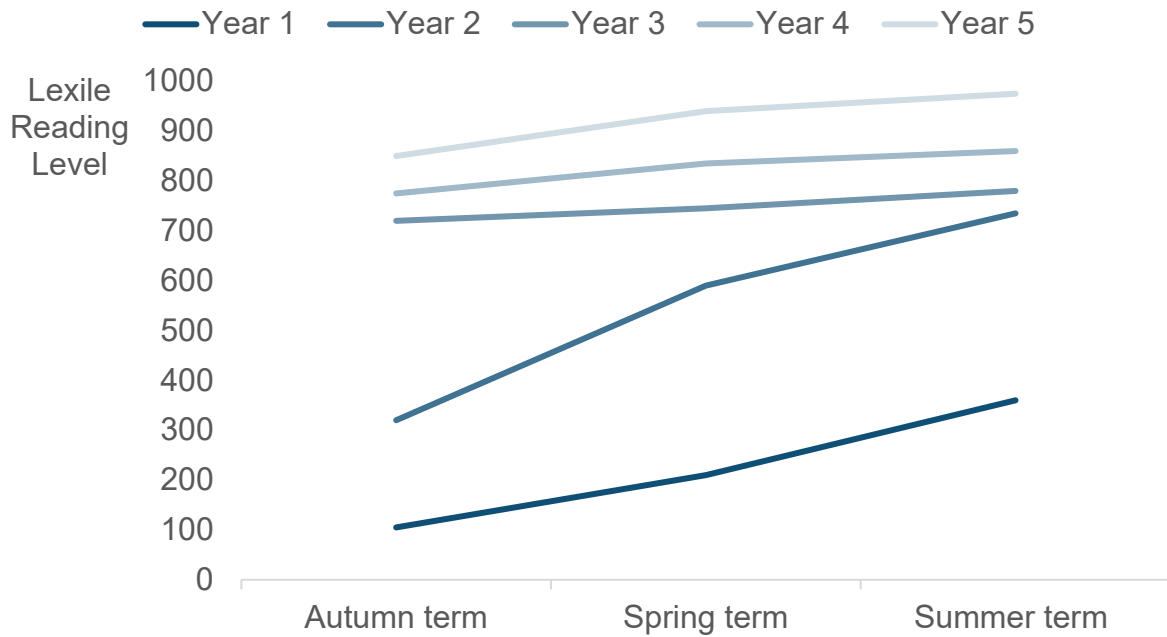
*'On a scale where 0 is "not at all anxious" and 10 is "completely anxious", overall, how anxious did Pupil appear yesterday?' All parents (n= between 7,191 and 3,082), primary parents (n= between 4,203 and 1,537), secondary parents (n= between 2,988 and 1,540).*

Source: [Parent and pupil panel: omnibus surveys](#): COVID-19 Parent and Pupil Panel, May 2021 findings (page 59)

### Using colour to imply order

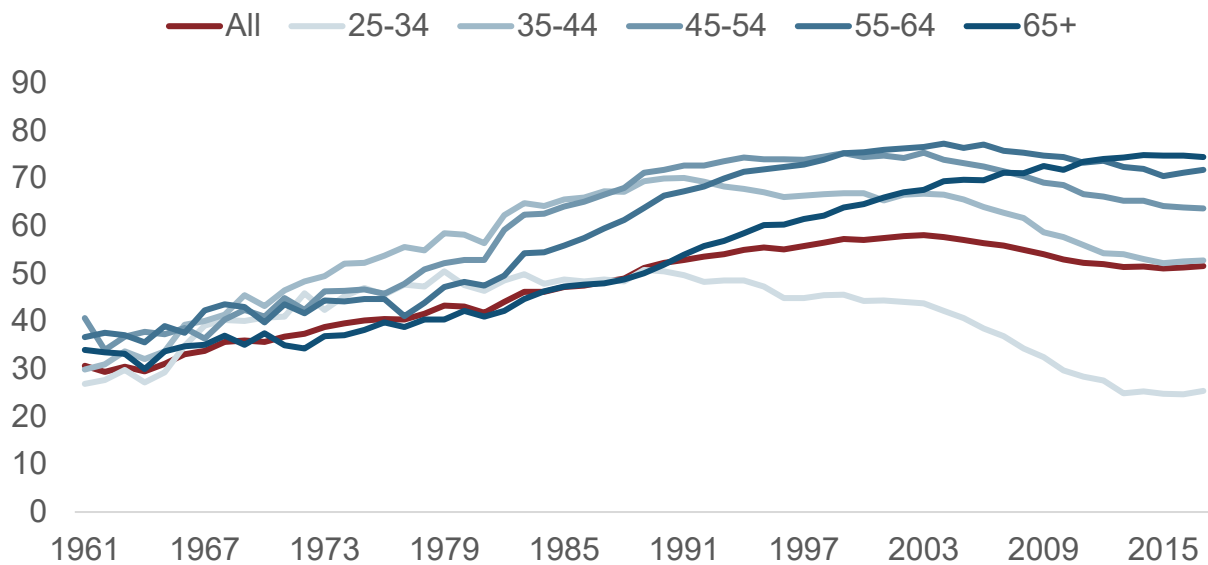
Where there is an order to data – for example, if it depicts an age range or different key stages – use different densities or textures of the same colour in a progression that reflects the order of the data.

**Figure 30: Example of using colour to imply an order in a line graph showing the average reading level of each year group in a school each term**



However, if the lines cross over often, as in figure 31, it might be clearer to use different colours instead of colours in order of shade. In this case, using different colours might improve clarity and accessibility.

**Figure 31: Example of ordered colours increasing confusion in a graph showing the percentage of families (singles or couples) owning their own home, by age group, 1961 to 2017, UK**

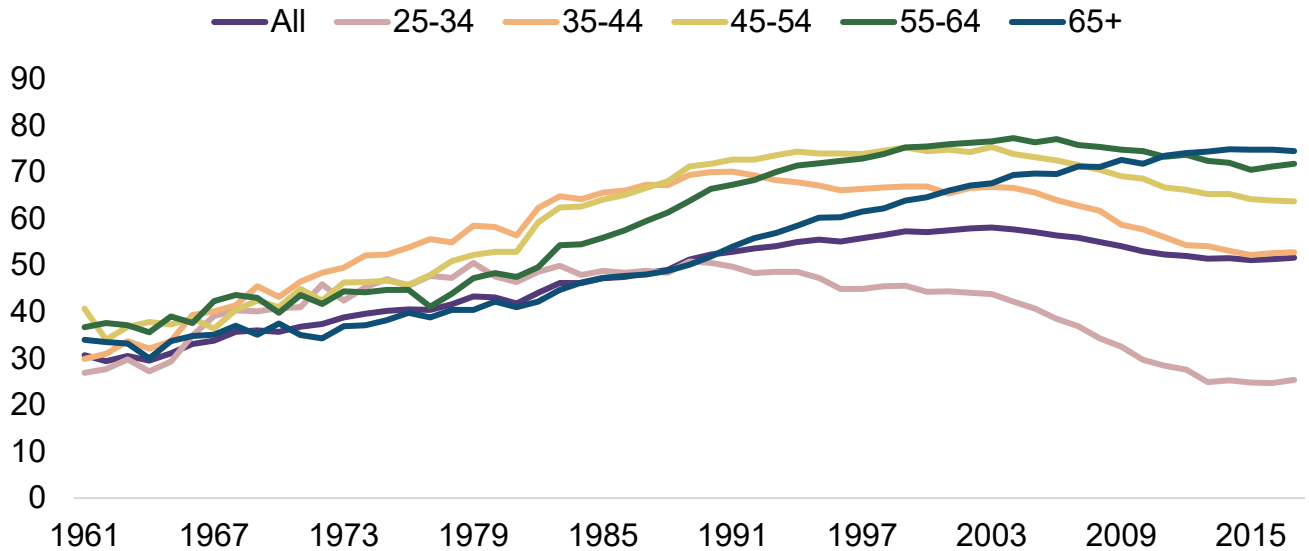


Source: Housing data, Resolution Foundation



Your focus should always be on making your content as accessible and easy to understand as possible, so if this means using different colours, then do so.

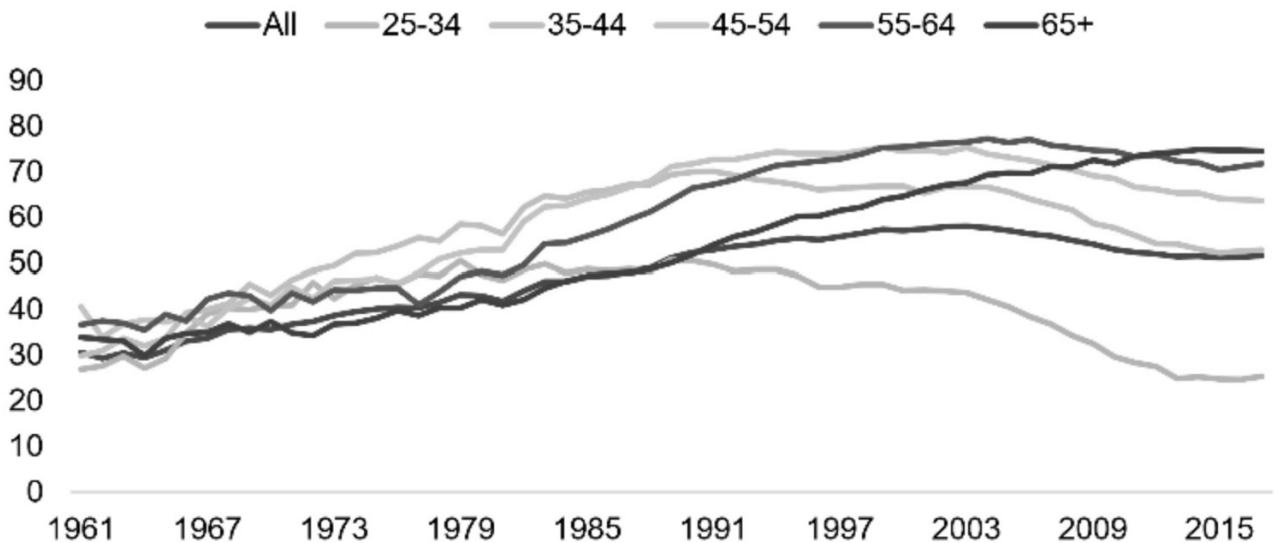
**Figure 32: Example of using different colours to improve clarity in a graph showing the percentage of families (singles or couples) owning their own home, by age group, 1961 to 2017, UK**



Source: Housing data, Resolution Foundation

Remember to [check your graphic in greyscale](#).

