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Workshop

Welcome

MS Excel

Brian Sevier

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Data Analysis
Using
Microsoft Excel

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Workshop Agenda

I. Learning Tools and Session 1 Recap
II. Conditional Formatting
III. Pivot Tables
IV. Graphing & Charting

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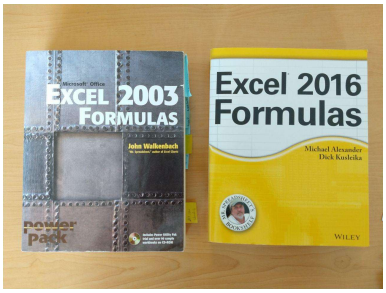
Learning Tools

- *Don't be afraid of the "HELP" function (just hit F1)*
- *Don't hesitate to ask Google!*
- *LinkedIn Learning (free with your UF credentials)*
- *StackExchange.com*
- *READ??!!??!! Yes, I do actually own these!!*



- *Check out the Appendix included at the end of this session's PPT slides!!!*
- *Don't forget Session 1's Wash – Rinse – Repeat*
  Prep that table for analysis as soon as you open it!

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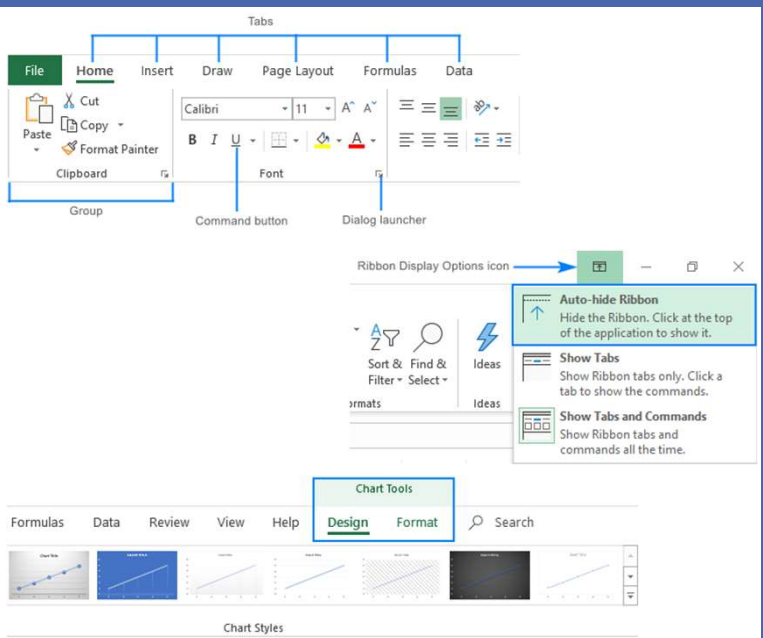
Before We Begin



https://www.ablebits.com/office-addins-blog/2019/07/02/excel-ribbon-guide/

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Data Analysis Using Excel

Name some common activities that we "love" to complete in Excel?

{type some of your examples in the chat window}

Reconciling Ledgers

Comparing Historical Data to Current

Reporting on Research Totals

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Pro Research Admin Tip

So, we decided RECONCILING was everyone's favorite Excel pastime.

Where can I get the best practice guidelines for reconciling my project(s) and cost center(s) up to UF's standards?

Tier 1 Resources –

https://www.fa.ufl.edu/directives/summary-of-tier-1-resources/

(we will use a transaction detail report in several exercises today)

Learn More –

PRO302 – The Color of Money: A Guide to How Moneys May Be Spent at UF

PRO303 – Internal Controls at UF

PST130 – Reconciliation for Tier 1

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Pro Research Admin Tip

myUFL Enterprise Reporting –

https://reporting.it.ufl.edu

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Conditional Formatting

Why do I want to even use Conditional Formatting?

- Quickly visualize patterns in the data
- Raw data by the thousands of rows (or even hundreds of rows) is not efficiently reviewed, so add visual callouts systematically to help your eyes!!!
- It is just one way to perform visual analysis, just as you would sorting, filtering, and eventually create a visual like a chart or graph

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Conditional Formatting

Imagine this… (no REALLY) imagine this:

- You have a spreadsheet with over 1000 rows of data
- You have 3 minutes before you walk into your PI's office and need to share some important updates
- How can I quickly identify duplicate values from last month's transaction report?
- How can I quickly analyze the top 10 high dollar transactions?
- How can I color code values on the ledger that mean the most to me (or to my PI)?

