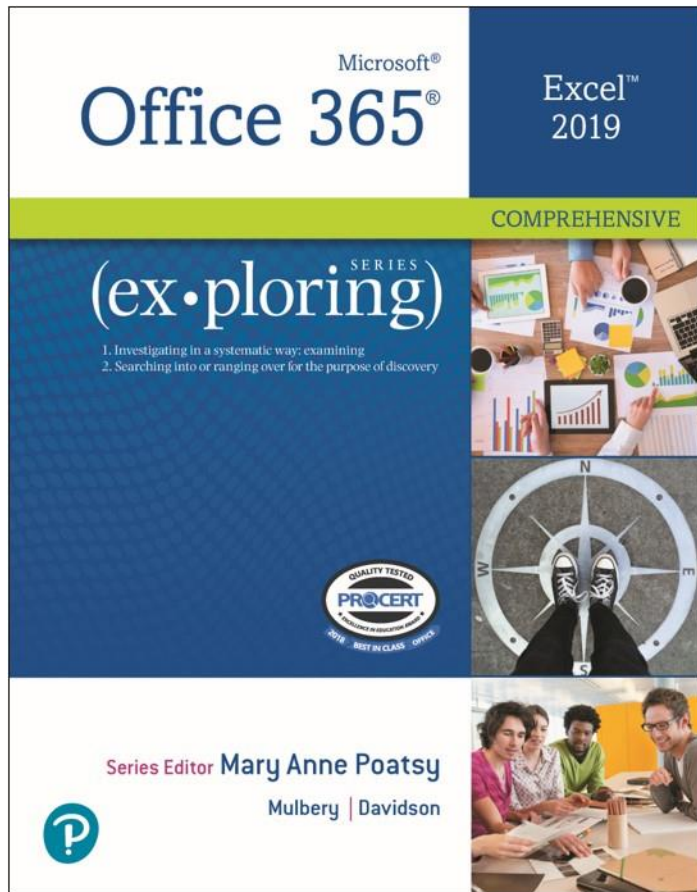


Microsoft® Office 365® Excel™ 2019 Comprehensive



Chapter 5

Subtotals, PivotTables, and PivotCharts

Learning Objectives (1 of 2)

5.1 Subtotal Data

5.2 Group and Ungroup Data

5.3 Create a PivotTable

5.4 Modify a PivotTable

5.5 Sort, Filter, and Slice a PivotTable

Learning Objectives (2 of 2)

5.6 Create a Calculated Field

5.7 Change the PivotTable Design

5.8 Create a Data Model

5.9 Create a PivotChart

Subtotaling Data (1 of 2)

AutoSave On Sociology Division Book List - Saved to OneDrive

File Home Insert Page Layout Formulas Data Review View Help Tell me what you want to do

Get Data From Text/CSV Recent Sources From Web From Table/Range

STOCKS Geography Sort Filter Forecast

SubTOTAL function

Subtotal command

Outline symbols

Data sorted by Discipline

Research/Stats subtotal

Subtotals calculated for these columns

Social Problems subtotal

Social Psychology subtotal

Grand total

Discipline	Units Sold Wholesale	Unit Price Wholesale	Sales: Wholesale	Units Sold Retail	Unit Price Retail	Sales: Retail	Total Book Sales
Research/Stats Total	303,707			5,452			\$ 22,091,701
79 Social Problems Alcohol/Drugs Current Trends in Alcohol and Human Behavior	4,500	\$ 90	\$ 405,000	117	\$ 117	\$ 13,689	\$ 418,689
80 Social Problems Alcohol/Drugs Understanding Alcohol and Human Behavior	3,798	\$ 75	\$ 284,850			\$ 6,664	\$ 291,514
81 Social Problems Conflict Approach A Conflict Approach to Social Problems	3,500	\$ 76	\$ 266,000			\$ 2,462	\$ 268,462
82 Social Problems General Addressing Social Problems	11,342	\$ 115	\$ 1,304,330			\$ 13,050	\$ 1,317,380
83 Social Problems General Current Social Problems	20,300	\$ 115	\$ 2,334,500	118	\$ 150	\$ 17,700	\$ 2,352,200
84 Social Problems General Social Inequalities Around the Globe	11,329	\$ 90	\$ 1,019,610	154	\$ 117	\$ 18,018	\$ 1,037,628
85 Social Problems General Social Problems	14,333	\$ 100	\$ 1,433,300	93	\$ 130	\$ 12,090	\$ 1,445,390
86 Social Problems Violence/Abuse Child Abuse in Today's World	3,500	\$ 125	\$ 437,500	43	\$ 163	\$ 7,009	\$ 444,509
87 Social Problems Violence/Abuse Domestic Violence: Trends and Prevention	9,876	\$ 115	\$ 1,135,740	22	\$ 150	\$ 3,300	\$ 1,139,040
88 Social Problems Violence/Abuse Increasing Violence	15,174	\$ 130	\$ 1,972,620	110	\$ 169	\$ 18,590	\$ 2,017,210
Social Problems Total	97,852			1,031			\$ 10,751,227
91 Social Psychology General An Introduction to Social Psychology	18,750	\$ 135	\$ 2,531,250	1,023	\$ 176	\$ 180,048	\$ 2,711,298
92 Social Psychology General Modern Perspectives on Social Psychology	25,983	\$ 115	\$ 2,988,045	853	\$ 150	\$ 127,950	\$ 3,115,995
93 Social Psychology General Readings in Social Psychology	15,502	\$ 75	\$ 1,162,650	73	\$ 98	\$ 7,154	\$ 1,169,804
94 Social Psychology General Social Psychology	17,353	\$ 105	\$ 1,822,065	650	\$ 137	\$ 89,050	\$ 1,911,115
95 Social Psychology General Social Psychology: An Interaction Approach	8,034	\$ 95	\$ 763,230	123	\$ 124	\$ 15,252	\$ 778,482
96 Social Psychology Symbolic Interactionism Looking at Self and Society	5,321	\$ 85	\$ 452,285	11	\$ 111	\$ 1,221	\$ 453,506
97 Social Psychology Symbolic Interactionism Symbolic Interactionism: An Introduction	18,950	\$ 125	\$ 2,368,750	1,654	\$ 163	\$ 269,602	\$ 2,638,352
98 Social Psychology Symbolic Interactionism Symbolic Interactionism: Social Problems	15,768	\$ 95	\$ 1,497,960	143	\$ 124	\$ 17,732	\$ 1,515,692
Social Psychology Total	125,661			4,530			\$ 14,294,244
Grand Total	1,119,329			33,219			\$ 120,233,644

