



Document Accessibility Guide

Microsoft Excel

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The Weiss Center works closely with states to help them make Individuals with Disabilities Education Act (IDEA) data accessible. IDEA data may be produced in various formats, including Microsoft Excel. While Microsoft Excel is the most widely used spreadsheet and data analysis program, the strategies and concepts in this guide can also be applied to other programs, such as Google Sheets.

Documents that are formatted to be accessible will work well with assistive technology. Many people with disabilities use assistive technology, including screen readers, screen magnification, and text-to-speech to access content. Accessible documents are necessary for people with disabilities and improve the user experience for all users. This guide contains an overview with a list of key strategies, followed by more detailed descriptions with examples from both Part B and Part C Child Count Excel Spreadsheets. This document guide has been formatted for improved accessibility and contains helpful bookmarks for easy navigation. These bookmarks can be accessed via the Bookmark pane in your PDF viewer.

Key Topics Overview

Screen readers allow people who are blind to access information by reading text and providing audio or braille output. You can consult the following topics to create accessible Excel spreadsheets that are more usable for everyone, including people using screen readers. Additional details and examples for using each key topic are provided in the section following this list.

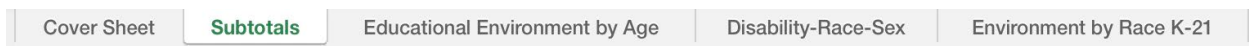
- [Descriptive Labels and Titles](#)
 - [Logical Reading Order](#) from left to right
 - No blank cells
 - No merged or split cells
 - [Formatted Data Tables](#)
 - [Column Headers](#)
 - [Table Names](#)
 - Adequate [Color Contrast](#)
-

- Color combinations that are mindful of color blindness
- [Easy to Read Fonts](#) for easy-to-read fonts
 - No all-caps text
 - Symbols that screen readers will recognize

Descriptive Labels and Titles

Labels help to clearly identify information. In Excel tables and worksheets, labels include worksheet names, as well as column and row headers. Other labels include titles of data sets and table names. To help users navigate worksheets in a spreadsheet, add unique descriptive names to each worksheet tab, rather than using the default label Sheet 1, Sheet 2, etc. It should be noted that there is a limit of 31 characters for worksheet names. The screenshot example below includes **descriptive worksheet names**.

Labeled Sheet Name example:



See an example of data set title shown in Examples 1 and 2 below: “Children with Disabilities by Educational Environment (School-Age)”

Column and row headers, as well as table names, will be addressed after the section on Formatted Data Tables.

Logical Reading Order

Spreadsheets with a logical and predictable reading order that are read from left to right, and top to bottom, are easier for everyone to navigate, including people using screen readers. Logical and predictable reading order includes entering data in consecutive cells in a grid without leaving blank cells or splitting or merging cells.

1. Make sure you include information in cell A1. (Do not leave cell A1 blank). Screen readers will begin reading the worksheet at cell A1. Including a title or description of the data in cell A1 is helpful for everyone. The example below includes a title in cell A1.

| | |
|---|-------------------------------------------------------------------------------------------|
| | A |
| 1 | CUMULATIVE NUMBER OF INFANTS AND TODDLERS WHO RECEIVED EARLY INTERVENTION SERVICES |

2. Enter data in consecutive cells in a grid. Consecutive cells should have a logical reading order which can be accessed from left to right, then top to bottom. For examples, see Formatted Data Tables below.
3. Avoid blank cells which can give the impression that data is missing.
4. Do not merge or split cells. This can present incorrect reading order, or the appearance that data is missing. Example shown in Table examples below.

Formatted Data Tables

A range of data entered into cells is not accessible until table formatting is added including formatted column headers. See the examples below to compare an unformatted range of data and a formatted Excel table.

Example 1 shows data inserted into a spreadsheet before formatting the data as a table. Descriptive header labels are included but will not be recognized by screen readers as headers until formatted as table headers.

Example 1 – Range of data not formatted as an Excel table.

