



# Microsoft Excel/Google Sheets 102

Lesson Plan for Healing Center Computer Instructors  
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## OVERVIEW & PURPOSE

This lesson will introduce students to the operations necessary to manipulate the dimensions of **columns** and **rows** in Microsoft Excel and Google Sheets. The images and concepts will relate specifically to the features of Excel, but an understanding of them will translate into the leaner features of Sheets as well. By the end of the lesson, students will be able to change the dimensions of **rows** and **columns** to their liking. They will also learn how to insert **tables**, **charts**, and **sparklines** into their workbooks. Vocabulary words are written **bold and italics**. Always try to weave vocabulary into the lesson organically through demonstrations and activities rather than through lecturing.

## MATERIALS NEEDED

1. Computers with access to either *Google Sheets* or *Microsoft Excel*
2. Google presentation to help the students pinpoint key concepts and operations (separate document)
3. Smartboard computer or a computer connected to a projector
4. Accompanying activities and vocabulary lists (separate documents)

## PROCEDURE

1. Begin the class with a devotion or a thought for the day. Review concepts from the first lesson and address any questions the students might have. They should understand the basic navigations of Excel, and they should be able to move between cells and input data.
2. Since we've already discussed the basics of cells, we'll now focus on ways to adapt the workbook's dimensions to best view and analyze our data. Begin by indicating the **rows** and **columns** on the worksheet's grid. **Columns** are identified with capital letters. **Rows** are identified with numbers. They learned this in the first lesson, but take some time to review it if they don't remember.
3. To highlight all of the data in a **row** or **column** move the cursor over its name until it turns into a solid black arrow. Clicking on the **row** or **column's** name will highlight all of the data within. From here, you can cut and copy all of the data in

the same way you would an individual cell. To insert a new **row** or **column** go the *insert button* on the *home tab* and choose the appropriate button. If you're inserting a **column**, a new one will appear to the left of the highlighted cell. A new **row** will appear above the highlighted cell.

4. To move a **row** or **column** you will need to cut it from the grid using the button in the *home tab* or by right clicking. A perforated border will appear around the range of cells. Since the new section will appear to the left of the highlighted area, you will need to place the cursor in the right place. If you want a **row** to appear between rows 1 and 2, for example, highlight **row 2**. Move the cursor to the area where you would like the cut section to appear. Go to the *insert button*, click on the button labeled *insert cut cells*. The cut section will appear in the grid. This can also be done by right clicking. Consult the slides for help and demonstrate this operation for the students.
5. To manually change the size of a row or column, move the cursor over the border of the grids where their names appear--on the left side for rows, on the top for columns. The cursor will change to two arrows facing away from each other. Drag and drop the edge to the size you would like. Consult the slides for help, and demonstrate on the smartboard so the students can see.
6. Sometimes you have data in a cell that takes up more room than the initial dimensions of the cell allow. To remedy this you can **autofit** the cell to match the dimensions of the data. To do this, move the cursor over the **row** or **column** border on the far left or topmost part of the grid where the **rows** and **columns** are identified. When the cursor changes to the double arrows, double click on the border. The cell's width or height will **autofit**. You can also do this by highlighting a **row** or **column** and finding the appropriate button in the *format* menu in the *home tab*. Consult the slides for help and demonstrate this operation for the students.
7. To select all of the cells in the grid, click the **select all** button in the top-left corner of the sheet. There is a slide that shows where to find it. Once all of the cells are highlighted, any adjustments you make to the height or weight of any **row** or **column** will carry over to the others. This applies for the **autofit** function as well.
8. **Columns** and **rows** can get in the way sometimes, especially if you have a large worksheet with a lot of information. Maybe you would want to only see a particular portion of the sheet. To **hide** a **row** or **column**, highlight it, right click, and choose the appropriate button from the drop down menu. To **unhide** a section, click the cursor between the **row** or **column** where the **hidden** section would typically appear, right click, and choose the appropriate button. Some

slides demonstrate these operations, but try to demonstrate them on the smartboard as well.

9. Oftentimes, data won't fit well in the default dimensions of the grid. In addition to **autofitting** the cells, you can **wrap** the text within a cell. **Wrapping** text modifies the height of the cell only, so that you can read all of the data without consulting the formula bar. To **wrap** text, select a cell and find the **wrap text** button in the *home tab*. The text will **wrap** to fit in the cell. This can be done with a range of cells as well. Consult the slides for help.
10. Another useful operation is the **merge** operation, which allows you to combine multiple smaller cells into a single, large one. This is especially useful if you're making tables, menus, budgets, and other displays that use titles or headers.
11. To **merge** cells, first select the range of cells you would like to combine. Then find the **merge and center** button on the *home tab*. Point this button out on the smartboard or use the accompanying slide to show where to find it. Once you've clicked the button a drop down menu will appear. Choose the option that says **merge cells**. The cells will then combine into a single, larger cell.
12. **Merging** cells alone will not alter the text or data within a cell. Sometimes, however, **merged** cells can be used to create headers or titles for documents that you can make in a workbook. For this you will need the **merge and center** operation, which not only **merges** cells but centers the text of original cells into the new cell. The process for **merging and centering** is the same as **merging**, except you click the **merge and center** command in the drop down menu after clicking the **merge and center** button in the *home tab*.
13. In the drop-down menu that appears when you click the **merge and center** button, there are several options for **merging** cells, including an option to **unmerge** cells that have been combined. We won't go over all of the buttons here, but if you would like you can demonstrate some of the other options for the students.
14. Different parts of a workbook may contain different kinds of text and data. One section may have prices, whereas another section may contain dates or times. Of course, you could manually insert dollar signs and colons into each cell individually, but that would take more time than it's worth.
15. **DO ACTIVITY 1**
16. **Tables** are naturally an important feature for Excel. They allow you to organize your data and text in presentable and pleasing ways. They're useful for creating any document you might want to share with others later.
17. To format a range of cells as a **table**, highlight the range you want to work with.