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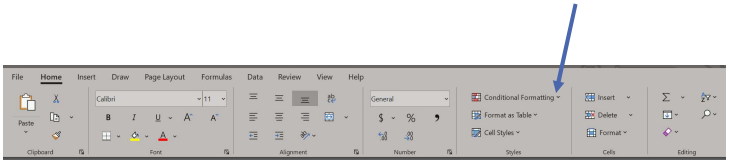
Conditional Formatting

Quick Navigation Pointers:



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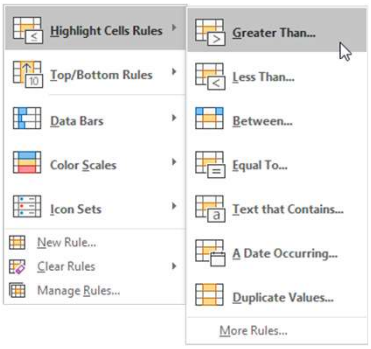
Conditional Formatting

Highlight Cell Rules:

Establish rules to highlight cells using a certain color that meet certain criteria.



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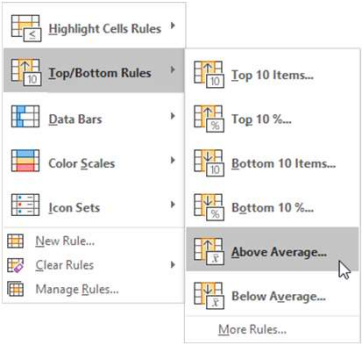
Conditional Formatting

Top/Bottom Rules:

Highlight or format cells based on their value using measures of central tendency.



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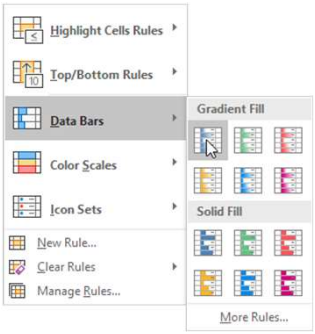
Conditional Formatting

Data Bars:

Allows you to create a visualization for the value of a cell as it relates to the whole.



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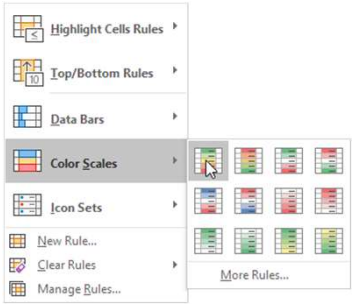
Conditional Formatting

Color Scales:

Creates a color gradient that allows you to visualize values in a range of cells. The colors can be used to represent good/bad, high/low, positive/negative.



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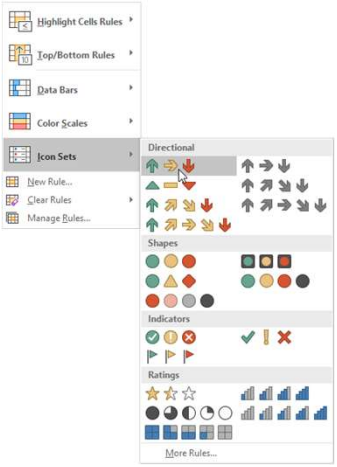
Conditional Formatting

Icon Sets:

Allows you to use icons to create data visualizations based on direction, green light/red light, or other indicators based on values in a range of cells.



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Now let's TRY A FEW!

Please open:

MSExcel_DataAnalysis_Exercise1.xlsx

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Pivot Tables

Why do I want to even use Pivot Tables? Why all the fuss?

- Pivot tables offer a quick solution for performing analysis on large amounts of data, or even small datasets
- It allows for sorting and filtering in a time efficient way, and performs automatic groupings of subtotals and subtotals, without editing or manipulating the original dataset
- Pivot tables allow you to speed past manual formulas, by having them as standard functions in the data you want to display

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Pivot Tables

Imagine this… (no REALLY keep playing along):

- You have a spreadsheet with over 50,000 rows of data
- You have <5 minutes before you walk into the Chairwoman's office and she needs answers….now!
- Can I quickly convert those 50,000 rows down to the specific departments that are relevant to her?
- Can I show a year-by-year comparison of award expenditure data on our College's sponsored programs?
- Can I use some of those really cool Conditional Formatting tools that Brian showed me in my Pivot Table too?