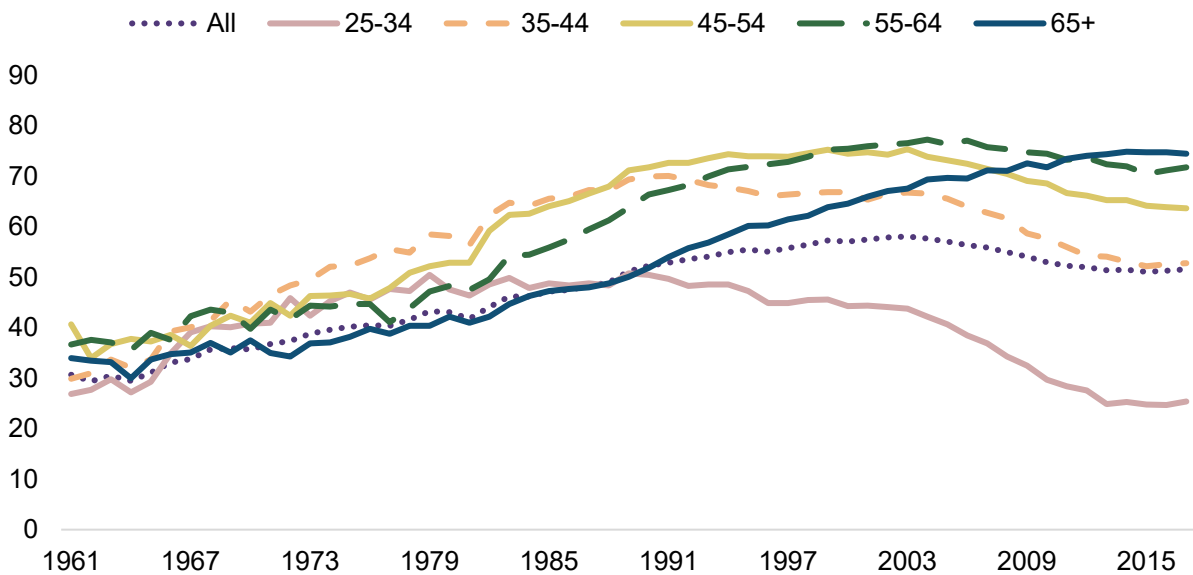
**Figure 33: Example of using greyscale to check the colours in a graph showing the percentage of families (singles or couples) owning their own home, by age group, 1961 to 2017, UK**



## Using textured lines in graphs

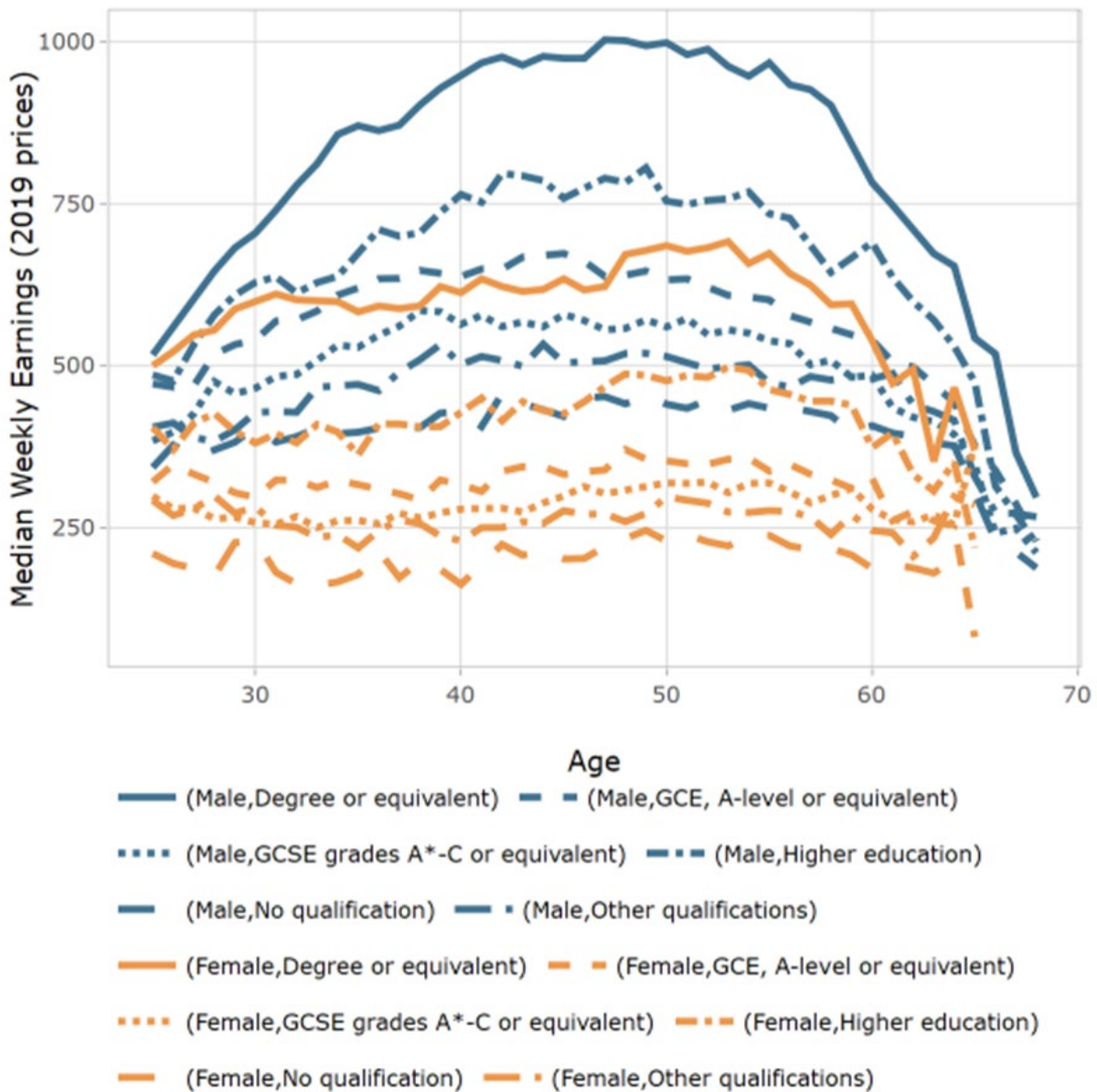
If your graph is difficult to read in greyscale, change the colours or add texture to lines – for example, use dotted or dashed lines to distinguish between data sets. It is harder to distinguish the difference between colours in line graphs than in charts with a larger coloured area. Try to use a maximum of 4 shades or add texture to help readers differentiate between the lines.

**Figure 34: Example of using texture as well as colour in a graph showing the percentage of families (singles or couples) owning their own home, by age group, 1961 to 2017, UK**



Graphs with multiple lines or two or more sets of the same data can use texture as well as colour to distinguish between the lines.

**Figure 35: Example of using texture and colour to distinguish between two data sets for men and women’s median weekly earnings by age and qualification level**

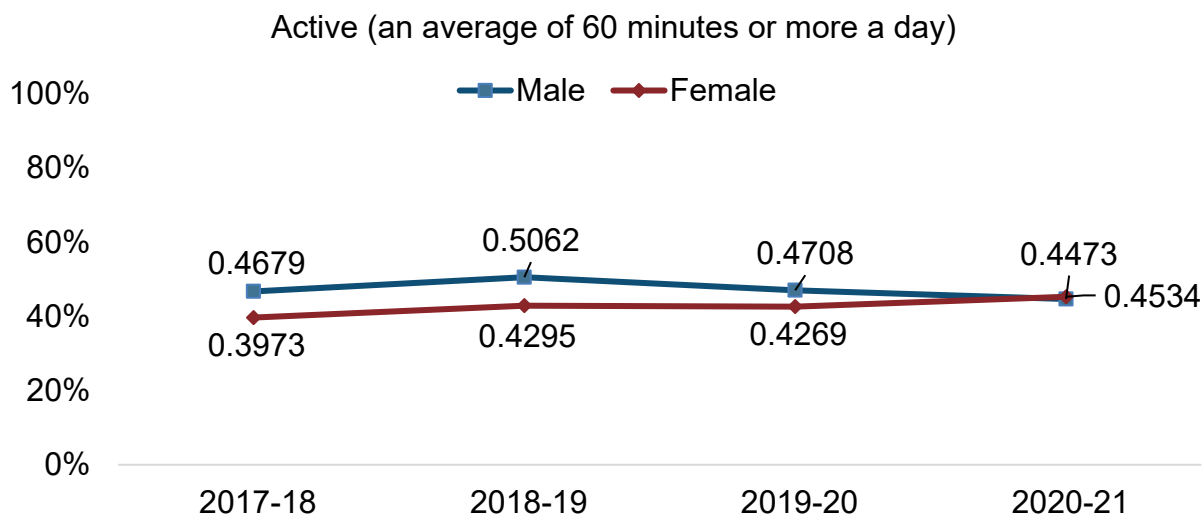


Source: [GCSE attainment and lifetime earnings report](#) (page 17)

### Using shaped data points in graphs

Another way to distinguish between lines in graphs is to mark the data points with dots of different shapes as shown in figure 36.

**Figure 36: Example of using shapes at data points to help distinguish between lines in a graph showing annual trends in the percentage of children and young people aged 5 to 16 who engaged in at least 60 minutes of moderate activity per day, by gender**



Coverage: England. Note: (Highest n = 2018/19; 113,728, Lowest n = 2020/21; 86,828), responses from those in year 1 to 2 was by parent report.

Source: Sport England

## Summary of including graphs in reports

Refer to the [graph checklist](#) for a summary of graph guidance.

## Formatting graphs for accessibility

Create graphs in Word or paste them in from Excel as live charts. If they are live-linked to their source, they can be navigated by a screen reader and zoomed into without pixelating.

If you need to update a graph, update the source file and check the updates are copied across. Do not add updates to a pasted-in graph.

Avoid pasting in graphs as pictures. If you must paste in a picture from other software, use the SVG format. SVGs are ‘scalable’, so retain the same quality no matter what screen resolution or size they are viewed at. This means users can zoom in to magnify images without pixelation. You can [compare an SVG with a JPG by zooming in to the graphs on this guidance page](#).

Note: Changing a file type such as a JPG into an SVG does not make it scalable. Instead, it must be saved as a SVG within the source file so it is created in the correct

format. For more about the tools you can use to create SVGs, refer to the section on [accessibility for images](#).

For further information, refer to the Government Analysis Function's guidance on [making analytical publications accessible](#).

## Making complex graphs accessible

If you include a graphic that shows complex information, provide a text-based explanation of what it is showing. For example, you could describe the trends in body text and have a table showing the most important data points. You could also link to the raw data in an appendix or provide a way for users to request it.

When describing the graphic in the body text or in alt text, avoid describing its structure or repeating axes or labels already on the page. For example, do not say, 'The image is a bar chart showing EU funds by percentage on the vertical axis and EU countries on the horizontal axis.' Instead, describe the patterns in the data and explain what's happening. Include key points and any obvious trends or turning points in trends. Avoid being too vague or too broad. The [section on writing alt text](#) contains examples. Avoiding creating floating objects

Floating objects are elements such as text boxes that are not in line with the main text or arrows or shapes added to graphics. They can be hard to locate and navigate with a screen reader, and depending on the colour, may not be accessible to users with a vision impairment.

Do not overlay text boxes and annotations as floating objects on top of graphs or diagrams. When pasting in objects from Excel, be careful not to accidentally paste in an element twice. Extra elements create accessibility errors that may mean the graphic needs to be saved as an image. This makes it less accessible and means it will usually require alt text. If the additional object is mainly decorative, consider whether it is necessary. Delete it or mark it as 'decorative' accordingly.

Refer to the section on [adding annotations to graphs](#) if you need to add extra labels.

## Text-wrapping

Setting text-wrapping around objects to 'In Line With Text' makes it easier for people with screen readers to follow the structure of your document.

### To change the text-wrapping around objects:

1. Right-click on the object.
2. Select Wrap Text.
3. Select In Line With Text from the options.

## Selecting colours

Charts in black and white with patterns and shades of grey are often more accessible and photocopy better. Colours can be used where it is necessary to differentiate between lines in a graph or bars in a chart, but always make sure the colours work in greyscale. If colours are required, only use colours from the approved [DfE palette](#).

Do not rely on colour alone to convey information. Ensure there is a high enough colour contrast ratio between pie chart segments, graph lines, and text and its background. For further guidance about choosing colours to use in your graphics, refer to the [section on using colour](#).

## Alt text for charts

Alternative (alt) text is a hidden description of images which is read aloud to users of screen reading software. You only need to add alt text when the graphic presents new information that isn't already covered in the text on the page. If the graph doesn't say anything new that isn't already said on the page, you don't need alt text; you can leave the 'Alt text' field empty and mark the image as 'decorative'. If the graphic gives new information, or adds more detail or a different perspective on a story, it needs alt text.

The alt text should describe what the graphic shows, rather than repeating either the text on the page or the title, which will be read out separately. It needs to be comprehensive enough to explain what is being represented so a screen-reader user can understand the data as well as a sighted user. For example: 'Chart showing a steady upward trend in expenditure over a 6-year period from £2.3 million in 2007 to £3.8 million in 2013' or 'Graph showing pupils in Sweden performing similarly to pupils in the UK at ages 5 to 10, but then increasingly outperforming them between ages 10 and 14.'