Books Subtotal

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Subtotaling Data (2 of 2)

Displays grand total

Displays all details

Displays subtotal and grand total

Expands a category to show its details

Collapses a category to show only the subtotals

Discipline	Area	Book Title	Units Sold Wholesale	Unit Price Wholesale	Sales: Wholesale	Units Sold Retail	Unit Price Retail	Sales: Retail	Total Book Sales
14	Aging/Death Total		125,663			1,859			\$ 12,869,678
21	Criminal Justice Total		66,559			4,251			\$ 7,439,815
29	Family Total		76,710			2,849			\$ 8,491,137
42	Introductory Total		179,415			5,259			\$ 17,876,251
48	Miscellaneous Total		37,117			1,838			\$ 3,427,063
63	Race/Class/Gender Total		206,845			6,150			\$ 22,992,528
79	Research/Stats Total		203,707			5,452			\$ 22,091,701
90	Social Problems Total		97,852			1,031			\$ 10,751,227
99	Social Psychology Total		125,661			4,530			\$ 14,294,244
100	Grand Total		1,119,529			33,219			\$ 120,233,644

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Grouping and Ungrouping Data

The screenshot shows the Microsoft Excel interface with the 'Data' tab selected. A table of book sales data is displayed, with columns for Discipline, Area, Book Title, Units Sold Wholesale, Unit Price Wholesale, Sales Wholesale, Sales Retail, and Total Book Sales. The 'Sales Retail' column is collapsed, and the 'Sales Wholesale' column is expanded. The 'Group By' button is highlighted in the ribbon, and the 'Collapse' button is also highlighted. The 'Ungroup' button is visible in the ribbon. A callout box points to the 'Group By' button, stating 'Groups related columns or rows'. Another callout box points to the 'Collapse' button, stating 'Collapses column groups'. A third callout box points to the 'Ungroup' button, stating 'Ungroups the dataset'. A fourth callout box points to the collapsed 'Sales Retail' column, stating 'Columns I-J hidden when Sales Retail is collapsed'. A fifth callout box points to the expanded 'Sales Wholesale' column, stating 'Expands a group of columns'.

Discipline	Area	Book Title	Units Sold Wholesale	Unit Price Wholesale	Sales Wholesale	Sales Retail	Total Book Sales
Family	Family Interaction	Family Dynamics: A Modern Perspective	9,575	\$ 85			
Family	Family Interaction	Family Interactions: A Developmental Approach	12,000	\$ 115			
Family	Family Interaction	Trends in Family Interactions	17,500	\$ 125	\$ 2,187,500	\$ 201,342	\$ 2,388,842
	Family Interaction Total		39,075				\$ 4,610,340

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PivotTable Basics

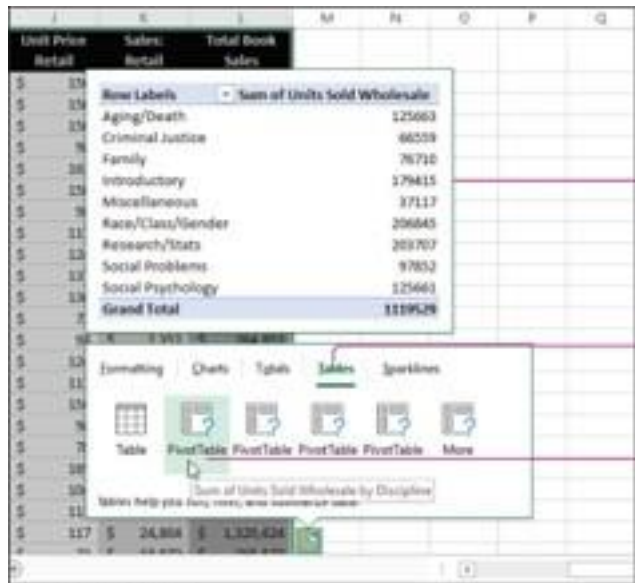
	A	B	C	D	E	F	G	H	I	J
1	Weekday	Timeframe	Amount		Sum of Amount	Day				
2	Friday	Morning	\$ 750		Timeframe	Friday	Saturday	Sunday	Grand Total	
3	Friday	Afternoon	\$ 1,500		Morning	\$ 750	\$ 895	\$ 845	\$ 2,490	
4	Friday	Evening	\$ 2,635		Afternoon	\$ 1,500	\$ 1,760	\$ 1,820	\$ 5,080	
5	Saturday	Morning	\$ 895		Evening	\$ 2,635	\$ 3,245	\$ 1,900	\$ 7,780	
6	Saturday	Afternoon	\$ 1,760		Grand Total	\$ 4,885	\$ 5,900	\$ 4,565	\$ 15,350	
7	Saturday	Evening	\$ 3,245							
8	Sunday	Morning	\$ 845							
9	Sunday	Afternoon	\$ 1,820							
10	Sunday	Evening	\$ 1,900							
11										
12										