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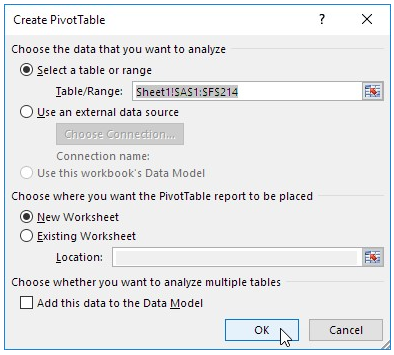
Pivot Tables

Quick Navigation Pointers:

Switch to the INSERT tab, and choose PivotTable
(hint you can select the range of data you want to manage in the PivotTable, BEFORE you insert the table!!)



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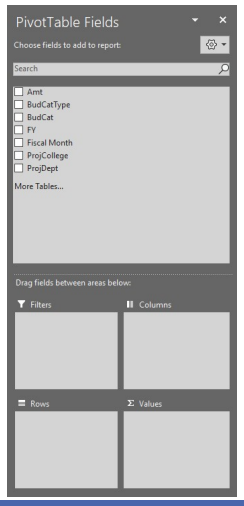
Pivot Tables

Other important tips:

PivotTables are managed by assigning data fields (your column headers) into FILTERS, COLUMNS, ROWS, or VALUES



	A	B	C	D	E	F	G
1	Amt	BudCatTy	BudCat	FY	Fiscal Mor	ProjColle	ProjDept
2	-2288	NON-LAB	Materials	2021	6	COLLEGE-I	EG-ENG SCH SUSTAIN INFRST ENV
3	2225.03	NON-LAB	Domestic	2021	5	COLLEGE-	AG-FOOD SCIENCE / HUMAN NUTR
4	3104	NON-LAB	Publicatio	2021	5	COLLEGE-	AG-MICROBIOLOGY / CELL SCI
5	1970.12	NON-LAB	Subrecipie	2021	5	COLLEGE-	AG-INTERNATIONAL PROGRAMS
6	4560	NON-LAB	Consultan	2021	5	COLLEGE-	AG-MREC-APOPKA
7	5424.64	NON-LAB	Other Exp	2021	5	COLLEGE-	AG-SOIL AND WATER SCIENCE
8	12792.09	NON-LAB	Materials	2021	5	COLLEGE-	AG-LIVESTOCK INNOVATION LAB
9	7092.77	NON-LAB	Animal	2021	5	COLLEGE-	AG-FOOD SCIENCE / HUMAN NUTR
10	6842.5	NON-LAB	Consultan	2021	5	COLLEGE-	AG-PLANT PATHOLOGY
11	2598.23	NON-LAB	Materials	2021	5	COLLEGE-	AG-AGRICUL / BIOLOGICAL ENG
12	16	NON-LAB	Other Exp	2021	5	COLLEGE-	AG-INTERNATIONAL PROGRAMS
13	42971.83	NON-LAB	Subrecipie	2021	5	COLLEGE-	AG-SWFREC-IMMOKALEE
14	3817.67	NON-LAB	Domestic	2021	5	COLLEGE-	AG-WFREC-JAY
15	805.38	NON-LAB	Domestic	2021	5	COLLEGE-	AG-TREC-HOMESTEAD
16	325.39	NON-LAB	Repairs &	2021	5	COLLEGE-	AG-WFREC-JAY
17	4120.74	NON-LAB	Other Exp	2021	5	COLLEGE-	AG-COUNTY OPERATIONS
18	2294.76	NON-LAB	Subrecipie	2021	5	COLLEGE-	AG-AGRICUL / BIOLOGICAL ENG
19	594.88	NON-LAB	Computer	2021	5	COLLEGE-	AG-AGRICUL / BIOLOGICAL ENG
20	3521.49	NON-LAB	Computer	2021	5	COLLEGE-	AG-SCHL-FOREST RES / CONSERV
21	540.08	NON-LAB	Repairs &	2021	5	COLLEGE-	AG-TREC-HOMESTEAD

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Now let's TRY A FEW!

Please open:

MSExcel_DataAnalysis_Exercise2.xlsx

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Pivot Tables

Pivot Tables recap:

What are some ways you think you can use Pivot Tables to analyze your data on a regular basis?

Share your ideas in the chat window!!

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Graphing & Charting

Why do I want to even use charts and graphs?

- The famous adage still applies –

  "A picture is worth a thousand words"

- Data visualizations are common ways to present complex datasets
- Just as the Pivot Table is an efficient way to group, sort, filter and present data, graphs and charts are easy ways to transform your data into a "visualization"
- Often the data visualization is more compelling in presenting your analysis than the data table itself

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Graphing & Charting

For today's examples, we are going to base the examples for charting and graphing from the Pivot Tables we just compiled!