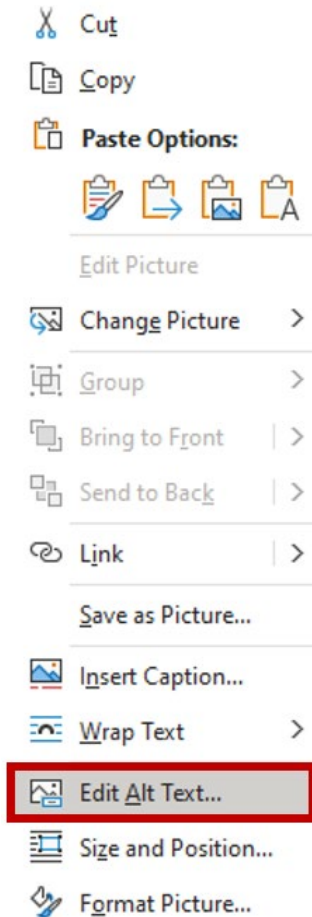
As far as possible, write alt text that makes sense within the flow of the body of the text. Avoid duplicating content you've already written in the body copy.

Do not describe the visual attributes of the graphic, such as the colour of the bars or the shape of the lines unless there is a clear need to do so.

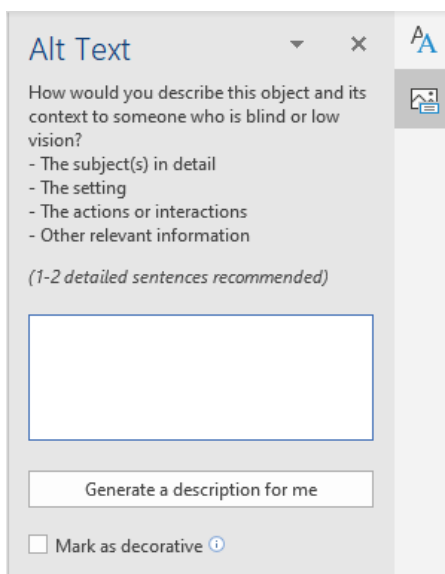
If the image is too complicated to describe concisely in alt text, make sure that it is covered adequately in the body text. If it is fully described, mark the graphic as 'decorative'. You could also provide alternative versions of graphics as tables or nested lists. Penn State University has some [guidance on creating meaningful alt text](#) for complicated visual images.

## To add alt text to graphics:

1. Right-click on the graphic, making sure you're selecting the whole and not just one part of it, or one axis or series of data.
2. Select Edit Alt Text. A panel will open on the right-hand side where you can type in the alt text or mark the graphic as decorative.



3. Enter your alt text or select the 'Mark as decorative' tick box.



All charts should have alt text that:

- summarises the information shown
- focuses on the point the chart is making
- is around 125 characters (15 to 20 words) and ideally no more than one sentence that includes:
  - the chart type used (for example, bar chart, line graph)
  - the type of data used in the chart (for example, graduation rates)
  - a summary of the main trend of the chart
- avoids using a literal description of the chart (for example, describing how the lines or boxes look)
- does not repeat content already in the main body text, or the chart title or subtitle

Common mistakes to avoid include:

- repeating the title of the chart in alt text, which can sound like an error for a screen reader user, and slows comprehension
- saying 'Graph of...', 'Table of...'
- saying 'a description is provided in the text'
- not describing the graphic appropriately
- not giving the values, units, trends or key comparison
- describing the colours and shapes instead of the data

If the graphic is communicating no new information, either:

- do not use it
- mark it as 'decorative' and do not refer to it in the text

## Bar charts

Bar charts are more accessible as a table. If you provide a table, the chart can be marked as 'decorative' instead of requiring alt text.

If you supply alt text, it should provide a summary of what the data shows. You do not need to describe the visual elements such as colours or give every value if it is not important.

If you want your audience to be able to access every value, the alt text for figure 37, for example, might be as follows:

School attendance in the last two weeks, as reported by secondary-school pupils, primary-school pupils' parents and secondary-school pupils' parents in May 2021, was:

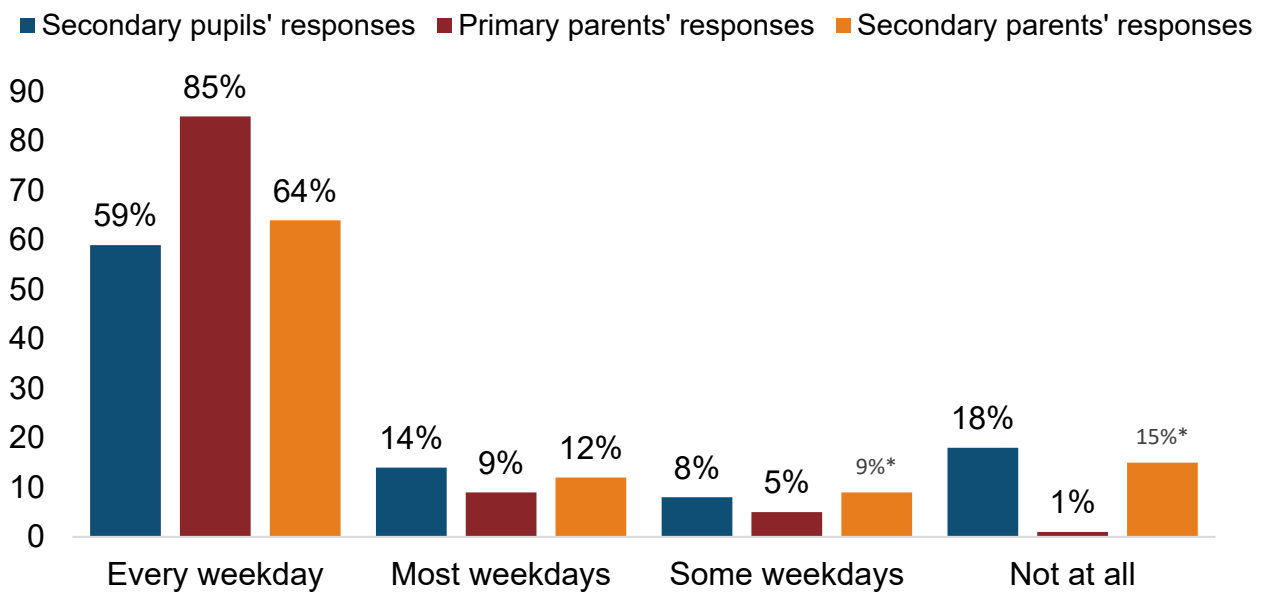
- every weekday for 84% secondary-school pupils, 93%\* primary-school pupils' parents and 90% secondary-school pupils' parents



- most weekdays for 10% secondary-school pupils, 5% primary-school pupils' parents and 7%\* secondary-school pupils' parents
- some weekdays for 4% secondary-school pupils, 1% primary-school pupils' parents and 2% secondary-school pupils' parents
- not at all for 1% secondary-school pupils, 1% primary-school pupils' parents and 1% secondary-school pupils' parents

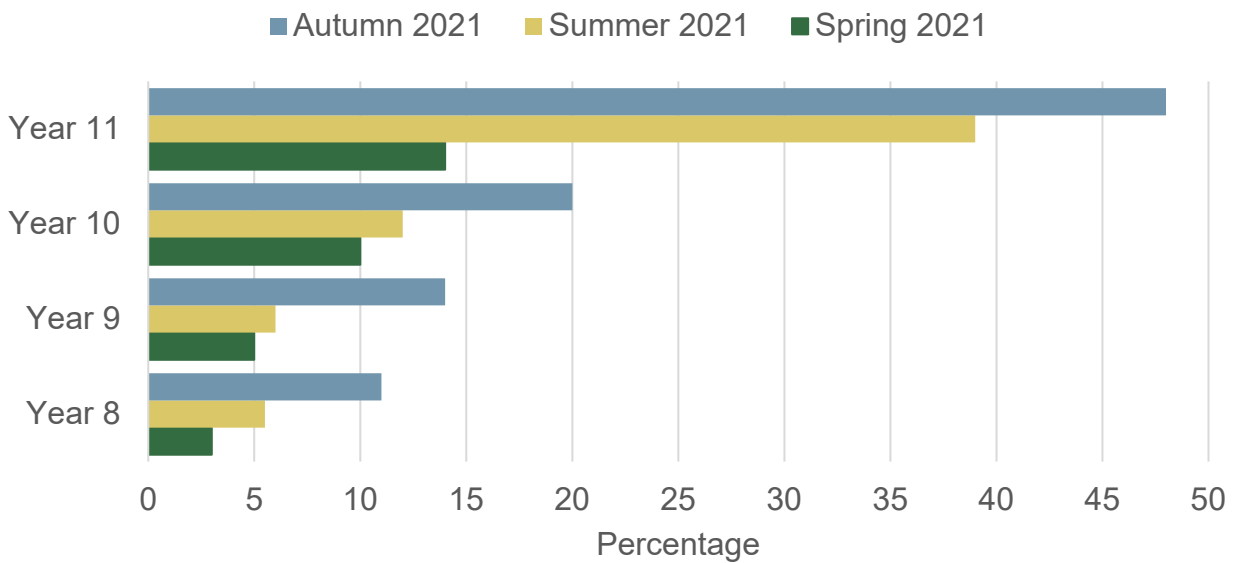
\* Indicates figure is significantly higher than the other (parent) subgroup.

**Figure 37: Example of alt text for a clustered vertical bar graph where every data point is important**



If you just want your audience to appreciate a general pattern in data, the alt text can be less detailed. For example, if figure 38 showed the vaccination rates of pupils in a particular school and your only reason for including the graph was to show the increase in vaccination coverage with time and age, the alt text might be 'Bar chart showing that older pupils at the school are more likely to be vaccinated than younger pupils and, in each year group, that vaccination coverage increased over each term of 2021 from spring to autumn.'

**Figure 38: Example of alt text for a clustered horizontal bar graph where only the trend is important**

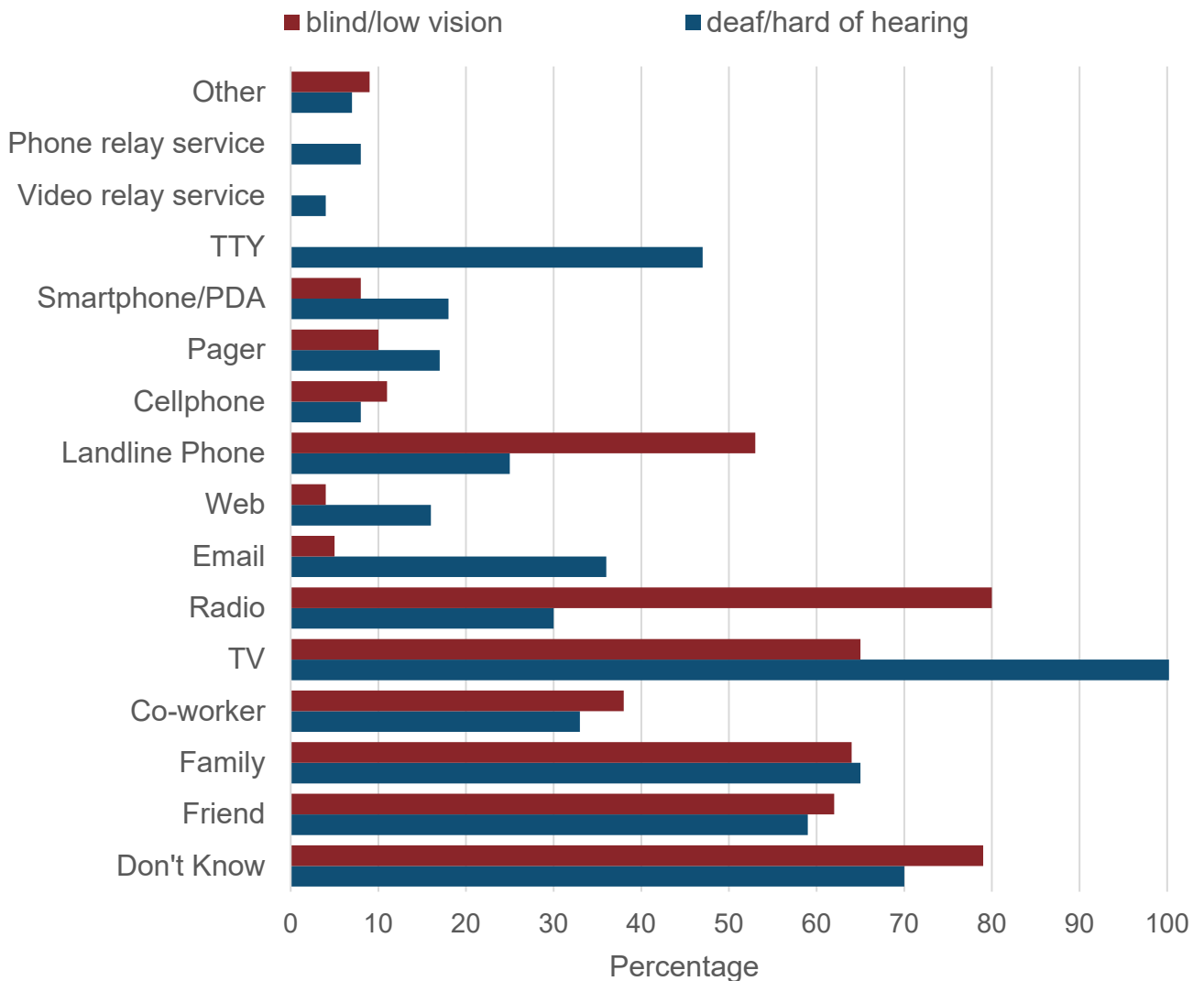


If you want readers to have access to all the data points, the alt text should give full details. For example, for figure 39, that might be as follows:

