Lesson 7: Excel Functions & Formulas

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| Handouts | Class Prep | Agenda |
| * Day 7 Daily Agenda
* Excel Formulas Handout
* Excel Functions Handout
 | * Sign-In Sheet
* Handouts stapled
* Flash-drives for students
* Excel Day 2 Spreadsheet Minimized
* Blank Excel Spreadsheet minimized
 | * Day 6 Review
* Simple Formula’s
* Excel Functions Handout
 |

**Objective:** To introduce simple formulas and functions on Excel. How to use “Cell Reference Method” instead of doing calculations manually on Excel.

* Manual Calculations vs. Cell Reference Method
* Simple Formulas and Functions:
	+ Sum/AutoSum
	+ Average
	+ Max and Min
	+ Count

Intro (5 mins)

1. Good afternoon, everyone!
2. Reminders and Objective
	1. Reminders: Bathroom break, 10 second try it yourself, don’t hesitate from asking questions. \*\*Practice makes perfect!
	2. Review:
		1. Edit text in cells using the formula bar
		2. Fill handle: copies the selected cells’ values or the formula to the blank cells
		3. Number Format: General, Currency, Percentages
	3. Show the tabs or “Sheet1” or “Sheet2”…

Day 6 Review (10 mins)

**Say**: Good afternoon everyone, and welcome to Day 7 of class. Last class, we learned the basics of Excel including the format and how to fill in cells. Today, we’re going to learn more of the mathematical benefits of Excel. Excel is nice because instead of having to do the math yourself, Excel has formulas that will do the math *for you.* Today, we’re going to learn some of the most commonly used formulas and we’ll get to practice a lot with a few different activities too.

**Say**: Before we dive into it, let’s review what we learned last class in Excel:

1. How to select a cell as well as multiple cells
2. How to fill in cells if we wanted to make a list of days of the week or create a list of numbers
3. How to **format** on Excel → same formatting options as **Microsoft Word** → **Bold**/*Italics*/Underline as well as changing the size and color of the text and the font format.

*Guided Practice: “Day 2 Practice Sheets”🡪 Sheet “Formatting Practice”*

**Say:** Great. Now that we’ve done some review, let’s move into today’s topic. So, to get started, please turn to your computers, plug in your flash-drives, then minimize your File Explorer on your screen. Once you’ve done that, you can turn back towards me and we’ll continue on.  *(Wait for students to do this)*

**Say**: To review, I’m going to open up my Excel file, called “Excel Day 2 Practice Sheets” and we’re going to format the first sheet together - before you do it on your own. *(Format first sheet together,* ***ask student how to bold font, how to merge & center, etc…****)*

**Say**: Great! Now, I’d like for you all to turn to your computers and do the same type of formatting practice! *(Give 3-5 minutes for students to practice formatting on that sheet on their own – they do not have to do the same formatting as you did)*

**CLASSROOM COMFORT: How’s everyone feeling? Any questions or comments before we move on?**

Intro to Simple Formulas (15 mins)

**Say**: Alright. Great work, everyone. Like mentioned earlier, Excel can be used as a calculator. It can add (+), subtract (-), multiply (\*), and divide (/). Last class, we learned how to do simple calculations *manually*.

**Say**: So, let’s practice with a simple calculation.

1. First step: I’m *always going to type in “=”* as an indication to tell Excel to calculate a math equation

2. After I have the = sign, then I’m going to type in the math problem—100+6, 100-6, 100\*6, 100/6.

3. Then I hit “enter” for the answer.

--> Emphasize hitting “Enter”! This is the only way of telling Excel you are ready for the answer.

**CLASSROOM COMFORT: How does everyone feel? Are we ready to move on?**

*Guided Practice: Day 2 Practice Sheets🡪 Sheet “Simple Formulas”*

**Say:** If we look at the “Simple Formulas” sheet that we’ll be working with, we can see that 4 of your employees have to go out and buy certain supplies for themselves and their offices. In order to do this, and because it has to come out of *your* budget, you have to go to the bank to withdraw the exact amount of cash for each person-- no more and no less!

**Say:** Using the steps we just learned, let’s figure out how much money Jose needs in order to buy his supplies.

**STEPS:**

1. Type in “=”
2. Type in “4”
3. Type in “\*”
4. Type in “11”
5. Hit **Enter.**

*(If class needs to watch one more time, then do the same thing for the next example)*

**Say:** Great. Now I want you all to do the same for Jose and Mary for the “Total Paid Without Taxes” section. Then look back up here when you’re done. If you have any questions, then of course, don’t hesitate from asking! *(Walk around to support and help if needed)*

**CLASSROOM COMFORT: Alright! How does everyone feel? Are we ready to move on?**

**Say:** Although you can calculate formulas manually like we just did, most times people will click on the cells they want to calculate and use the *“Cell Reference Method” and find the range* to do calculations.

