Google

Help Help forum

Google Docs, Sheets, and Slides size limits

Documents, spreadsheets, and presentations you create, as well as files that you upload, have some limits built in. For instance, files you create or upload that are larger than 5 TB can't be viewed within Google Drive. There are also limits, specific to file type, listed below.

Size limits

Documents: 1,024,000 characters, regardless of the number of pages or font size. If using the new version of Drive (with the red "New" button on the left side), uploaded document files that are converted to the Google documents format can't be larger than 50 MB. If using the classic version of Drive, you can't convert document files that are larger than 10 MB.

Spreadsheets: 400,000 cells, with a maximum of 256 columns per sheet. Uploaded spreadsheet files that are converted to the Google spreadsheets format can't be larger than 100 MB, and need to be under 400,000 cells and 256 columns per sheet.

More information about spreadsheet size limits

If you're close to exceeding Google spreadsheets size limits, you'll see a message at the top of your spreadsheet that indicates what limit you're about to reach.

- **Number of cells**: 400,000 total cells across all sheets
- **Number of columns**: 256 columns per sheet
- **Number of formulas**: 40,000 cells containing formulas across all sheets
- **Number of tabs**: 200 sheets per workbook
- **GoogleFinance formulas**: 1,000 GoogleFinance formulas
- **ImportRange formulas**: 50 cross-workbook reference formulas
- **ImportData, ImportHtml, ImportFeed, or ImportXml formulas**: 50 functions for external data.

Spreadsheets also have overall storage limits. Some spreadsheets may reach these before hitting the 400,000 cell limit, particularly when individual cells have large amounts of text. In such cases, the spreadsheet will go into read-only mode to prevent data loss.

Google forms size limits

These size limits also impact the spreadsheets that collect form responses (for example, if you send a survey). To determine the number of responses that a form can handle, take the number of questions in your form and the number of cells containing other data into account.

Complex Calculations

Google spreadsheets also have complexity limits. Every time a cell is updated, any cell that references it will also be recalculated. If formulas become too complex or take too long to calculate, the spreadsheet will timeout during calculation.

Formulas that increase the complexity of a spreadsheet include:

- VLOOKUP, QUERY, SUMIF, and many similar formulas that take a large range of cells as input.
- Volatile formulas (e.g., NOW, RAND, OFFSET, INDIRECT) are recalculated every time the spreadsheet is modified. If there are a large number of formulas that depend on cells with volatile formulas, they will be re-calculated on each edit, which may slow down a spreadsheet.
- Import-based formulas (e.g., IMPORTRANGE) are recalculated periodically and magnify complexity.

Approaching complexity thresholds

If a spreadsheet takes several seconds to finish calculating, a warning message will appear at the top of the screen. This warning means that formulas may start to display errors or take a significantly long time to calculate if complexity in the spreadsheet is increased. To remove this warning, reduce complexity in the spreadsheet using the tips listed below.

Exceeding complexity thresholds

If a spreadsheet exceeds complexity thresholds, an error message will be shown at the top of your screen. Cells that haven't finished calculating after several seconds will be annotated with errors; however, these cells will continue to calculate in the background until they update with correct values. These calculations may take up to several minutes, depending on the size of the spreadsheet.

Note that every time a cell is updated, all cells dependent on that cell are recalculated. This means that changes to a single cell could cause the entire spreadsheet to recalculate. In some cases, this could take up to several minutes. To avoid exceeding complexity thresholds, go back and modify recent updates to the spreadsheet, following the tips below to reduce complexity.

Tips & Tricks

- Try breaking up a large spreadsheet into multiple smaller spreadsheets.
- Minimize the number of complex formulas. See the list above for examples of functions that increase complexity.
- After getting data points through any complex formula, try to copy-and-paste them as "values only."

    1. Select the values and copy them.
    2. Go to the **Edit** menu.
    3. Point your mouse to "Paste special."
    4. Select "Paste values only."

- Minimize the number of cells that depend on:

    1. A large number of other cells.
    2. Cells with complex formulas.
    3. Cells that are changed frequently.

All spreadsheet limits mentioned above have been removed in the new version of Google Sheets . The new version of Google Sheets should support 2 million cells of data, though please note that extremely large spreadsheets may have slower performance. Learn more about switching to the new version of Google Sheets.

Presentations: Presentations created in Google Slides can be up to 100 MB. Uploaded presentation files that are converted to Google Slides can also be up to 50 MB.

Drawings: We've never seen anyone make a drawing that was too big (but that's not a dare).

Other files: Files that you upload but don't convert to a Google Docs, Sheets, or Slides format can be up to 5 TB each.

Across Google Drive, Gmail, and Google+ Photos, every user is given 15 GB of free storage space, and can purchase additional storage as well.

Reducing file size

The best way to reduce file size and save disk space is by compressing images in your document. When compressing images, the amount of detail in the image and image dimensions may decrease. There are a number of free and paid tools for easy image optimization and compression available for the general public online.

Manually upload and download files

Download a file

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How helpful is this article:

- Not at all helpful
- Not very helpful
- Somewhat helpful
- Very helpful
- Extremely helpful