Original dataset

Corresponding PivotTable

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Creating a PivotTable (1 of 5)



Row Labels	Sum of Units Sold Wholesale
Aging/Death	125663
Criminal Justice	66559
Family	76710
Introductory	179415
Miscellaneous	37117
Race/Class/Gender	206845
Research/Stats	203707
Social Problems	97852
Social Psychology	125661
Grand Total	1119529

Sample
PivotTable

Tables selected in
Quick Analysis

Point to a thumbnail

Select a thumbnail



Row Labels	Sum of Units Sold Wholesale
Aging/Death	125663
Criminal Justice	66559
Family	76710
Introductory	179415
Miscellaneous	37117
Race/Class/Gender	206845
Research/Stats	203707
Social Problems	97852
Social Psychology	125661
Grand Total	1119529

Preview of selected
PivotTable

Creating a PivotTable (2 of 5)

The screenshot displays the Microsoft Excel interface with a PivotTable and the PivotTable Fields task pane. The PivotTable is located on the 'Sheet1' tab and shows the 'Sum of Units Sold Wholesale' for various disciplines. The PivotTable Fields task pane is open on the right, showing a list of fields in the dataset. Annotations highlight key components:

- PivotTable name:** Points to the 'Active Field' label in the top-left corner of the PivotTable.
- PivotTable Tools:** Points to the 'PivotTable Tools' ribbon tab.
- Tools to customize the task pane layout:** Points to the task pane's layout options.
- PivotTable Fields task pane:** Points to the task pane itself.
- Search for a field:** Points to the search bar in the task pane.
- List of fields in dataset; check mark indicates field used in the PivotTable:** Points to the list of fields in the task pane.
- Discipline field as row labels:** Points to the 'Discipline' field in the 'Rows' area of the task pane.
- Sum of Units Sold Wholesale field:** Points to the 'Sum of Units Sold Wholesale' field in the 'Values' area of the task pane.
- Discipline field creates the rows:** Points to the 'Discipline' field in the 'Rows' area of the task pane.
- Units Sold Wholesale field contains values to summarize:** Points to the 'Sum of Units Sold Wholesale' field in the 'Values' area of the task pane.
- New sheet for PivotTable:** Points to the 'Sheet1' tab at the bottom.

Row Labels	Sum of Units Sold Wholesale
Aging/Death	125663
Criminal Justice	66559
Family	76716
Introductory	179415
Miscellaneous	37117
Race/Class/Gender	206845
Research/Stats	203707
Social Problems	97852
Social Psychology	125663
Grand Total	1119529

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Creating a PivotTable (3 of 5)

Area	Description
Filters Area	Displays top-level filters above the PivotTable so that you can set filters to display results based on conditions you select.
Columns Area	Displays columns of summarized data for the selected field(s). When you drag a field to the Columns area, the PivotTable displays one column of data for each unique value contained in the dataset.
Rows Area	Groups the data into categories in the first column based on the selected field(s). Each unique text entry is listed only one time in alphabetical order in the first column regardless of how many times the text is present in the original dataset. These labels identify the content on each row.
Values Area	Displays summary statistics, such as totals or averages, for the selected field. The default function is SUM for quantitative fields. If you select a field containing labels, the default function is COUNT to count the number of text entries within each category.

Creating a PivotTable (4 of 5)

The screenshot shows the Microsoft Excel interface with the 'PivotTable Tools' ribbon active. The 'PivotTable Fields' task pane is open on the right, displaying a list of fields to add to the report. The worksheet area shows a placeholder for a PivotTable. Annotations with callouts provide guidance on the next steps in creating the PivotTable.

Annotations:

- Move the PivotTable to a different worksheet:** Points to the 'Move PivotTable' button in the 'PivotTable Tools' ribbon.
- PivotTable placeholder:** Points to the text 'To build a report, choose fields from the PivotTable Field List' in the worksheet.
- Drag fields...:** Points to the list of fields in the 'PivotTable Fields' task pane.
- ... to areas to create the PivotTable:** Points to the 'Filters', 'Columns', 'Rows', and 'Values' areas in the 'PivotTable Fields' task pane.

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Creating a PivotTable (5 of 5)

The screenshot shows an Excel PivotTable summarizing book sales data. The PivotTable Fields task pane on the right is configured as follows:

- Selected fields:** Discipline, Area, Copyright.
- Filters:** (Empty)
- Columns:** Copyright.
- Rows:** Discipline, Area.
- Values:** Sum of Total Book Sales.