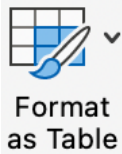
| | A | B | C |
|----|---------------------------------------------------------------------------|----------------------|-------------------|
| 1 | Children with Disabilities by Educational Environment (School-Age) | | |
| 2 | Educational Environment | Student Count | Percentage |
| 3 | Inside regular class 80% or more of the day | 23,355 | 65% |
| 4 | Inside regular class 40% through 79% of the day | 8,749 | 24% |
| 5 | Inside regular class less than 40% of the day | 3,426 | 9% |
| 6 | Separate School | 260 | 1% |
| 7 | Residential Facility | 84 | 0% |
| 8 | Homebound/Hospital | 26 | 0% |
| 9 | Correctional Facilities | 86 | 0% |
| 10 | Parentally Placed In Private Schools | 101 | 0% |
| 11 | Calculated Subtotal | 36,087 | 100% |

Example 2 shows data formatted as a table with identified headers and color banded rows with high contrast colors. Steps to format data as a table follow these two examples.

Example 2 – Data formatted as an Excel table with banded rows and column headers.

| | | | |
|----|---------------------------------------------------------------------------|----------------------|-------------------|
| 2 | Children with Disabilities by Educational Environment (School-Age) | | |
| 3 | Educational Environment | Student Count | Percentage |
| 4 | Inside regular class 80% or more of the day | 23355 | 65% |
| 5 | Inside regular class 40% through 79% of the day | 8749 | 24% |
| 6 | Inside regular class less than 40% of the day | 3426 | 9% |
| 7 | Separate School | 260 | 1% |
| 8 | Residential Facility | 84 | 0% |
| 9 | Homebound/Hospital | 26 | 0% |
| 10 | Correctional Facilities | 86 | 0% |
| 11 | Parentally Placed In Private Schools | 101 | 0% |
| 12 | Calculated Subtotal | 36087 | 100% |

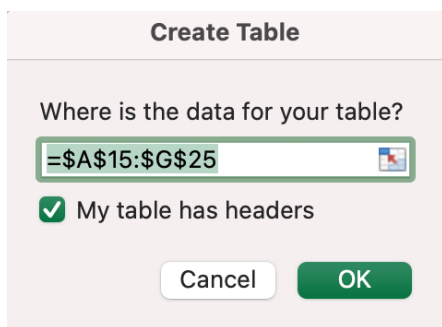
To format data as a table, as shown in Example 2 above, highlight the data to include in the table and select Format as Table on the ribbon. The table should begin with the column headers on the first row. It is important NOT to include the title of the data set in the formatted table itself. Titles should be placed in the cell above the table. The title can be **centered across the range of cells**, but cells should not be merged. To center the title, right click Format Cells, choose Alignment and select “Center Across Selection.”



Column Headers

Create descriptive column headers and/or row header labels that clearly identify the table data. The data in the top row of the table is considered the column header by default and will be read by a screen reader before the data in the adjacent cells within the column.

When creating a table, select the “My table has headers” option.



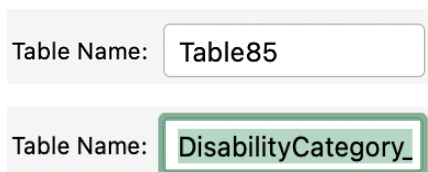
When inserting a table, choose a table style with color and contrast that is easy to read such as Light Blue, Table Style Light 16.



Table Names

Provide meaningful names for tables. Tables created in Excel will be labeled by default with generic names that include a number such as Table 1. Renaming tables will help a person using a screen reader to better navigate tables within a spreadsheet.

To rename a table, select or click within the table to access the Table Design ribbon and enter a new name in the **Table Name:** entry field in the Properties section, following Excel naming requirements. The example below shows the generic table name (Table 85) and the new descriptive table name following Excel naming requirements, (DisabilityCategory).



Use Excel table name requirements to rename generic names. Valid characters must be used, and spaces cannot be used to separate words. See [Microsoft's guide on renaming an Excel Table](#) for additional naming requirements.

Color Contrast

1. Always use high contrast between font colors and background colors, including the use of banded row table styles, as shown in Example 2 above.
2. Do not rely on color coding alone to convey meaning. If color is used to convey meaning, add text description or alt text description.
3. Do not use red and green color combinations, which are difficult to distinguish for people who have red-green color blindness.
4. Insert borders around all cells to help with visual focus.