- First things first – what chart or graph best represents the data I am trying to visualize.
- Should I use a Histogram?
- Should I use a bar chart?
- Should I use a pie chart?
- Should I use a trend line chart?
- As is always the case in Research Administration….IT DEPENDS!

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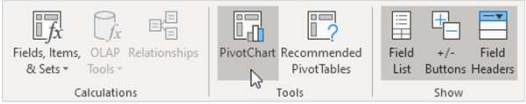
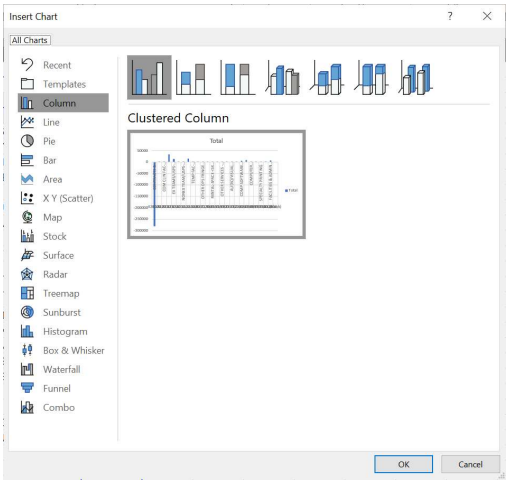
Graphing & Charting





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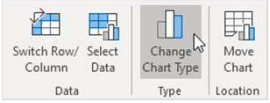
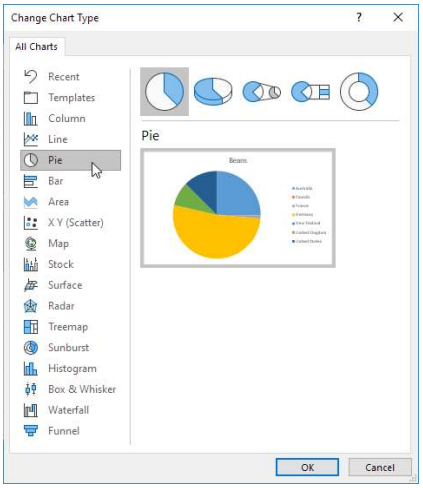
Graphing & Charting





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Now let's TRY A FEW!

Please reopen:

MSExcel_DataAnalysis_Exercise2.xlsx

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Pivot Tables

Pivot Charts and Graphs recap:

What are some ways you think you can use Pivot Charts to analyze your data on a regular basis?

Share your ideas in the chat window!!

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Upcoming Workshop
Excel Tips & Tricks Part 3 –
Advanced Data Visualizations
January 28, 2021
2:30 – 4:00 PM

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We need your feedback!

~ Link in the Chat Window ~

https://ufl.qualtrics.com/jfe/form/SV_4Ml8ghyB6ISB48Z

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Thank You

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Appendix

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Navigation & Efficiency Tips

222 Excel shortcuts for Windows and Mac

https://exceljet.net/keyboard-shortcuts

General Program Shortcuts

Create new workbook	Ctrl N	⌘ N
Open workbook	Ctrl O	⌘ O
Save workbook	Ctrl S	⌘ S
Save as	F12	⌘ ⇧ S
Print file	Ctrl P	⌘ P
Open print preview window	Ctrl F2	
Close current workbook	Ctrl F4	⌘ W
Close Excel	Alt F4	⌘ Q

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Navigation & Efficiency Tips

222 Excel shortcuts for Windows and Mac

https://exceljet.net/keyboard-shortcuts

General Commands

Open help	F1	⌘ /
Undo last action	Ctrl Z	⌘ Z
Redo last action	Ctrl Y	⌘ Y
Copy selected cells	Ctrl C	⌘ C
Repeat last action	F4	⌘ Y
Cut selected cells	Ctrl X	⌘ X
Paste content from clipboard	Ctrl V	⌘ V

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Navigation & Efficiency Tips

222 Excel shortcuts for Windows and Mac

https://exceljet.net/keyboard-shortcuts

Navigation

Move one screen right	Alt PgDn	Fn ⌥ ↓
Move one screen left	Alt PgUp	Fn ⌥ ↑
Move one screen up	PgUp	Fn ↑
Move one screen down	PgDn	Fn ↓
Move to right edge of data region	Ctrl →	^ →
Move to left edge of data region	Ctrl ←	^ ←
Move to top edge of data region	Ctrl ↑	^ ↑
Move to bottom edge of data region	Ctrl ↓	^ ↓
Move to beginning of row	Home	Fn ←
Move to last cell in worksheet	Ctrl End	Fn ^ →
Move to first cell in worksheet	Ctrl Home	Fn ^ ←