The PivotTable data is as follows:

Row Labels	2018	2019	2020	2021	Grand Total
Sum of Total Book Sales	\$ 3,689,688	\$ 1,391,874	\$ 1,801,600	\$ 5,977,074	\$ 12,860,236
Discipline: Aging/Death	\$ 2,641,113	\$ 1,391,874	\$ 1,801,600	\$ 5,977,074	\$ 12,860,236
Discipline: Death and Dying	\$ 1,048,575	\$ 1,391,874	\$ 1,801,600	\$ 461,499	\$ 4,703,548
Discipline: Sociology of Aging	\$ 951,068	\$ 563,137	\$ 2,022,000	\$ 3,878,898	\$ 7,415,103
Discipline: Criminal Justice	\$ 345,768	\$ 605,300	\$ 563,137	\$ 2,022,000	\$ 2,781,268
Discipline: Deviance	\$ 605,300	\$ 563,137	\$ 1,097,610	\$ 2,266,047	\$ 5,149,056
Discipline: Juvenile Delinquency	\$ 565,451	\$ 1,823,366	\$ 2,138,209	\$ 3,945,558	\$ 8,472,584
Discipline: Family	\$ 1,402,320	\$ 818,433	\$ 2,380,094	\$ 4,600,757	\$ 8,472,584
Discipline: Family Interaction	\$ 565,451	\$ 421,046	\$ 1,319,776	\$ 1,565,554	\$ 3,871,827
Discipline: Marriage and Family	\$ 1,124,060	\$ 6,067,086	\$ 5,768,836	\$ 17,840,870	\$ 34,759,852
Discipline: Introductory	\$ 2,801,037	\$ 1,334,310	\$ 3,042,522	\$ 11,177,869	\$ 11,177,869
Discipline: Conflict Approach	\$ 299,308	\$ 223,206	\$ 522,514	\$ 522,514	\$ 522,514
Discipline: General	\$ 2,022,705	\$ 2,315,902	\$ 558,336	\$ 4,897,943	\$ 4,897,943
Discipline: Macrosociology Approach	\$ 264,819	\$ 64,810	\$ 327,045	\$ 2,760,453	\$ 3,417,127
Discipline: Social Sciences	\$ 264,819	\$ 327,045	\$ 945,973	\$ 1,537,837	\$ 1,537,837
Discipline: Miscellaneous	\$ 64,810	\$ 1,814,480	\$ 1,879,290	\$ 1,879,290	\$ 1,879,290
Discipline: Social Change	\$ 684,500	\$ 3,535,415	\$ 6,366,445	\$ 12,369,071	\$ 22,955,431
Discipline: Social Theory	\$ 1,264,500	\$ 3,576,925	\$ 7,026,067	\$ 11,867,492	\$ 11,867,492
Discipline: Race/Class/Gender	\$ 684,500	\$ 1,763,033	\$ 626,740	\$ 1,931,750	\$ 5,006,023
Discipline: Gender Issues	\$ 507,882	\$ 2,162,780	\$ 3,411,254	\$ 6,081,916	\$ 6,081,916
Discipline: Human Sexuality	\$ 507,882	\$ 2,162,780	\$ 3,411,254	\$ 6,081,916	\$ 6,081,916
Discipline: Race/Ethnicity	\$ 507,882	\$ 2,162,780	\$ 3,411,254	\$ 6,081,916	\$ 6,081,916
Grand Total	\$ 6,155,526	\$ 12,501,652	\$ 19,623,284	\$ 34,689,889	\$ 72,970,351

Callouts in the image explain the field placement:

- Sum of Total Sales organized into Copyright columns:** Points to the Copyright column header.
- Selected fields:** Points to the PivotTable Fields task pane.
- Discipline field row label:** Points to the Discipline field in the Rows area.
- Area field row labels:** Points to the Area field in the Rows area.
- Copyright field creates columns:** Points to the Copyright field in the Columns area.
- Discipline and Area fields create row labels:** Points to the Discipline and Area fields in the Rows area.
- Sum of Total Book Sales field values:** Points to the Sum of Total Book Sales field in the Values area.

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Modifying a PivotTable (1 of 4)

Expand all subcategories

Collapse subcategories

Expand the subcategory

Collapse the subcategories

Display the expand and collapse buttons by rows

Row Labels	2018	2019	2020	2021	Grand Total
Family	7503	16500	23973	28734	76710
Family	7503				7503
Family			14398		14398
Family			9575		9575
Family		12000			12000
Family				11234	11234
Family		4500			4500
Family			17500		17500
Family	52941	62218	64256		179415