The first number gives the number of responses for hard of hearing, and the second number gives responses for low vision:

- Do not know: 70, 79
- Friend: 59, 62
- Family: 65, 64
- Co-worker: 33, 38
- TV: 102, 65
- Radio: 30, 80
- Email: 36, 5
- Web: 16, 4
- Landline phone: 25, 53
- Cellphone: 8, 11
- Pager: 17, 10
- Smartphone/PDA: 18, 8
- TTY: 47, 0
- Video relay service: 4, 0
- Phone relay service: 8, 0
- Other: 7, 9

**Figure 39: Example of detailed alt text for a clustered horizontal bar graph showing how people who are deaf, hard of hearing, blind or have low vision are alerted to emergencies**



Source: [National Center for Accessible Media](#)

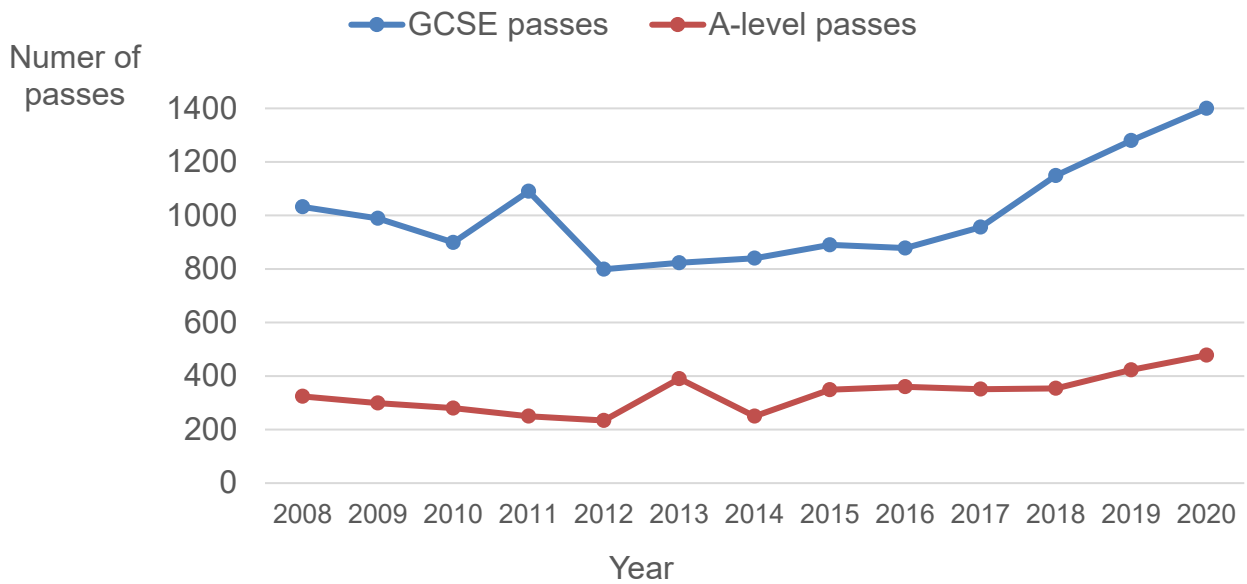
This information would be more accessible as a table. If a table is provided, then any graph can be marked as 'decorative' and alt text is not required.

## Line graphs

For line graphs, give an appropriate amount of detail for the message you want your graph to convey. If you only want your graph to show the general trends and give some key values, that is all you should include in your alt text. For example, if a school's GCSE and A-level results were described by a graph like the one shown in figure 40, the alt text might be 'The line graph shows the number of passes at both GCSE and A-level declined slowly from 1,032 and 324 respectively in 2008 to a low of 799 and 234 in 2012, except

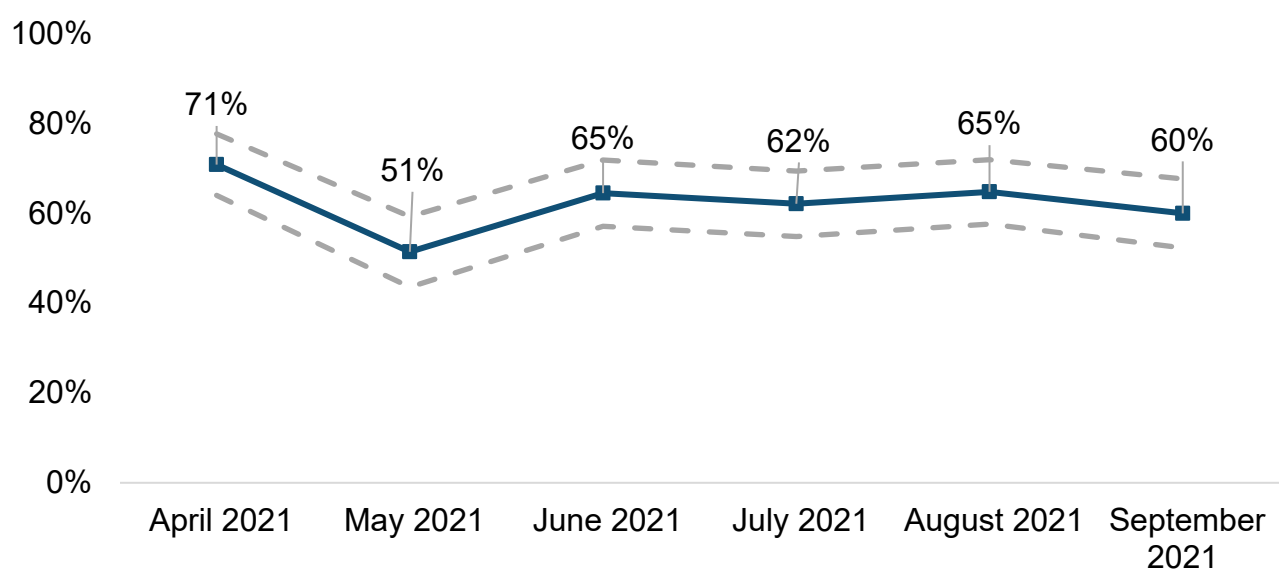
for in 2011, when there was a sudden increase to 1,090 GCSE passes. The number of passes in both qualifications has risen since 2012 to reach 1,400 and 478 in 2020.'

**Figure 40: Percentage of children and young people aged 16 to 24 who reported visiting a green and natural space in the last 14 days**



The alt text for figure 41 might be 'A time series from April 2021 to September 2021 at monthly intervals showing the per cent of children who have visited a green space in the last two weeks. Visitation is highest in April (71%), declining to a trough in May (51%), after which visitation stabilises around the mid-60s with a small decline into September (60%).'

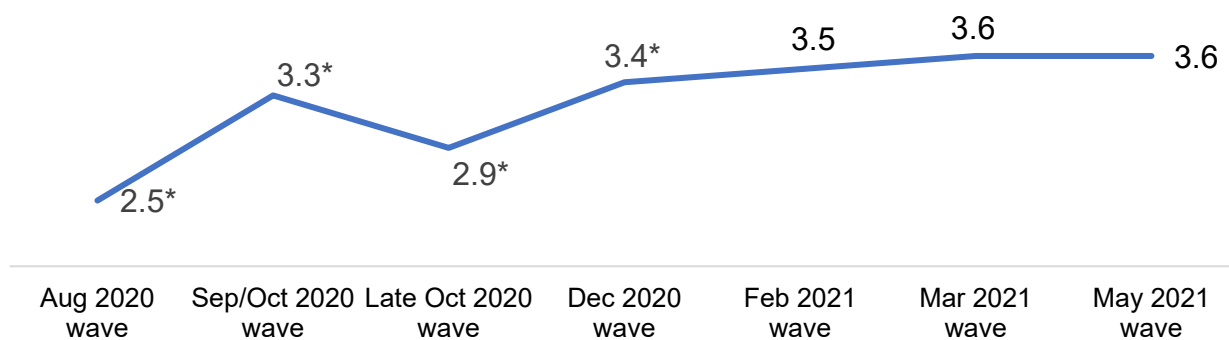
**Figure 41: Percentage of children and young people aged 16 to 24 who reported visiting a green and natural space in the last 14 days**



Coverage: England. Note: Highest n = June 2021; 232, Lowest n = September 2021; 197, dashed lines indicate 95% confidence intervals.

Source: Natural England

**Figure 42: Example of alt text for a simple line graph showing how anxious pupils were feeling between August 2020 and May 2021**



‘Overall, how anxious did you feel yesterday, where 0 is “not at all anxious” and 10 is “completely”?’  
Secondary pupils (n=5,327 / n=1,780 / n=1,661 / n=1,555 / n=1,537 / n =1,531 / n=1,537). \*Indicates a significant difference between highlighted wave and May 2021

Source: [Parent and pupil panel: omnibus surveys](#): COVID-19 Parent and Pupil Panel, March 2021 findings (page 60)

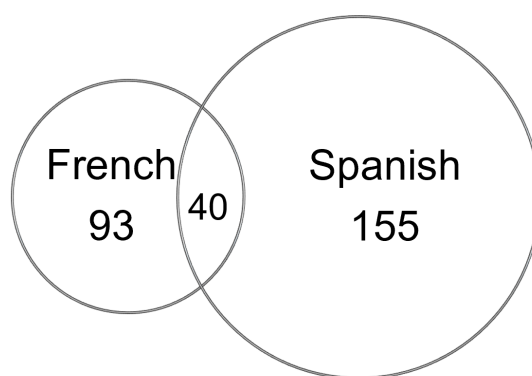
Alt text for the graph in figure 42 might be ‘During the 2020 to 2021 academic year, pupils were least anxious in August 2020. Anxiousness then rose in late September and early October 2020, before falling in late October 2020. Anxiousness ratings then rose steadily throughout the rest of the academic year, reaching a high in March and May 2021.’

The website of the [National Center for Accessible Media](#) has guidance on and examples of alt text.

## Venn diagrams

Avoid using Venn diagrams. They often require text boxes or extra floating objects, which makes them inaccessible. If you do use a Venn diagram, it is usually best to save it as an image in SVG format and provide alt text.

**Figure 43: Example of alt text for a Venn diagram**



The alt text for figure 43 might be ‘A Venn diagram of GCSE language entries in one school, with 2 intersecting circles: one labelled “French – 93” and the other labelled “Spanish – 155”. The area of intersection is labelled “40”, indicating the pupils who sat both French and Spanish GCSEs.’