Font Selection and Formatting

1. Choose sans serif fonts that are easy to read such as Calibri, Aptos, Arial, and Tahoma. Use a font size of at least 12 pt.
2. Apply bold font to important rows such as the header row or total row(s).
3. Use Title or Proper case for data, rather than text in all caps or all uppercase. Screen readers will change the pitch or may read out letters individually when written in all caps. Title Case is easier to read for most users.
 - a. Use the Excel function PROPER to change the case from all caps to Title or Proper Name case.
 - b. Enter “=PROPER(A1)” and then fill down.
 - c. See full instructions at [Microsoft Change the Case of Text for Excel](#).

Example 3 - Change text from all caps to Title Case.

| |
|-------------------------------------------|
| RACE/ETHNICITY |
| HISPANIC/LATINO |
| AMERICAN INDIAN OR ALASKA NATIVE |
| ASIAN |
| BLACK OR AFRICAN AMERICAN |
| NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER |
| WHITE |
| TWO OR MORE RACES |

| |
|----------------------------------|
| Race/Ethnicity |
| Hispanic/Latino |
| American Indian or Alaska Native |
| Asian |
| Black or African American |

| |
|-------------------------------------------|
| Native Hawaiian or Other Pacific Islander |
| White |
| Two or More Races |

Symbols

When using a symbol to indicate redacted information, use a symbol that a screen reader will read aloud. For example, a screen reader will read some symbols such as an asterisk (*) aloud but will skip and not always read a period (.) aloud.

Accessible Table Examples

The example table below includes:

- Information included in cell A1 describing the content of the worksheet
- Title of data set in row three
- Clearly labeled and defined column headers.
- No merged, split, or blank cells
- Logical reading order from left to right, top to bottom
- Banded rows with appropriate contrast between background color and text
- Calibri sans serif font, 12-point size
- Bold font in header row and totals
- Borders around all cells
- Redacted information indicated using *

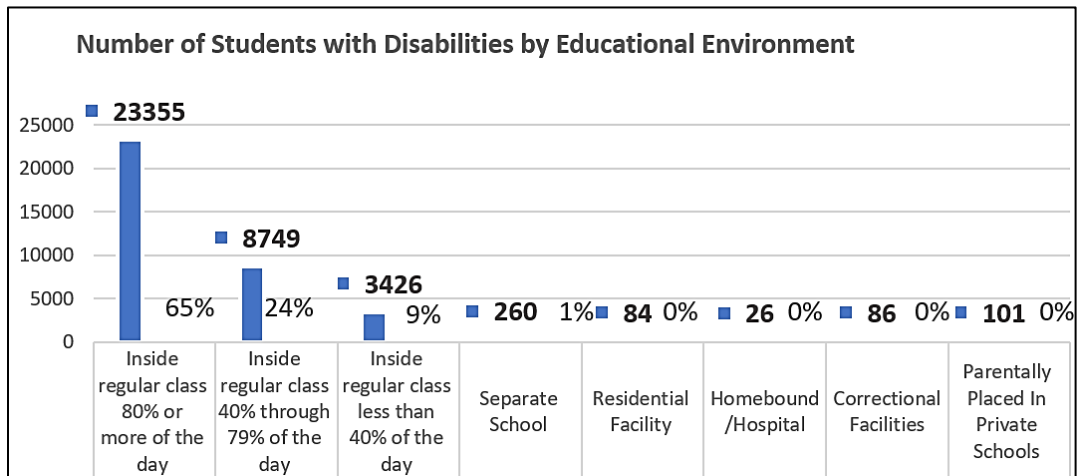
| | A | B | C |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------|
| 1 | This sheet contains six data tables with count and percentage of students by age and environment. The symbol • indicate a redacted field of information. | | |
| 2 | Children with Disabilities by Educational Environment (Early Childhood) | | |
| 3 | Educational Environment | Student Count | Percentage |
| 4 | A.1. Attending a regular early childhood program at least 10 hours per week AND receiving the majority of hours of special education in the regular early childhood program | 129 | 6% |
| 5 | A.2. Attending a regular early childhood program at least 10 hours per week AND receiving the majority of hours of special education in some other location | 135 | 6% |
| 6 | B.1. Attending a regular early childhood program less than 10 hours per week AND receiving the majority of hours of special education in the regular early childhood program | 82 | 4% |
| 7 | B.2. Attending a regular early childhood program less than 10 hours per week AND receiving the majority of hours of special education in some other location | 56 | 3% |
| 8 | C.1. Attending a special education program (NOT in any regular early childhood program),specifically, a separate special education class | 1,447 | 65% |
| 9 | C.2. Attending a special education program (NOT in any regular early childhood program),specifically, a separate school | 207 | 9% |
| 10 | C.3. Attending a special education program (NOT in any regular early childhood program),specifically, a residential facility | • | • |
| 11 | D.1. Attending neither a regular early childhood program nor a special education program and receiving the majority of hours of special education at home | • | • |
| 12 | D.2 Attending neither a regular early childhood program nor a special education program and receiving the majority of hours of special education at the service provider location or some other location not in any category | 147 | 7% |
| 13 | Calculated Subtotal | 2,211 | 100% |