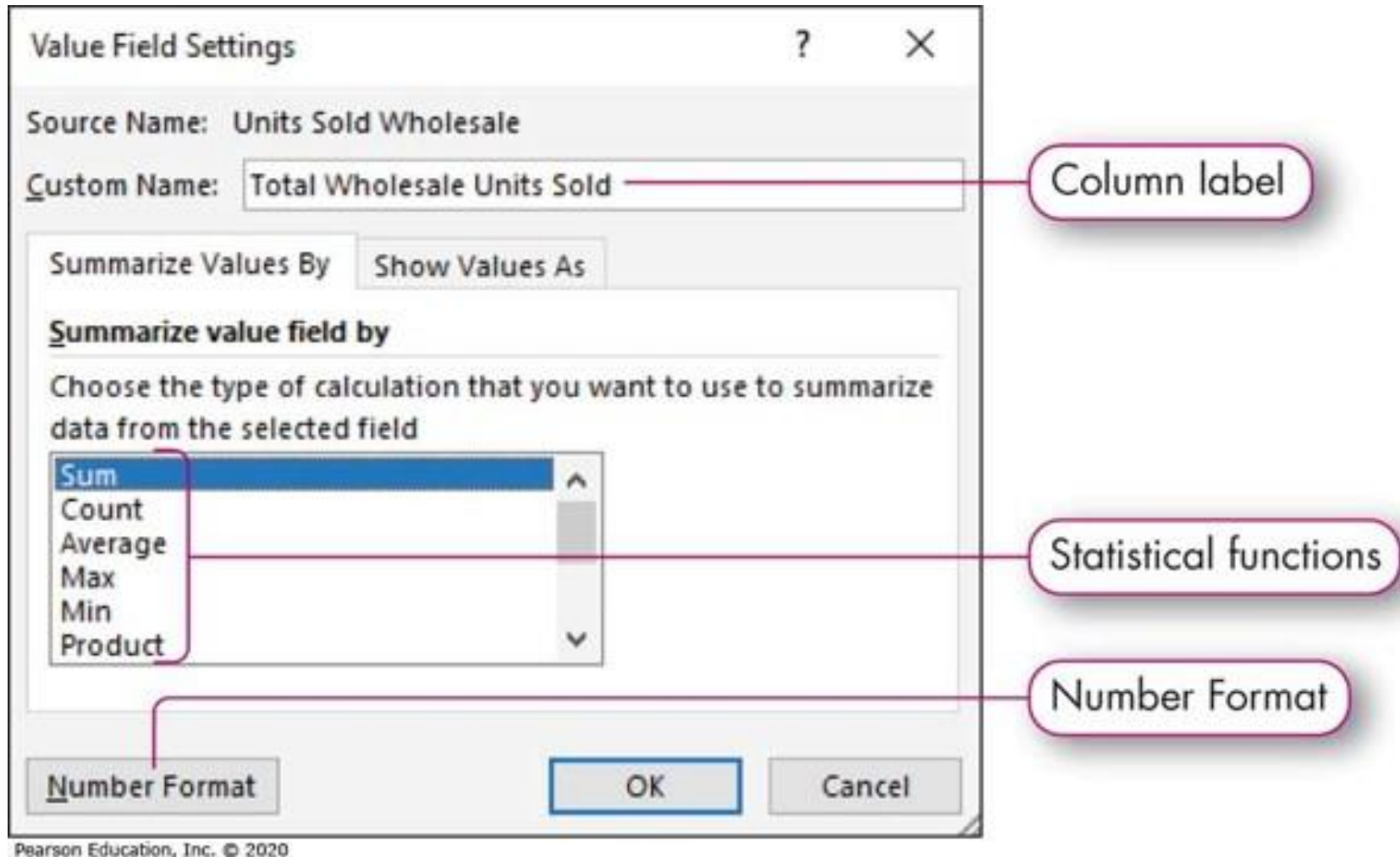
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Modifying a PivotTable (2 of 4)

Further PivotTable modifications:

- Removing fields
- Moving fields between areas
- Rearranging fields within an area
- Changing summary statistics

Modifying a PivotTable (3 of 4)



Modifying a PivotTable (4 of 4)

GETPIVOTDATA function

GETPIVOTDATA(data_field, pivot_table, [field1, item1, field2, item2], . . .)

=GETPIVOTDATA("TotalBookSales", PivotTable!\$A\$4)

Sorting, Filtering, and Slicing a PivotTable (1 of 7)

The screenshot shows an Excel PivotTable with the following data:

Timeframe	Sum of Amount
Afternoon	
Evening	
Morning	15 \$ 2,490
Grand Total	15 \$ 15,350

A context menu is open over the 'Morning' row label. The menu includes options like Copy, Format Cells, Refresh, Sort, Filter, Subtotal, Expand/Collapse, Group, Ungroup, Move, Remove, Field Settings, PivotTable Options, and Hide Field List. The 'Move' option is selected, and a sub-menu is open showing various move options. A callout box points to the 'Move' option with the text 'Move option'. Another callout box points to the sub-menu with the text 'Select where to move it'. A third callout box points to the 'Morning' row label with the text 'Row label'.

Row label

Move option

Select where to move it

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Sorting, Filtering, and Slicing a PivotTable (2 of 7)

The screenshot shows an Excel PivotTable with the following data:

	2019	2020	2021	Grand Total
Aging	\$ 1,391,874		\$ 4,206,141	\$ 5,598,015
Crime		\$ 2,022,000	\$ 3,878,898	\$ 6,851,966
Famil	\$ 1,402,320	\$ 1,319,776	\$ 1,565,554	\$ 4,853,101
Introc		\$ 1,094,567	\$ 5,042,522	\$ 6,137,089
Misce	\$ 64,810			\$ 64,810
Race/	\$ 1,849,782	\$ 826,740	\$ 8,957,817	\$ 11,434,339
Resel	\$ 2,112,753	\$ 2,998,862	\$ 1,950,300	\$ 9,057,230
Social	\$ 1,608,100	\$ 2,926,145	\$ 440,256	\$ 6,378,165
Social		\$ 2,626,774	\$ 7,329,991	\$ 12,317,431
Grate	\$ 8,429,639	\$ 11,614,864	\$ 31,371,479	\$ 62,692,146

Annotations in the image:

- Search condition:** Points to the search box in the filter dropdown.
- Displays filter list; funnel indicates filter engaged:** Points to the filter dropdown arrow.
- Check box to select multiple items:** Points to the "Select Multiple Items" checkbox.
- Field in Filters area:** Points to the "Edition" field in the Filters area of the PivotTable Fields task pane.