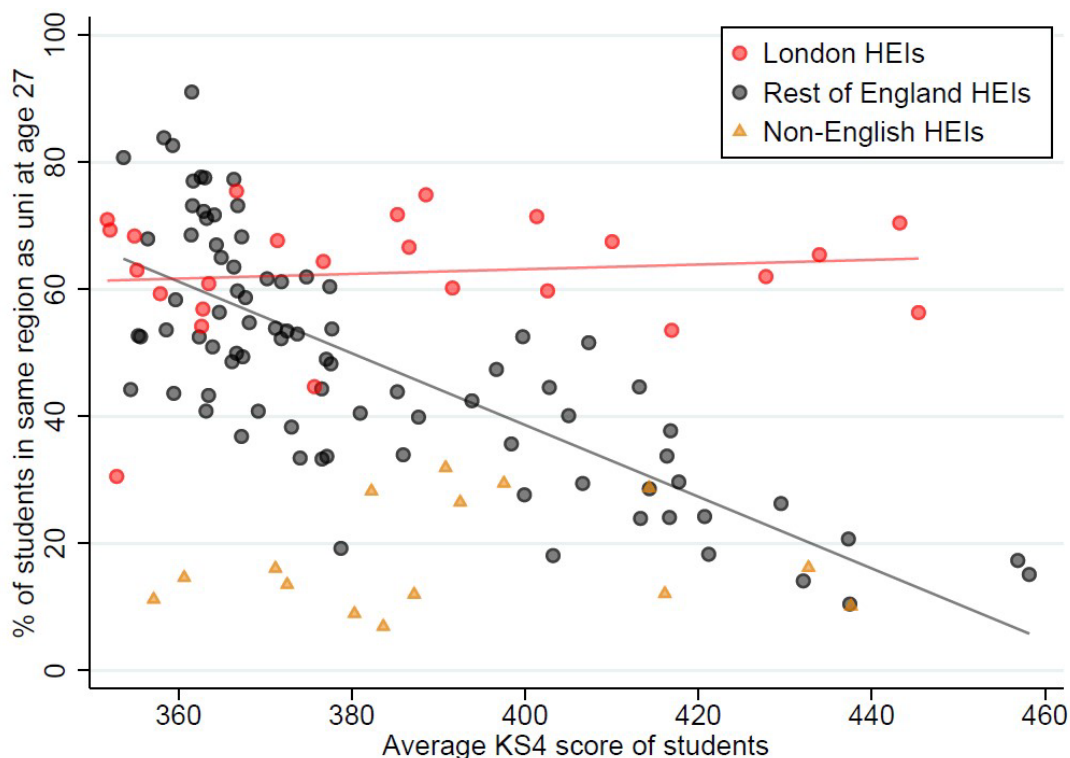
This information could easily be described adequately in the text and the diagram deleted or marked as ‘decorative’, so avoid using Venn diagrams.

## Scatter plots

When writing alt text for scatter plots, describe the general pattern, where the majority of points are found, what the trends are, and any interesting or important outliers.

For example, for figure 44, the alt text might be ‘The graph has 3 sets of points for London higher education institutions (HEIs), rest of England HEIs and non-English HEIs. For London HEIs, there are 24 points scattered along a line around the 60% mark, suggesting that there is little relationship between scores at key stage 4 (KS4) and a London student’s likelihood of living in London at age 27, although there is a slight increase with KS4 score. There are 15 non-English HEI data points scattered between approximately 8% to 32%, showing a student’s likelihood of being in the same region as their university at age 27, and there appears to be no correlation with KS4 score. For the rest of England HEIs, there are approximately 83 points scattered in a pattern, with the largest number of points being in the 40 to 80% range around lower KS4 scores and the 10 to 25% region for higher KS4 scores, suggesting that lower scores at KS4 are associated with staying closer to university after graduation.’

**Figure 44: Example of alt text for a scatter plot showing the percentage of students in the same region as their university at age 27 compared with their average score at key stage 4**



Source: [The impact of living costs on the return to higher education, September 2021](#) (page 91)

## Pie charts

The alt text for pie charts should include the reason why you're including the graphic. For example, for figure 45, it might be '44% of students are in full-time employment within a year of graduation' if that is the message. Or you might want to give all the values, in which case the alt text would be as follows:

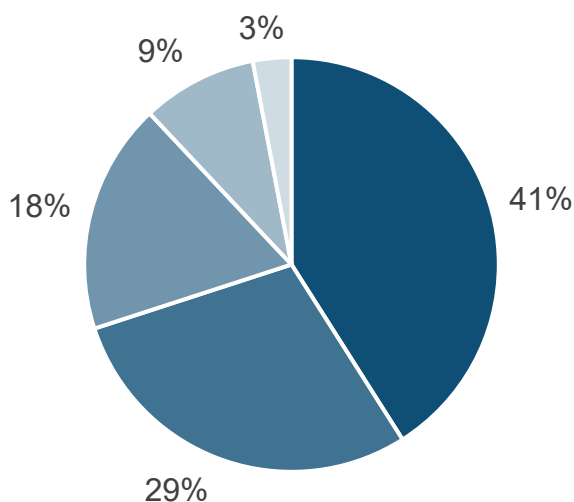
Pie chart showing the percentage of the cohort who are:

- Full-time employed                      41%
- Part-time employed                      29%
- Studying                                      18%
- Unemployed                                 9%
- Other                                         3%

If you are listing every point, consider using a table instead, which will make the information more accessible.

**Figure 45: Example of alt text for a pie chart showing the employment status of a cohort of students**

■ Full-time employed ■ Part-time employed ■ Studying ■ Unemployed ■ Other



## Flow charts and diagrams

Always consider how you could communicate the information in text first. Use text on the page instead of a flow chart unless the content can only be shared or understood using a visual.

If flow charts are included, they should act as a supporting visual for a detailed, step-by-step narrative, rather than being the primary means by which any information is conveyed.

Before creating an accompanying flow chart, write the step-by-step. This could be in the form of a hierarchical list with headings and subheadings, a numbered list or bullet points with branching decision points set out in the form of 'if X, do Y'.

Consider how to describe:

- the overall structure
- the detail in each step
- how the steps are connected
- the text within each step
- the relationship between steps



## **Example of a step-by-step for a simple flow chart showing the organisation of an academy trust**

The academy trust is governed by the board of trustees, whose members are:

- [insert name of trustee]
- [insert name of trustee]

The board of directors reports to the board of trustees, and its members are:

- [insert name of director]
- [insert name of director]

The board of directors manages the governing body and the parent and staff advisory groups, and those bodies and groups are:

- [insert names of governing bodies and their groups]
- [insert names of governing bodies and their groups]

### **Designing your flow chart**

Before creating a flow chart in either Word or PowerPoint consider:

- how many layers it needs
- the level of detail required
- the minimum amount of text you can use without losing clarity

If you find you have a complex structure, consider whether two or more simpler charts might work better than one.

Keep your chart as simple as possible and:

- make it clear where the starting point is
- follow the normal reading direction, from top to bottom and left to right
- choose simple shapes, and as few different types and sizes as possible
- use black for box borders and text, and white for the background
- ensure text is Arial 12pt, where possible, and no less than 10pt
- avoid overlapping connector arrows
- be careful not to paste in any box, text or connector arrow twice – hidden elements will make it inaccessible
- mark it as 'decorative', because it is described in the step-by-step

## Creating your flow chart

Create your flowchart in Word or PowerPoint using Microsoft drawing tools and save it as an SVG. This allows users of accessible technology to zoom into it without it pixelating.

Alternatively, if your flow chart is very simple in structure, create it using the Microsoft SmartArt tool. This allows it to be saved as a live-linked chart, which lets a screen-reader user to interrogate each element. Do not use this method if the chart is complex, as it can be unreliable, making the reading order difficult to follow.

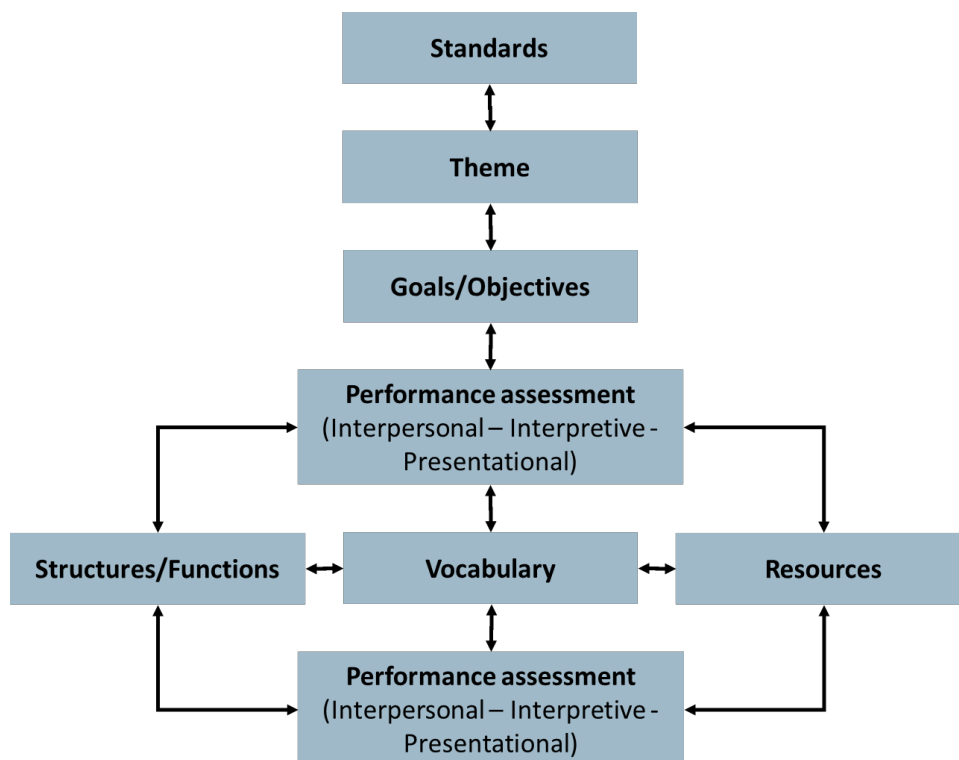
If you are using one of the chart creation tools within Microsoft, it is important to make sure you do not add empty boxes that might be hidden under other boxes (by pasting an object in twice, for example) or add extra unnecessary connecting lines that complicate the image. The step-by-step text for the process flow chart in figure 46 might be as follows:

'Multi-directional flow chart with 8 steps described here as lists in which the possible next steps are listed as lettered options after each numbered step.

1. Standards
  - a. forward to Theme
2. Theme
  - a. back to Standards
  - b. forward to Goals/Objectives
3. Goals/Objectives
  - a. back to Theme
  - b. forward to Performance Assessment
4. Performance Assessment (Interpersonal – Interpretive – Presentational)
  - a. back to Goals/Objectives
  - b. forward to Structures/Functions
  - c. forward to Vocabulary
  - d. forward to Resources
5. Structures/Functions
  - a. back to Performance Assessment
  - b. lateral to Vocabulary
  - c. forward to Instructional Strategies
6. Vocabulary
  - a. back to Performance Assessment
  - b. lateral to Structures/Functions
  - c. lateral to Resources
  - d. forward to Instructional Strategies

7. Resources
  - a. back to Performance Assessment
  - b. lateral to Vocabulary
  - c. forward to Instructional Strategies
8. Instructional Strategies
  - a. back to Structures/Functions
  - b. back to Vocabulary
  - c. back to Resources'

**Figure 46: Example of a step-by-step for a process flow chart**



## Best practice

Best practice techniques are constantly evolving, and software is continually changing, so it is a good idea to check the latest [advice on accessibility from W3C](#) or a similar authority. Aim to find the best, most accessible solution for your particular graphic.

## Summary of writing alt text

Refer to the [alt text for graphics checklist](#) for a summary of advice.

## Theory of change models

As part of your research, you may need to publish a theory of change model.

You may want to create your theory of change in a PowerPoint template or other format for internal use.