Additional Accessibility Considerations

1. Provide descriptive link text that identifies or names the destination of the URL. For example, the link [IDEA Data by State](https://sites.ed.gov/idea/states/) is more descriptive and useful than the URL <https://sites.ed.gov/idea/states/>.
2. Define acronyms when used the first time.
3. Save files with descriptive file names.
4. Use the Accessibility Checker, located in the Review Ribbon.
5. If the spreadsheet includes a chart or graph, add an alt text description to it, and provide the accessible table with the chart or graph when possible. See examples below.

Example of Adding Alt Text Description and Providing an Accessible Table to Accompany a Chart or Image

Chart: Children with Disabilities by Educational Environment (School-Age): This chart is an image which is not accessible to a person using a screen reader.



Alt Text Description

If an accessible table is provided with the chart, add the following alt text description to the chart:

A bar chart showing the number of students with disabilities by educational environment with data provided in Table below.

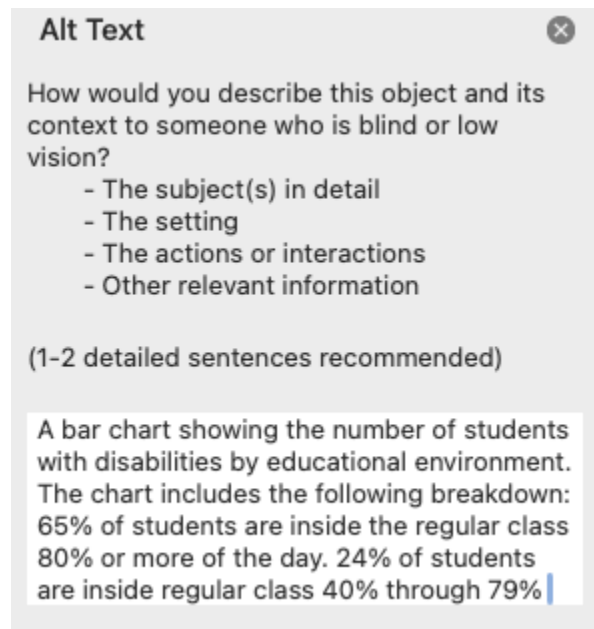
Table: Children with Disabilities by Educational Environment (School-Age): An accessible option for a person using a screen reader is to provide the data in a table as shown below.

| Educational Environment | Student Count | Percentage |
|-------------------------------------------------|---------------|-------------|
| Inside regular class 80% or more of the day | 23355 | 65% |
| Inside regular class 40% through 79% of the day | 8749 | 24% |
| Inside regular class less than 40% of the day | 3426 | 9% |
| Separate School | 260 | 1% |
| Residential Facility | 84 | 0% |
| Homebound/Hospital | 26 | 0% |
| Correctional Facilities | 86 | 0% |
| Parentally Placed in Private Schools | 101 | 0% |
| Calculated Subtotal | 36087 | 100% |

If the chart will not include access to a table, add the following alt text description to the chart:

A bar chart showing the number of students with disabilities by educational environment. The chart includes the following breakdown: 65% of students are inside the regular class 80% or more of the day. 24% of students are inside regular class 40% through 79% of the day. 9% of students are inside regular class less than 40% of the day. 1% of students attend a separate school. And fewer than 1% of students are in other environments outside of the school.

To add the alt text description to the chart, right click on the chart, select View Alt Text and enter description in the Alt Text Description field.



For additional information on using Microsoft Excel, please see the [Microsoft Guide, Basic Tasks in Excel](#).