The PivotTable Fields task pane on the right shows the following fields:

- Discipline (checked)
- Area (unchecked)
- Book Title (unchecked)
- Edition (checked)
- Copyright (checked)
- Units Sold Wholesale (unchecked)
- Unit Price Wholesale (unchecked)
- Sales Wholesale (unchecked)

The Filters area contains "Edition" and the Columns area contains "Copyright".

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Sorting, Filtering, and Slicing a PivotTable (3 of 7)

Displays column filter menu

Displays row filter menu

Point to option to display additional filters

Select and deselect labels to filter

Row Labels	2018	2019	2020	2021	Grand Total
Sort A to Z	668	\$ 1,351,874	\$ 1,801,600	\$ 5,977,074	\$ 12,860,236
Sort Z to A	668	\$ 563,117	\$ 2,022,000	\$ 3,878,898	\$ 7,415,103
More Sort Options...	451	\$ 1,823,366	\$ 2,138,209	\$ 3,945,558	\$ 8,472,584
Clear Filter From 'Discipline'		\$ 5,123,050	\$ 6,967,985	\$ 5,758,835	\$ 17,849,870
Label Filters				\$ 2,760,433	\$ 3,417,127
Value Filters				\$ 12,369,071	\$ 22,955,431
				\$ 5,354,588	\$ 22,058,660
				\$ 4,808,298	\$ 10,746,207
				\$ 7,329,991	\$ 14,264,810
				\$ 52,182,766	\$ 120,040,028

PivotTable Fields

Choose fields to add to report:

Search

☒ Discipline
☐ Area
☐ Book Title
☒ Edition
☒ Copyright
☐ Units Sold Wholesale
☐ Unit Price Wholesale

Drag fields between areas below:

Filters: Edition
Columns: Copyright
Rows: Discipline
Values: Sum of Total Book Sales

Defer Layout Update

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Sorting, Filtering, and Slicing a PivotTable (4 of 7)



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Sorting, Filtering, and Slicing a PivotTable (5 of 7)

The screenshot displays an Excel interface with a PivotTable and a Discipline slicer. The PivotTable shows sales data by year (2018-2021) and Grand Total. The Discipline slicer is set to filter the data to three disciplines: Family, Introductory, and Social Problems. Various annotations highlight key features and settings.

Annotations:

- Custom slicer caption for selected slicer
- Button format options for selected slicer
- Default slicer caption (field name only)
- Size of selected slicer
- Clears the filters
- Select for multiple slicer filters
- Filtered to three disciplines
- Row labels correspond to filters set in Discipline slicer
- Edition buttons unavailable based on Disciplines selected
- Custom slicer caption

Row Labels	2018	2019	2020	2021	Grand Total
Family	\$ 565,451	\$ 1,823,366	\$ 2,138,209	\$ 3,945,558	\$ 8,472,584
Introductory		\$ 5,123,050	\$ 6,967,985	\$ 5,758,835	\$ 17,849,870
Social Problems	\$ 1,403,664	\$ 1,608,100	\$ 2,926,145	\$ 4,808,298	\$ 10,746,207
Grand Total	\$ 1,969,115	\$ 8,554,516	\$ 12,032,339	\$ 14,512,693	\$ 37,068,663

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Sorting, Filtering, and Slicing a PivotTable (6 of 7)

Group	Commands
Slicer	Changes the slicer caption, display the Slicer Settings dialog box for further customization, and manage the PivotTable connected to the slicer. The Edition slicer has been sorted in ascending order. For example, the light blue items 6 and 9 do not apply to the selected disciplines.
Slicer Styles	Applies a style to the slicer by specifying the color of the filtered item in the slicer. For example, given the workbook theme, the default active filters appear in blue and unavailable items appear in light blue.
Arrange	Specifies the slicer's placement in relation to other groups, such as placing a slicer on top of other slicers.
Buttons	Defines how many columns are displayed in the selected slicer and the height and width of each button inside the slicer.
Size	Sets the height and width of the slicer window. For example, the Edition slicer's height is 1.96".

Sorting, Filtering, and Slicing a PivotTable (7 of 7)

The screenshot shows the Excel interface with a PivotTable and a Timeline tool. The PivotTable is located in the range A3:B7 and contains the following data:

Division	Sum of Sales
A	\$ 145
B	\$ 160
C	\$ 60
Grand Total	\$ 365

The Timeline tool is positioned below the PivotTable, showing a date range of 12/1/2021 to 8/31/2022. The timeline is divided into months, with the current time level set to 'MONTHS'. The timeline is annotated with several callouts:

- Unselected tiles**: Points to the unselected months (e.g., JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG).
- Selected tiles create filter**: Points to the selected months (e.g., SEP, OCT, NOV, DEC).
- Timeline**: Points to the timeline tool itself.
- Timeline Tools Options**: Points to the 'Options' tab in the ribbon.
- Select time level**: Points to the 'MONTHS' dropdown menu.
- Check mark indicates current time level**: Points to the check mark next to 'MONTHS' in the dropdown menu.