Next, locate the *format as table* button in the *home tab*. Click on it, and a drop-down menu will appear displaying a variety of different **table styles** to choose from. Find the one you like and click on it. A prompt will appear asking you to confirm the range of cells that you've selected (displayed as a ratio like this--D2:D4). Press okay, and the range will now be formatted in that **style**. Demonstrate this operation for the students and consult the slides for help.

18. If you would like to expand the **table**, find the small notch in the bottom, right-hand corner of the table. It looks like a small right angle. There is a slide that indicates it in the presentation. Move the cursor over the notch, and wait for it to turn into two arrows facing away from each other diagonally. You expand or contract new cells into the **table**. New cells will conform to the **style** to which the **table** is currently formatted. Consult the slides for help.
19. Whenever you create a **table**, a new tab will appear in the ribbon. This is the **design tab**. From here, you can tweak and modify the attributes of the **table**. This includes adding special rows for *headers* (useful for putting in unique titles or section names) and *totals* (useful for when you're working with sums). You can also change the **style** of the **table** or convert the **table** back to normal cells from this tab. Consult the slides for a detailed image with labels.
20. Another useful addition you can make to your workbook is a **chart**. **Charts** display data in a readable and understandable form. To create a **chart**, highlight the data you would like to organize. This will serve as the **chart's source data**.
21. Once you've chosen the cells you want to use, go to the **Insert Tab** on the ribbon. Under the tab there will be a group of buttons labeled with the section footer, *charts*. Different **chart** types can be found within. Choose the **chart** type you want to use and click on its button. A slide indicates these buttons in the presentation.
22. A drop down menu will appear. From this menu, you can choose from a variety of different **charts**. Once you click a button your **chart** will appear in the workbook. **Charts** can be moved and sized in the same way as images in Word. **Chart** titles can be changed by clicking on the appropriate text box.
23. Like **tables**, a **design tab** will appear in the ribbon anytime you add a **chart**. From the **design tab**, you can do a number of different operations to customize your **chart** to fit your needs. One of the things you can do is add **elements** to your **chart** to make it more presentable and comprehensible. **Chart elements** include things like titles, data labels, error lines, and legends among other things. To add **elements**, locate the **chart elements button** on the ribbon. A drop down menu will appear from which you can choose the **element** you would like to add. The

*element* will appear in the *chart*, where you can tweak it to your liking. Consult the slides for help.

24. Another feature that *charts* share with *tables* are *styles*. *Chart styles* are located under the *design tab*. Click the drop-down button to see all of the *styles* available to you. Move your cursor over the *chart style* to see how it changes. Some *styles* are simply cosmetic, but others also contain data tables and other features to add that make your *chart* more informative. Demonstrate this operation for the students, and show them the labeled slides to help them find the buttons.
25. The *design tab* also allows you to switch the *row* and *column* data, change the layout of the *chart*, change the *chart's* colors, and change the *chart's* type. There is a slide that shows where to find the buttons. We won't go into all of those operations here, but if a student wants to know more about them, feel free to demonstrate on the smartboard.
26. Sometimes large *charts* that display a lot of data are too cramped with information or take up too much space to be helpful. Such times are instances in which one might want to use *sparklines* instead. *Sparklines* are small *charts* that fit into single cells.
27. To insert some *sparklines*, the process is similar to inserting a *chart*. Highlight the *row* of data you want to display. Then find the *sparklines* section under the *insert tab*, choose the style you want, and click the appropriate button. A prompt will appear asking you to confirm the range of cells that contains the *source data*. There will also be a space that asks you which cell you would like to display the *sparklines* in. Press *OK* to confirm your selection. Slides demonstrate this process, but try to use the smartboard to show it if you can.
28. You can tweak the parameters of your *sparklines* in a similar manner to tweaking *tables* and *charts* through the *design tab* that appears when you've selected a *sparkline*. Consult the slides for a labeled image of the buttons.\*
29. If you have multiple sets of data for which you would like to create *sparklines*, you can use fill handles to apply the *sparklines* to multiple cells.
30. *Sparkline* dimensions match those of its *source data*. However, this isn't necessarily helpful if you want to compare the absolute values of different data sets. To make sure that all of the *sparklines* on your sheet have the same data dimensions, highlight all of the *sparklines* you would like to change. Then find the *axis* button in the *design tab*. Slides demonstrate where to find this button.
31. Click on the button, and a drop-down menu will appear. Under the sub-headings *Vertical Axis Maximum Value* and *Vertical Axis Minimum Value*, select the *Same for*

*all Sparklines* button. This will place the data of all ***sparklines*** in the same range. Now you can compare the ***sparklines***' trends in terms of absolute value instead of relative value. Consult the slides for help if you need it, and demonstrate this operation for the students.

## 32. DO ACTIVITY 2

### Additional Resources:

- <http://www.gcflearnfree.org/excel2013>
- <https://support.office.com/en-us/excel>