However, please use the Word template provided if you are publishing a theory of change model on GOV.UK as part of your evaluation.

This should be:

- created using the [approved DfE theory of change model template](#)
- given a descriptive title using the 'Heading 1' style
- imported into your report as a landscape page in an appendix

# Formatting your report for accessibility

## Defining accessibility

Accessibility means designing information, websites, products, devices, services and environments to be as usable as possible by as many people as possible, including those with disabilities.

We should help people find and understand the information they need quickly and simply, making the journey to knowledge or task completion as simple as possible. We do more work, so they can do less.

Accessibility is not just about sight issues and screen readers – it is about making content easy to access and understand. Accessible content uses clear design and simple language so the maximum number of people can understand the content without having to work too hard to interpret the message.

Accessible content means users can:

- access the content using any browser or device
- find what they're seeking quickly and easily
- navigate the content using a screen reader, magnifier, high contrast, voice activation software, etc
- understand the content because it is written clearly in plain English

Accessibility is important because:

- 1 in 5 people in the UK have a long-term illness, impairment or disability
- many more may have temporary disabilities, such as a broken hand
- it is a legal requirement to make online content accessible
- all content published after 23 September 2018, or part of a process or form must be accessible
- as of 23 September 2020, it is a legal requirement for all organisations to be fully compliant with meeting the [WCAG 2.1 AA](#) standard as a minimum

Accessibility guidelines are continually being updated. The latest version is [WGAC 2.2](#).

The websites of the [University of Washington](#) and [Penn State](#) provide useful accessibility information and training resources.

## Accessibility legislation and standards

[The Equality Act 2010](#) sets a legal minimum accessibility standard for the information we publish online to make sure our content is accessible to as many people as possible.

The law states that we must:

- meet accessibility standards for disabled people using assistive technologies and screen readers
- publish an accompanying accessibility statement if any parts of our content are not accessible, explaining why and giving a date by which it will be made accessible
- provide a way for users to tell DfE if they encounter DfE content that is not accessible
- provide details of the official enforcement procedure that users can follow if they have a complaint

This standard applies to:

- the DfE intranet, apps and services
- all GOV.UK webpages
- all content types published online, including PDFs and spreadsheets

The [Government Digital Service \(GDS\)](#) monitors our content and any breaches risk being investigated. There are legal implications if DfE is found to be breaking the law.

## Helping users of assistive technologies

Assistive technologies are used by people with sight or mobility issues. Ensuring your document can be navigated by users of assistive technologies not only makes it accessible for them, but also makes your content clearer for everyone.

Different assistive technologies and software programs work in different ways, but common adaptations and assistive functionality can include:

- screen readers – users can personalise their settings and jump through content from heading to heading, but only if the heading hierarchy is correct
- screen magnifiers – users can change the styling of headings, tables and fonts, and zoom in and scroll around, as long as the elements have been styled correctly and do not pixelate
- mouse and keyboard adaptations – users can tab through tables and forms, if the elements tab through in the right order
- speech recognition and voice activation – users can access documents by voice alone, but can find dropdown menus do not respond and forms that are difficult to navigate

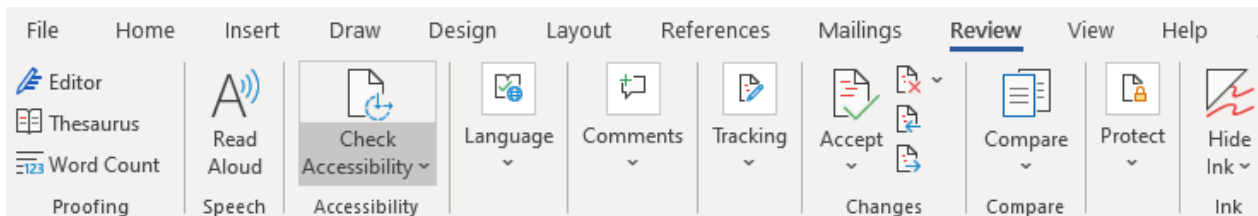
Help users of assistive technologies by:

- structuring content logically into sections on similar topics
- writing headings that are descriptive of content
- avoiding content that pixelates when magnified, images that are low resolution or images that contain text
- avoiding text that is too small, including in tables or when labelling diagrams
- placing labels and headings close to content to avoid a user having to scroll between a heading and its content
- making sure users can tab through tables and forms logically
- writing table summaries and form field instructions, if helpful
- providing alternative (alt) text for images
- not relying on colour or font styling to communicate meaning
- making sure forms can be completed without a mouse
- avoiding using dropdown menus

## Checking accessibility issues

Use the tool in Microsoft:

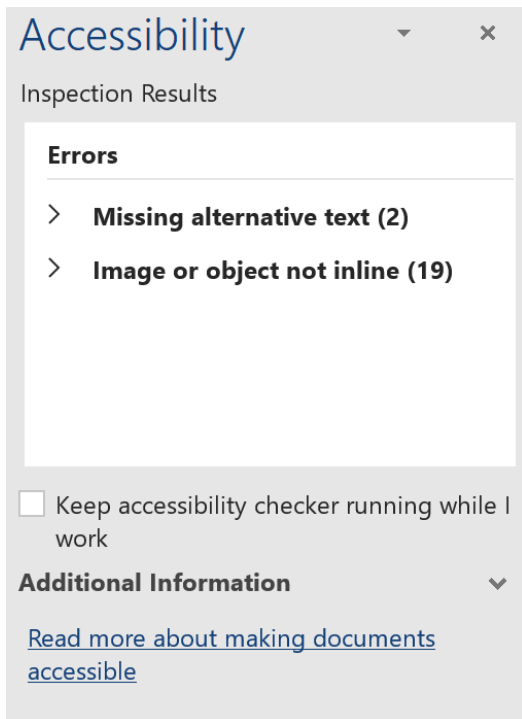
1. Select the Review tab in the top tab menu bar.
2. Click on Check Accessibility.
3. Select Check Accessibility from the menu.



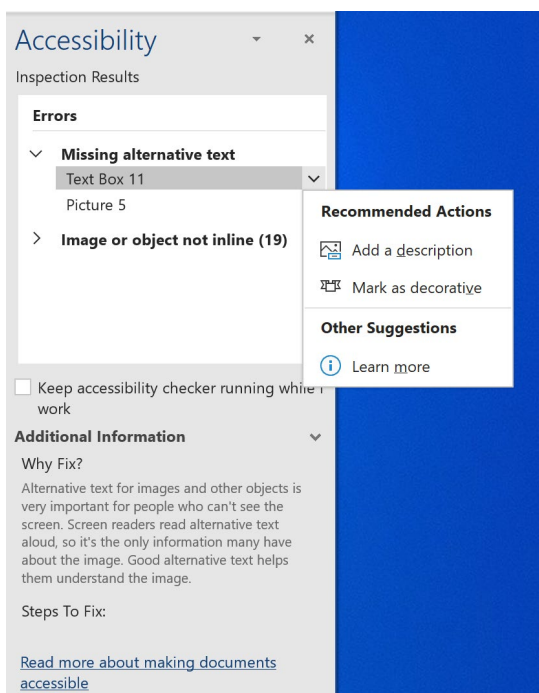
## Fixing accessibility issues

In the Accessibility pane on the right-hand side:

1. Click on the arrow next to the error type.



2. Click on a specific error from the opened list to take you to the error in the document.



3. Perform the recommended action to fix the error.



If your document contains tables, you will always get a warning to check the reading order of tables, as this must be done manually. Check that the cursor tabs through each table from left to right, top to bottom.

You may also have to check the colour contrast manually if you have used colours in such a way as to trigger this warning.

Refer to the [accessibility checklist](#) for a summary of advice.

## Editing document properties

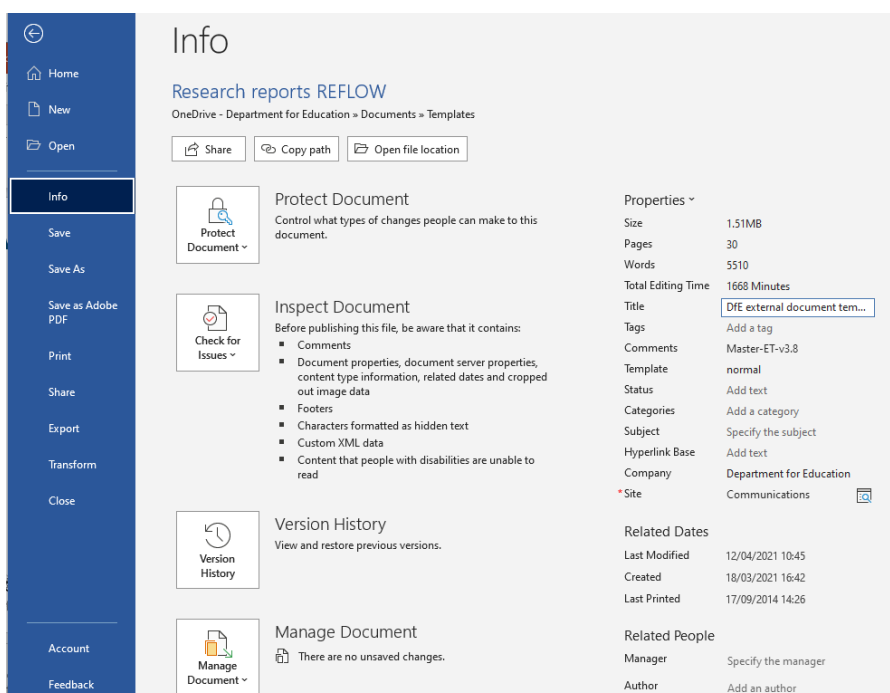
It is important that you edit and correctly set the document properties of your report, otherwise it will appear online as 'DfE external document template'.

### Editing the title

The template title is set to 'DfE external document template'.

To change this:

1. Click on File in the top tab menu bar.
2. Click on Info in the left-hand navigation.
3. Click in the Title field.
4. Update the Title field with the document's title.



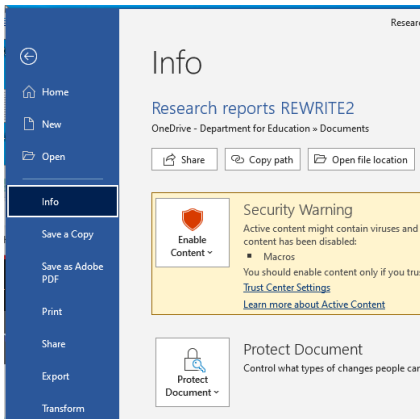
The screenshot shows the 'Info' pane in Microsoft Word. The left-hand navigation bar is visible with 'Info' selected. The main area displays document information for 'Research reports REFLOW'. The 'Title' field in the 'Properties' section is highlighted with a blue selection box and contains the text 'DfE external document tem...'. Other visible fields include Size (1.51MB), Pages (30), Words (5510), Total Editing Time (1668 Minutes), and Related Dates (Last Modified: 12/04/2021 10:45, Created: 18/03/2021 16:42, Last Printed: 17/09/2014 14:26).

## Editing the author

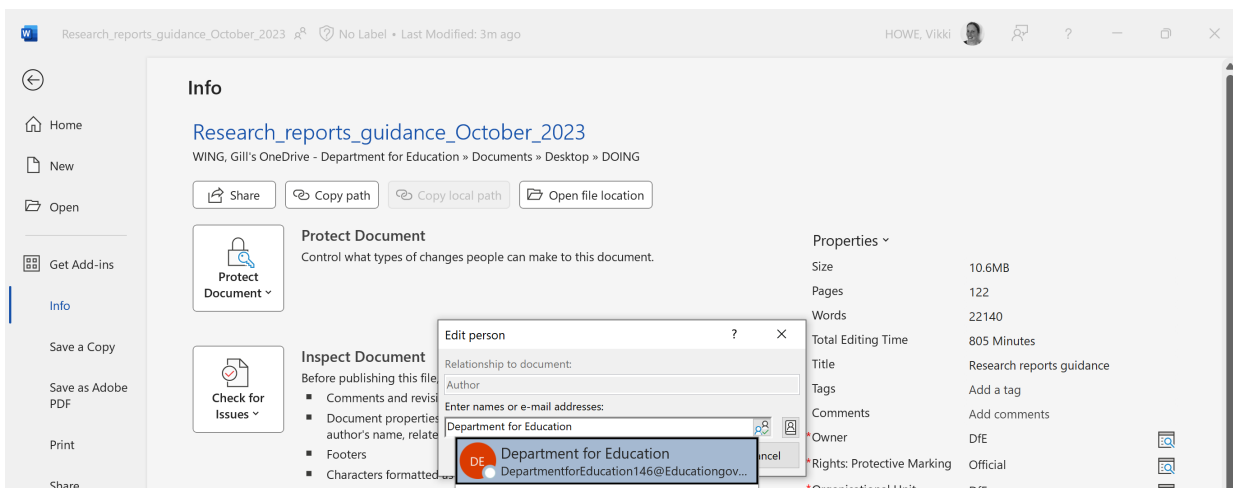
The template author is set to 'DfE Publishing Team'.