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Creating a Calculated Field (1 of 3)

The screenshot shows the 'Insert Calculated Field' dialog box with the following components and annotations:

- Calculated field name:** A callout box pointing to the 'Name' field, which contains the text 'Royalties'.
- Calculated field formula:** A callout box pointing to the 'Formula' field, which contains the text '= 'Total Book Sales'*.1'.
- Field used within formula:** A callout box pointing to the 'Total Book Sales' entry in the 'Fields' list, which is highlighted in blue.

The dialog box includes the following fields and controls:

- Name:** A text field containing 'Royalties'.
- Formula:** A text field containing '= 'Total Book Sales'*.1'.
- Fields:** A list box containing the following items: Copyright, Units Sold Wholesale, Unit Price Wholesale, Sales: Wholesale, Units Sold Retail, Unit Price Retail, Sales: Retail, and Total Book Sales (highlighted).
- Buttons:** 'Add', 'Delete', 'Insert Field', 'OK', and 'Close'.

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Creating a Calculated Field (2 of 3)

Option	Description
% of Grand Total	Displays each value as a percentage of the grand total.
% of Column Total	Displays each value as a percentage of the respective column total. The values in each column total 100%.
% of Row Total	Displays each value as a percentage of the respective row total. The values in each row total 100%.
% of Parent Row Total	Displays values as: (value for the item)/(value for the parent item on rows). Two fields should be contained in the Rows area where the first field is a parent of the second field. For example, if Discipline is the first field and Area is the second field, Family would be the parent for the Family Interaction and Marriage and Family areas. The calculation would divide the Family Interaction value by the total value in the Family parent row.
Running Total	Displays values as running totals.
Rank Smallest to Largest	Displays the rank of values in a specific field where 1 represents the smallest value.
Rank Largest to Smallest	Displays the rank of values in a specific field where 1 represents the largest value.

Creating a Calculated Field (3 of 3)

Aging/Death parent sales			
Row Labels	Sum of Total Book Sales	Percent of Parent total	Percent of Grand Total
Aging/Death	\$ 5,605,170	8.93%	8.93%
Death and Dying	\$ 3,751,187	66.92%	5.97%
Sociology of Aging	\$ 1,853,983	33.08%	2.95%
Criminal Justice	\$ 6,873,518	10.95%	10.95%
Deviance	\$ 5,167,396	75.18%	8.23%
Juvenile Delinquency	\$ 1,706,122	24.82%	2.72%
Family	\$ 4,862,233	7.74%	7.74%
Family Interaction	\$ 1,403,250	28.86%	2.23%
Marriage and Family	\$ 3,458,983	71.14%	5.51%
Introductory	\$ 6,144,126	9.78%	9.78%
Conflict Approach	\$ 1,095,875	17.84%	1.75%
General	\$ 5,048,251	82.16%	8.04%
Miscellaneous	\$ 64,860	0.10%	0.10%
Social Theory	\$ 54,860	100.00%	0.10%
Race/Class/Gender	\$ 11,456,828	18.24%	18.24%
Gender Issues	\$ 7,041,025	61.46%	11.21%
Human Sexuality	\$ 3,907,465	34.11%	6.22%
Race/Ethnicity	\$ 508,338	4.44%	0.81%
Research/Stats	\$ 9,061,675	14.43%	14.43%
Data Analysis	\$ 2,161,079	23.85%	3.44%
Research Methods	\$ 3,001,093	33.12%	4.78%
Social Statistics	\$ 3,899,503	43.03%	6.21%
Social Problems	\$ 6,381,817	10.16%	10.16%
Social Psychology	\$ 12,345,958	19.66%	19.66%
Grand Total	\$ 62,796,185	100.00%	100.00%

Aging/Death sales is 8.93% of grand total book sales

Death and Dying sales is 5.97% of grand total book sales

Death/Dying is 66.92% of Aging/Death parent sales

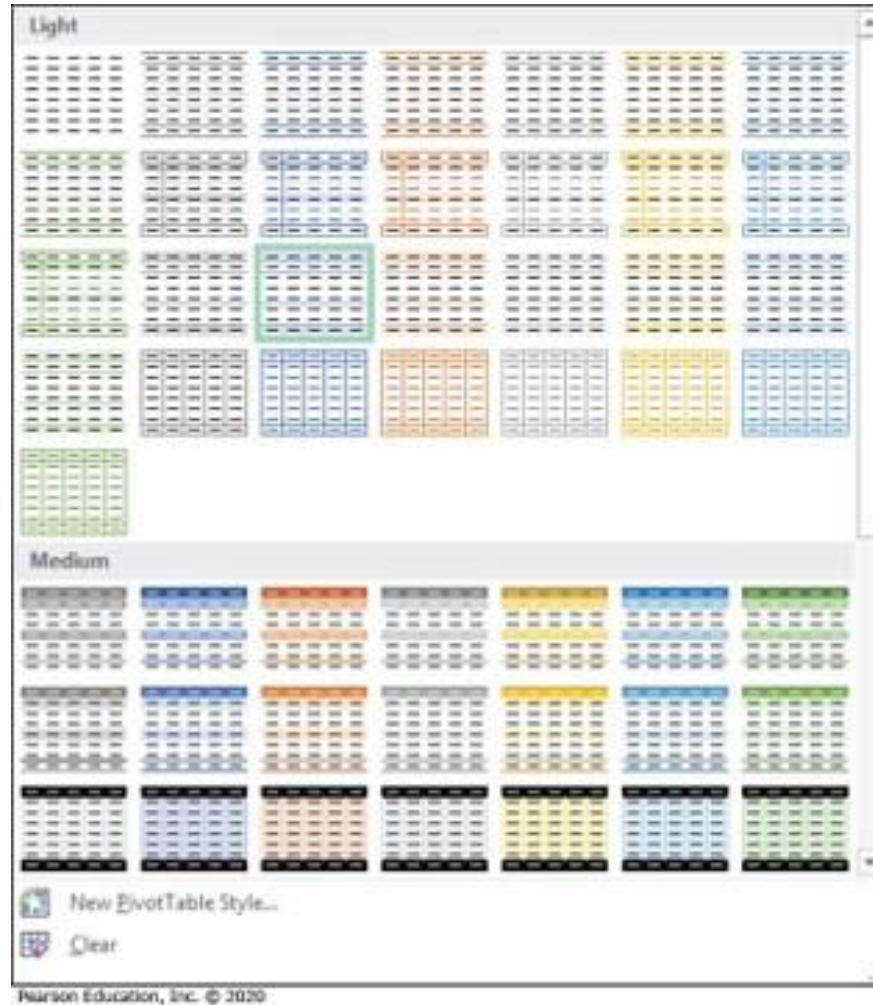
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Changing the PivotTable Design (1 of 2)

