

Organizing DNA Cousins Using Spreadsheets

Video - Here is the link to the video that matches this handout.

Using a spreadsheet can help to visualize the DNA cousins in a specific family line. Using this technique, you will want to use the only descendants from a specific ancestor or ancestral couple. This is also known as a genetic network.

This demonstration uses MS Excel but can be done in Google Sheets (Free) or any other spreadsheet. Below are the steps and functions needed to create this style spreadsheet. See the Excel worksheet for additional information. It is best to watch the video and read all instructions if you are new to Excel.



By using a spreadsheet, entering the centimorgan count for the DNA cousins, and then applying Conditional Formatting (color scales), you can easily see the hot zones where your DNA clusters are closely related to you. If you are new to Excel, I suggest you practice some of the tools and functions listed in the last section called Basic Excel Tools Demonstrated in this Video.

I do not recommend you try to map out all your DNA cousins, but only those who descend from one ancestral couple (or DNA group, a.k.a. a genetic network). Also, before starting this technique, make sure you understand how DNA grouping works as you will want to map out just one group at a time. For more information about <u>Grouping Your DNA Cousins, see these videos</u>.



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Getting Started

Step One – Title your document. Your Name. Add a research question. Date it. Save it in the proper digital file. Copy the file link and add it to the spreadsheet filed that says Hyperlink.

Step Two - Put the generations down the left-hand column starting with "Common Ancestor" followed by "1st Generation, 2nd Generation" and so on.

Step Three – Determine who the Common Ancestral Couple you want to have at the top of your spreadsheet. Put their names and years of life into column B next to the "Common Ancestor Couple" already entered in Column A.

Step Four – In the 1st Generation row, add all the children for the Common Ancestral Couple (by name) in columns to the right. Using their birth and death dates helps keep them straight as you continue the process. Example: John Doe (1843-1880) and Jane Smith (1844-1905)



Step Five- Continue adding generations to the children as you learn of the descendants, adding generation after generation.

Step Six- Once finished with Step Five, Copy the Spreadsheet to a New Tab – On the bottom of the Excel spreadsheet, hover over the tab, right-click and choose Move or Copy. Choose Create a Copy at the bottom of the of the pop-up box. I like to Move to End as well.

Rename & Color Spreadsheet Tabs – Hover over the newly created tab, right-click and choose rename. When you do it will hightlight, type the new name and hit enter. Alternatively, you can click and drag your mouse over the tab and type. On the copied tab/spreadsheet you will be removing DNA cousin names and just using numbers (that represent cM's), so name the sheet accordingly. Don't worry, you still have the DNA cousins on the original tab. You can rename that tab as the "Original" if you choose.



You can also **color the tab** with the same right-click step. Hover over the tab, right-click, choose Tab Color and pick the color you wish.

Step Seven – Now that you have created a back copy of your spreadsheet on a new tab. You can remove the names and any alpha characters from the cells of your DNA cousins, but <u>leave the cM count</u>.

Step Eight

To use **Conditional Formatting**,

highlight all the cells you want to apply the Conditional Formatting, click on Conditional Formatting drop down menu in the Styles area on the ribbon. Choose the scale format you want.

For using **Conditional Formatting** for DNA data, you cannot have any text in the cell. I suggest you build out the descendants with the names and cM count. Then copy the spreadsheet to a new tab. See Tips section (below) for more options.



About Conditional Formatting – This allows the cells with data (in this case numbers only) to automatically color by scale. This is what was used in this episode on Genealogy TV.

I suggest using Red-White-Blue scale or the Red-Yellow-Green scale, unless you want to customize the scale.

Customize the Conditional Formatting – My favorite use is to create a custom scale. Highlight the cells you want to apply Custom Conditional Formatting to, then choose Conditional Formatting, New Rule, use "Format All Cells Based on Their Values." Then set the lowest and highest colors. I like using the 3-Color Format in the Style box using blue, yellow, and red (lowest value to highest respectively). This gives a cool to warmer color scheme. Thus, as the DNA cousins are closer related to you the warmer the color.

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Formatting Cells – In order for the Conditional Formatting to work, the numbered cells need to ideally be formatted as a number, but general will work. Text cells will be ignored by the scale.

Highlight the cell (or click and drag a series of cells), right-click, and choose Format Cells. Choose Number and 0 Decimals Places, then OK.

Basic Excel Tools as Demonstrated in the Video

Insert a Column – Highlight the column by clicking on the letter at the top. Right-click and choose Insert. This will insert a column to the left of your highlighted column.

Insert a Row - Highlight the row by clicking on one of the numbers in the left side column to highlight the entire row. Right-click and choose Insert. This will insert a row above the highlighted column.

Undo and Redo – The curved left and right arrows in the very top green bar to the right of the save button allows for multiple levels of undo or redo (in case you make a mistake).

Merge Cells – The fastest way is to highlight the cells you wish to merge and choose "Merge & Center" in the Alignment section of tool ribbon.

Undo a Merge – Highlight the cell and click "Merge & Center" and it will revert to the left most column.

Additional Merge Tools can also be found by clicking the down arrow to the right of the Merge & Center button on the ribbon.

Color a Cell – Highlight the cell. Click on the paint bucket tool in the Font area of the ribbon. Alternatively, you can right-click on the cell and choose the paint bucket.

Tips

If using the **Conditional Formatting** and things look wonky, highlight all those cells again, choose the Conditional Formatting from the top ribbon, and Clear Rules by right-clicking and choose Clear Formatting. Then start again with a new Conditional Format by using either the prebuilt ones or a Custom Format (New Rule).

Alternative to Conditional Formatting

 You could use a bar scale instead of a color scale. You would so so with the same procedure above but instead of choosing Color Scales you would use Data Bars.

If formatting doesn't work, try to format the cells by highlighting all cells to be formatted, then Right Click, Format Cells, sellect Number.