To change this:

1. Click on File in the top tab menu bar.
2. Click on Info in the left-hand navigation.



3. Right-click on the existing author.
4. Select Edit Property.



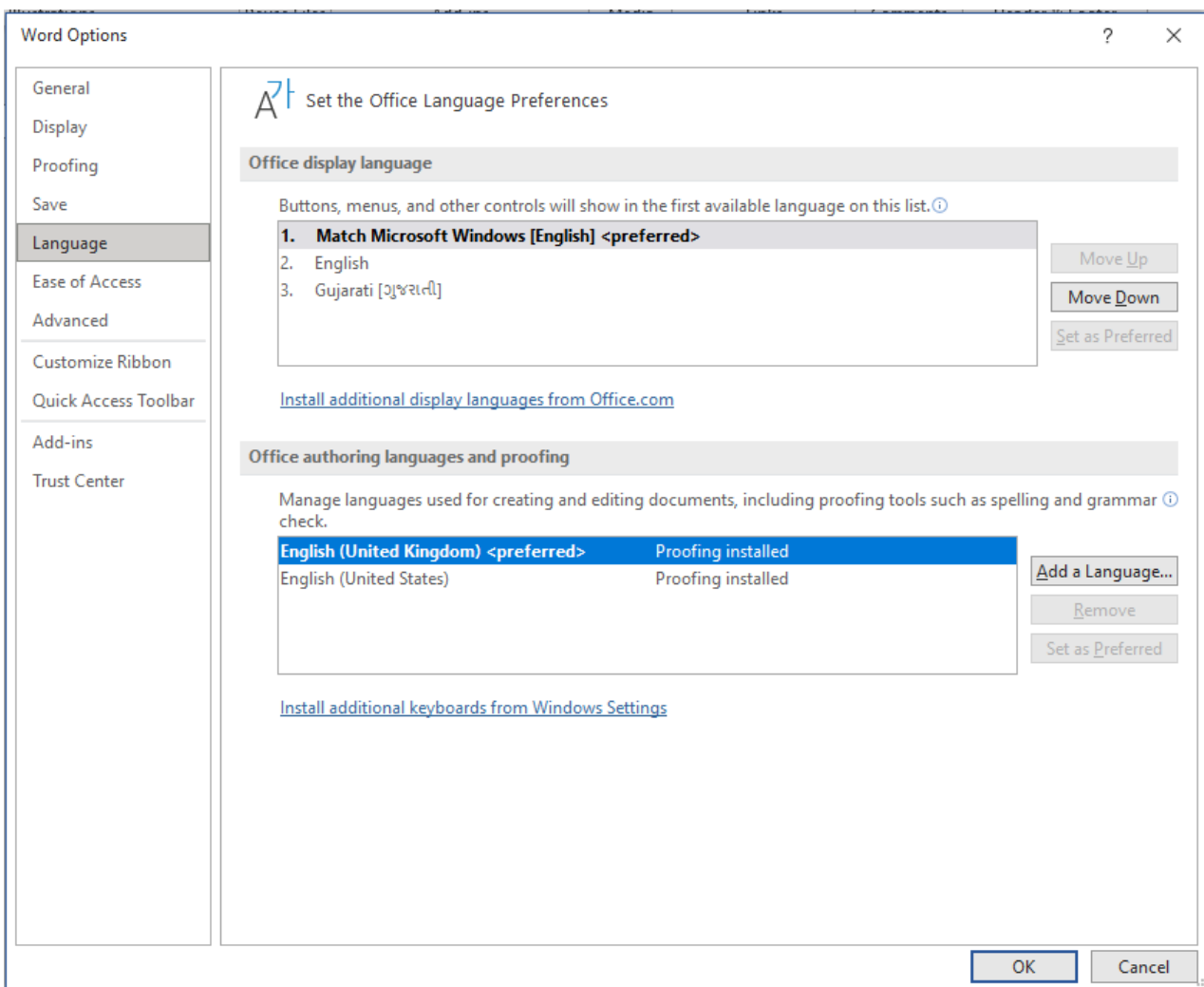
5. Enter 'Department for Education'. If an email address appears in the dropdown menu, do not select it. Instead, click above it, within the pop-up box, then click OK. This saves the name rather than the email address and retains it when the document is converted to PDF.

# Checking language, spelling and grammar

The language of the document should be set to UK English unless it is being provided in an alternative language. If you have used the template, UK English should already be set as the default.

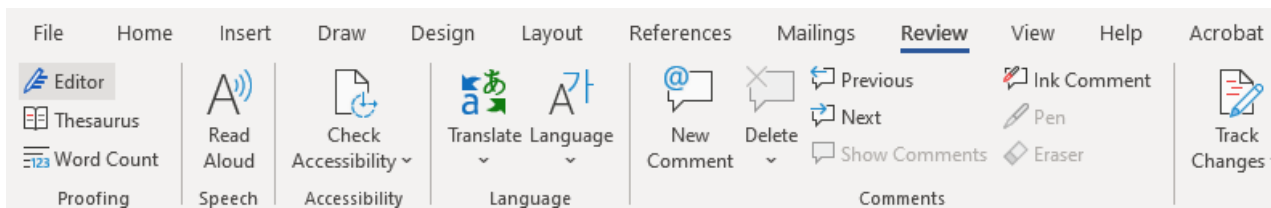
## To check and change the document language:

1. Select File in the top tab menu bar.
2. Select Options at the bottom left of the blue ribbon.
3. Select Language from the left-hand menu.
4. If you need to change to another language, follow Microsoft's instructions to [install additional display languages](#).

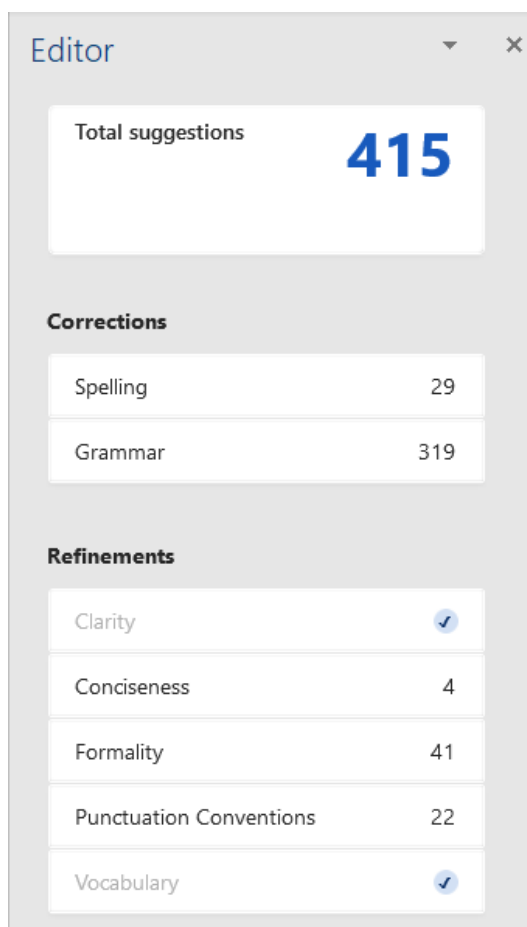


## To check spelling and grammar

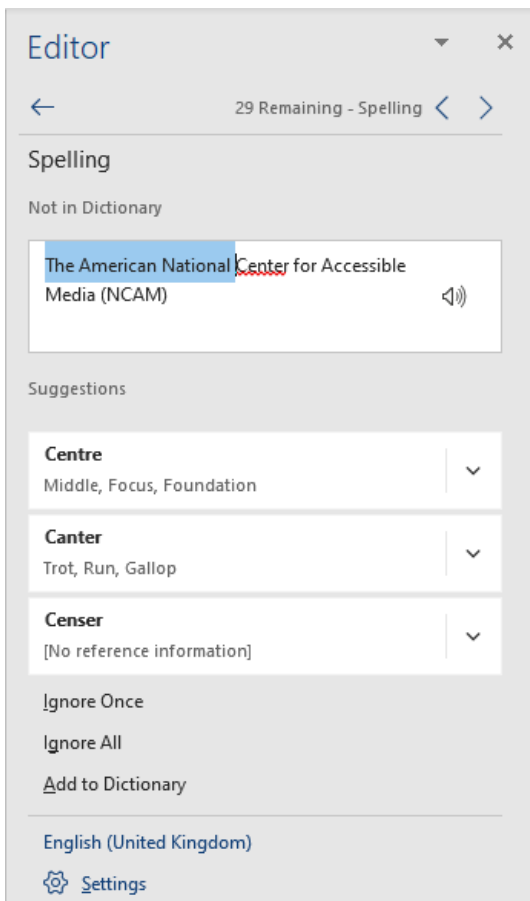
1. Click on the Review tab in the top tab menu bar.