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Navigation & Efficiency Tips

222 Excel shortcuts for Windows and Mac

https://exceljet.net/keyboard-shortcuts

Selection

Select entire row	Shift Space	⇧ Space
Select entire column	Ctrl Space	^ Space
Select entire worksheet	Ctrl A	⌘ A
Add adjacent cells to selection	Shift Click	⇧ Click
Add non-adjacent cells to selection	Ctrl Click	⌘ Click

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Navigation & Efficiency Tips

222 Excel shortcuts for Windows and Mac

https://exceljet.net/keyboard-shortcuts

Extending a Selection

Extend selection by one cell right	Shift →	⇧ →
Extend selection by one cell left	Shift ←	⇧ ←
Extend selection by one cell up	Shift ↑	⇧ ↑
Extend selection by one cell down	Shift ↓	⇧ ↓
Extend the selection to the last cell right	Ctrl Shift →	^ ⇧ →
Extend the selection to the last cell left	Ctrl Shift ←	^ ⇧ ←
Extend the selection to the last cell up	Ctrl Shift ↑	^ ⇧ ↑
Extend the selection to the last cell down	Ctrl Shift ↓	^ ⇧ ↓
Extend selection up one screen	Shift PgUp	Fn ⇧ ↑
Extend selection down one screen	Shift PgDn	Fn ⇧ ↓
Extend selection right one screen	Alt Shift PgDn	Fn ⇧ ⌥ ↓
Extend selection left one screen	Alt Shift PgUp	Fn ⇧ ⌥ ↑
Extend selection to start of row	Shift Home	Fn ⇧ ←
Extend selection to first cell in worksheet	Ctrl Shift Home	Fn ^ ⇧ ←
Extend selection to last cell in worksheet	Ctrl Shift End	Fn ^ ⇧ →

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Navigation & Efficiency Tips

222 Excel shortcuts for Windows and Mac

https://exceljet.net/keyboard-shortcuts

Formatting

Apply general format	Ctrl Shift ~	^ ⇧ ~
Apply currency format	Ctrl Shift $	^ ⇧ $
Apply percentage format	Ctrl Shift %	^ ⇧ %
Apply scientific format	Ctrl Shift ^	^ ⇧ ^
Apply date format	Ctrl Shift #	^ ⇧ #
Apply time format	Ctrl Shift @	^ ⇧ @
Apply number format	Ctrl Shift !	^ ⇧ !

Number Formatting

Format (almost) anything	Ctrl 1	⌘ 1
Display Format Cells with Font tab selected	Ctrl Shift F	^ ⇧ F
Apply or remove bold formatting	Ctrl B	⌘ B
Apply or remove italic formatting	Ctrl I	⌘ I
Apply or remove underscoring	Ctrl U	⌘ U
Apply or remove strikethrough formatting	Ctrl 5	⌘ ⇧ X

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Using the Cursor Wisely

https://www.dickinson.edu/download/downloads/id/2558/excel

	Used for selecting cells
	The I-beam which indicates the cursor position when editing a cell entry.
	The fill handle. Used for copying formula or extending a data series.
	To select cells on the worksheet. Selects whole row/column when positioned on the number/letter heading label.
	At borders of column headings. Drag to widen a column.
	At borders of row letters. Drag to increase height of row.

Shape	Used to:
	The **Select Cursor.** Select a cell or range. This is always used to select data before applying formatting commands.
	The **Fill Handle.** Use this to copy formulas or values. The fill handle only appears when you are in the lower right corner of the current selection.
	The **White Arrow with a smaller 4-headed black arrow.** Use this to drag and drop the selected cell or range. The white arrow only appears when you are at the edge of the current selection.
	The **I-Beam.** Use this to enter or edit data. The cursor (vertical line inside the cell) blinks.
	The **2-headed arrow (horizontal).** Resize column width
	The **2-headed arrow (vertical).** Resize row height
Format Painter	The **Format Painter.** Use this to copy cell formats. Click on the text that is already formatted the way you want it. Then click on the Format Painter button (on the **Home** tab, in the **Clipboard** group). Click on one cell or drag the cursor over the cells that you want to format. They will be formatted exactly the same as the cell that you were in when you clicked on the Format Painter

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