**Cell references** will ensure you that your answers are *always accurate* because you can change the value of referenced cells without having to rewrite the formula each time.

**Ask:** Why do you think people would want to use Cell References instead?

→ If working with large numbers to keep track when doing data entry as a possible job

→ More efficient

**Say:** For the last people in this activity, John and Anna, I’m going to use the “Cell Reference Method”. In order to do this, you must follow the following steps:

**STEPS:**

1. Type “=”
2. Click the first cell with the value you want to calculate
3. Type in the operation you need (+, -, \* etc..)
4. Click the second cell with the content you want to calculate
5. Press “Enter”

**Say**: By doing this, if a value changes for any of those, the answer (whether it’s the sum, product, or whatever it is) will *change automatically*. Using this method saves you a lot of time.

**Do**: Now, I want you all to try it yourself for John and Anna on your own Excel spreadsheet (*Give a few minutes for students to do this on their own. Walk around to support. If class is struggling, you can do it all together).*

**CLASSROOM COMFORT: Great! How is everyone feeling? Are we ready to move on?**

**Say:**Alright! Great work, everyone. Now that we know how to use the Cell Reference Method, we’re going to learn a very fast shortcut that we can use and apply to this sheet in order to compete it all in only a matter of seconds!

Say: To do this in a matter of seconds, we’re going to use our Fill Handle – we learned how to use our Fill Handle last class. **In order to use our Fill Handle alongside our “Cell Reference Method” we’re going to:**

1. Select the cell, whose value or formula you want to copy (show on spreadsheet for “Taxes Paid” Section.

2. Hover over the bottom right hand corner of the last selected cell until a small black + appears.

3. Click and drag the fill handle until all of the cells you want to fill are selected.

3. Release the mouse to fill the selected cells. VIOLA!

**Say:** Excellent. Pretty awesome, right?! Now, please turn to your computer and try doing the “Taxes Paid” Section on your own. *(Walk around class to support)*

**CLASSROOM COMFORT: Great! How is everyone feeling? Are we ready to move on?**

Intro to Excel Functions (20 mins)

**Say**: Alright! Now, we’re going to learn some pretty common and simple excel functions that will help you do some more math calculations pretty quickly.

**Say**: If we switch to the next practice sheet on our Excel Workbook – called “Functions” we can see that in this instance, your work is going to throw a party and you want to make sure you stayed *within* the budget.

**Say**: We can see that within this chart, there are a few different things we have to calculate *(look at the different things and show/say them out loud to the class).* Please flip to your “Excel Functions” handout, and we can see that thankfully, there are functions that Excel already has for you in order to make these calculations! *(Go over the functions on the handout)*

**Say:** Great! First, let’s do a few together using the fill handle and Cell Reference Method, before you all try it on your own.

🡪 *Fill out “Total Cost” for each Item using point and click and fill handle*

**Ask**: Which method do you all like more? Typing in the numbers or using cell references and the fill handle?

**\*\*Reminder:** There are always multiple ways of finding the answers/doing things on the computer. But with practice, each person will find the way they feel most comfortable with. It will be different for every person, and that is okay!

**Say:** So far, we’ve been using the Cell Reference Method. However, now we’re going to use Excel’s preprogrammed functions, the ones we saw on our handout, to do these calculations even more quickly

*Guided Practice, Excel Day 2 Practice🡪 Sheet “Functions”*

**Say**: In order to find the total, I can use the SUM function to calculate the “Total Cost”.

**To do this, I would:**

1. Select the cell where I want the Total Cost value to show up.

2. Press the “=”.

3. Start typing in “SUM”, and you’ll notice the function will pop up for you.

4. Double click on “SUM”

5. Click on the first cell/value where I want to start adding up the sum, hold down my mouse, and scroll down to the last cell/value I want to add up, then let go of my mouse.

6. Press “Enter” on my keyboard. And…VOILA!

**Say**: Now, I would do the same for the “Average” and so forth. Please turn to your computers and try it out!

**CLASSROOM COMFORT: Great! How is everyone feeling?**

*\*\*Go on to “Formulas & Functions” Sheet for extra practice if there is time!*

Conclusion

**Say**: Ok! That’s all I have for today. Are there any questions before we finish class? Tomorrow, we will be working with budgets and learning how to create charts on Excel!