2. Click Editor.
3. A panel will appear on the right-hand side showing you the suggested corrections to review.

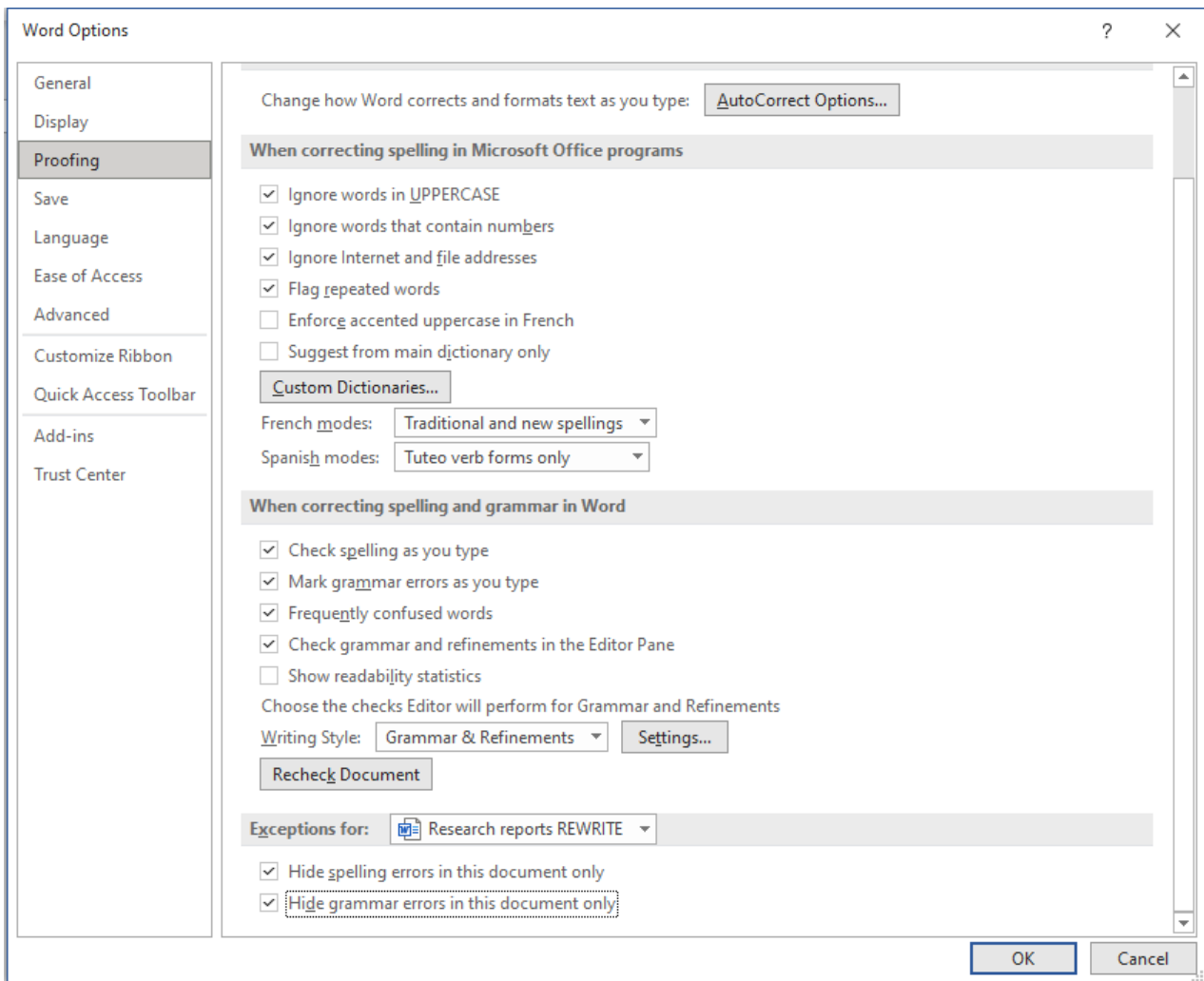


4. Review each error in turn and accept, correct or ignore the suggested change.



### To turn off spelling and grammar checking:

1. You may want to turn off spelling and grammar checking to avoid specialist words being highlighted by the automatic checker. Select File in the top tab menu bar.
2. Select Options at the bottom left of the blue ribbon.
3. Select Proofing from the left-hand menu.
4. Select Hide spelling errors in this document only and Hide grammar errors in this document only.
5. Click OK.



# Appendix of checklists

## Accessibility checklist

### Do:

- ✓ download a [fresh template](#) for each new document
- ✓ refer to the [latest guidance](#)
- ✓ consider the most accessible format for each element of your content
- ✓ use only the [pre-set font styling options](#) from the styles menu
- ✓ use a hierarchical heading structure with [heading styles](#) in order from Heading 1 to 2 to 3 and then 4 without skipping a level
- ✓ give headings helpful, descriptive names
- ✓ use the 'insert page break' option, when required
- ✓ [add hyperlinks using Microsoft's functionality](#) and check all hyperlinks work
- ✓ embed the hyperlinks in link text that is meaningful, descriptive of the content found through the link and consistent for all the occasions it is used
- ✓ [add footnotes using Microsoft's functionality](#)
- ✓ [insert equations using Microsoft's functionality](#), where possible
- ✓ keep all graphics, flow charts and graphs as simple as possible
- ✓ create graphics in Word, insert them as an SVG or import them into Word from Excel as a live-linked chart
- ✓ provide a brief description of the information the graphic communicates in either the body text or the alt text, unless it has been created in Word and pasted in as a live-linked chart or is entirely decorative
- ✓ use a [colour contract checker](#) to check there is a contrast ratio of at least 4.5:1 between the text and the background
- ✓ check all text and images can be zoomed into without pixelating
- ✓ create a bibliography, citations and references in Harvard style using [Microsoft's bibliography functionality](#)
- ✓ provide a table of contents and a list of figures and tables
- ✓ [update the table of contents and the list of figures and tables](#) before publishing
- ✓ check the document is accessible using [Microsoft's accessibility checker](#)

**Do not:**

- × update an old document
- × paste in content from other sources with different styles
- × use your own font styles
- × reduce the font size to squeeze content onto a page
- × use bold, italics or underlining for emphasis
- × jump heading levels
- × use the return key or space bar to space content
- × use unhelpful, one-word headings
- × use one-word link text for hyperlinks
- × include unnecessary images or graphics
- × leave images or graphics without alt text unless they are decorative, and you have marked them as such, or the graphs are live-linked to their source
- × paste in equations, tables, diagrams, graphs or text as an image
- × insert floating objects – set images so they are inline
- × leave tables or graphics unlabelled
- × leave repeated blank rows or cells in a table
- × use your own or the default Microsoft colours
- × use colour to convey meaning – for example, do not colour-code cells or content unless you provide a text or code alternative



## Colour checklist

### Do:

- ✓ use colours sparingly and only for graphics
- ✓ use the DfE colour palette, converting all graphics in one go to save time
- ✓ select the most accessible colours, especially shades of DfE blue
- ✓ use colours and shades consistently
- ✓ keep colour contrast high between text and its background
- ✓ include a label and a key, if using colour-coding

### Do not:

- ✗ use colour unnecessarily
- ✗ use Microsoft's default colours instead of DfE colours
- ✗ use colours and shades inconsistently
- ✗ have insufficient colour contrast between text and background
- ✗ use white font on a dark background
- ✗ rely on colour to communicate information

## Table checklist

### Do:

- ✓ use the DfE table style embedded in the template
- ✓ keep tables simple, aiming to present only one idea or data pattern per table
- ✓ display important information first
- ✓ ensure tabbing goes from left to right, top to bottom
- ✓ repeat the header row at the top of each page
- ✓ label every column and row
- ✓ expand column widths and row heights as needed, instead of merging cells
- ✓ include only one data point per cell
- ✓ make sure data has units
- ✓ use consistent rounding
- ✓ explain abbreviations
- ✓ provide a table summary of key points and trends if it will help users
- ✓ format and label tables in a consistent style throughout the report
- ✓ consider providing the data in an appendix, instead of squeezing it onto a page

### Do not:

- ✗ use a table to layout, format or structure text
- ✗ allow rows to split across pages
- ✗ insert tables as images
- ✗ insert images into tables
- ✗ insert symbols or drawings into tables
- ✗ paste a table within another table
- ✗ merge or split cells
- ✗ merge cells to create a heading that runs across the top or bottom of a table
- ✗ leave columns or rows blank, or leave lots of blank cells
- ✗ colour-code cells without providing an alternative key
- ✗ format text so as to denote meaning

## Graph checklist

### Do:

- ✓ create graphs in Excel and paste into Word as live-linked charts, where possible, and do not add alt text
- ✓ start axes at zero, unless this makes information unclear
- ✓ label axes horizontally
- ✓ remove all distractions: boxes round labels, unnecessary gridlines and labels, etc.
- ✓ choose a regularity of tick marks that is legible and helpful
- ✓ always label the first and last tick marks
- ✓ centrally align labels over tick marks
- ✓ check the font and size of axes' labels and legends – the font should be Arial, with 10pt as a minimum size
- ✓ resize labels appropriately so all aspects are legible
- ✓ check the colour contrast between data sets
- ✓ check the colour contrast of any text over a coloured background
- ✓ give the graph a descriptive, meaningful title and use the caption styling embedded in the template: 12pt bold centre-aligned Arial font
- ✓ give the base information underneath, if relevant, using the base styling: 10pt italic left-aligned Arial font
- ✓ give the source underneath, if relevant, using the source styling: 10pt regular right-aligned Arial font
- ✓ use the DfE colour palette
- ✓ annotate only if necessary and mark any overlaid text boxes and floating shapes as 'decorative, as long as their meaning is communicated elsewhere
- ✓ if the graphic requires overlaid elements or cannot be pasted into Word as a live chart, save it as an SVG and provide alt text if it is not described in the body text

### Do not:

- ✗ add unnecessary graphs
- ✗ label vertically or diagonally
- ✗ use unnecessary colours
- ✗ use Microsoft colours
- ✗ add unnecessary alt text
- ✗ add unnecessary annotations or floating objects, text boxes or arrows on top of graphics

## Alt text for graphics checklist

### Do:

- ✓ be as succinct as possible
- ✓ write in the same style as and to fit the flow of the body text
- ✓ include a reference to the type of chart – for example, stacked bar chart, pie chart, line graph, etc
- ✓ explain what the graphic shows within the context of the surrounding content and subject matter
- ✓ give key trends, points and turning points
- ✓ mark as 'decorative' if these are summarised in the body text

### Do not:

- × provide alt text if the graphic is live-linked to its source
- × provide alt text if the graphic is fully described in the body text or the data is provided in a table in the report
- × repeat content already on the page
- × repeat the title
- × say 'a description is provided in the text'
- × say 'image of', etc
- × give a literal description of the image, mentioning colours, etc

## Flow chart checklist

### Do:

- ✓ avoid inserting a flow chart unless there is no other way of conveying the information
- ✓ write a detailed step-by-step explanation in the body text in the same style as the main content
- ✓ create in portrait mode
- ✓ keep the structure simple and the wording succinct
- ✓ avoid introducing lots of branches with overlapping connector arrows
- ✓ make it clear where the starting point is
- ✓ follow the normal reading direction, top to bottom and left to right
- ✓ use simple box shapes and as few different types, sizes and colours as possible
- ✓ use black for box borders and text, and white for the background
- ✓ use Arial 12pt font, where possible, and no less than 10pt
- ✓ mark the chart as 'decorative'

### Do not:

- ✗ create a complex chart that confuses rather than clarifies
- ✗ use lots of different colours and box shapes unless doing so aids understanding
- ✗ allow connector arrows to cross one another
- ✗ paste in extra text boxes, or add or move connector arrows, after the chart has been imported into the document
- ✗ provide alt text if it was created in Word or PowerPoint and you have added no additional elements
- ✗ provide alt text if it has been fully described in the body text

## Document checklist

- ✓ **Title:** check it matches that of the document
- ✓ **Author:** check it reads 'Department for Education' or gives the name of the relevant body unless it was created by an individual who wants to be named
- ✓ **Graphics:** create these in Word or live-link to the data in Excel
- ✓ **Diagrams:** create these in Word and do not add to them once imported
- ✓ **Tables:** use only for data and not text, have clearly labelled headings and no unnecessary merged or split cells, and provide a table summary of key points and trends, if it will help users
- ✓ **Images:** place in line with text and not floating
- ✓ **Numbered points and bulleted lists:** create using DfE number or list style
- ✓ **Footnotes:** add using [Microsoft's footnote functionality](#)
- ✓ **Equations:** create using [Microsoft's equation editor](#), where possible
- ✓ **Colour-coding:** check colour is not relied on for meaning
- ✓ **Colour contrast:** check colours in Microsoft or use a [contrast checker](#)
- ✓ **Colour-blindness:** check colour distinction using a [colour-blindness simulator](#)
- ✓ **Table of contents, and list of tables and figures:** update to the latest pagination once you have completed final checks
- ✓ **Format:** save as a PDF or Microsoft Word if your content is a form

## Spreadsheet checklist

- ✓ **Title:** check it matches that of the document
- ✓ **Author:** check it reads 'Department for Education' or gives the name of the relevant body
- ✓ **Structured info:** use one worksheet per data set, graph or idea
- ✓ **Blank cells:** eliminate as many empty rows and columns as possible
- ✓ **Merged cells:** eliminate as many merged cells as possible
- ✓ **Alt text:** check graphs are live-linked to the data or have alt text if not
- ✓ **Hidden information:** unhide all tabs, columns and rows, delete any personal or sensitive information and comments, and check there is no white text on a white background
- ✓ **Colour-coding:** check colour has not been relied on for meaning
- ✓ **Sheet names:** check worksheets have descriptive names
- ✓ **Comments:** use comments to help screen readers navigate a protected form
- ✓ **Saving:** ensure the cursor is in cell A1 (or at the start of the content) in each sheet and that the workbook is saved on the first worksheet, as that is how it will open.
- ✓ **Overview:** explain the format, layout and purpose of the workbook on the first worksheet
- ✓ **Format:** save the spreadsheet as an CSV file, where possible

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email [psi@nationalarchives.gsi.gov.uk](mailto:psi@nationalarchives.gsi.gov.uk)

write to Information Policy Team, The National Archives, Kew, London, TW9 4DU

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