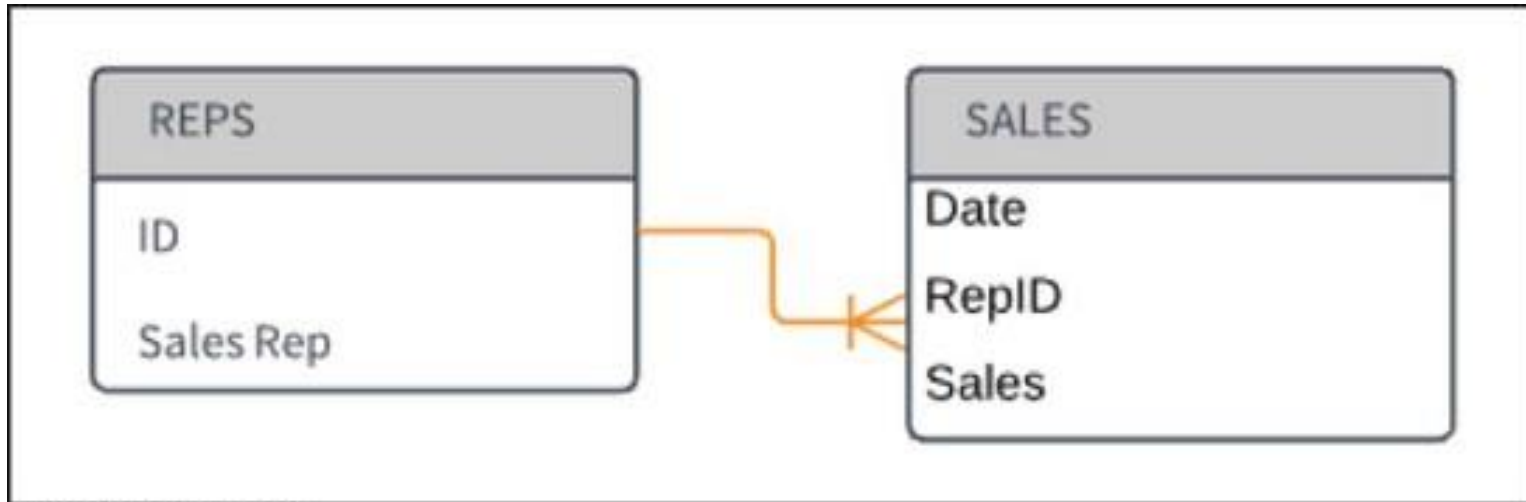


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Changing the PivotTable Design (2 of 2)



Creating a Data Model (1 of 4)



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Creating a Data Model (2 of 4)

Opens the Create Relationships dialog box

SALES table

REPS table

Create Relationship

Pick the tables and columns you want to connect

Table:
Data Model Table: SALES

Column (Foreign):
RepID

Related Table:
Data Model Table: REPS

Related Column (Primary):
ID

Creating relationships between tables is necessary to show related data from different tables on the same report.

OK Cancel

ID	Sales Rep	Date	RepID	Sales
1	Valerie	5/1/2021	2	\$5,200
2	Fernandez	5/1/2021	1	\$4,175
3	Malerie	5/1/2021	4	\$3,000
4	Carlton	5/1/2021	3	\$2,785
		5/2/2021	1	\$5,280
		5/2/2021	4	\$3,175
		5/2/2021	2	\$4,980
		5/2/2021	3	\$3,100
		5/3/2021	4	\$2,000
		5/3/2021	3	\$5,500
		5/3/2021	1	\$7,500
		5/3/2021	2	\$6,175

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Creating a Data Model (3 of 4)

Select primary table name

Create PivotTable

Choose the data that you want to analyze

☒ Select a table or range

Table/Range: SALES

☐ Use an external data source

Choose Connection...

Connection name:

☐ Use this workbook's Data Model

Choose where you want the PivotTable report to be placed

☒ New Worksheet

☐ Existing Worksheet

Location:

Choose whether you want to analyze multiple tables

☒ Add this data to the Data Model

OK Cancel

Select to include related tables

Creating a Data Model (4 of 4)

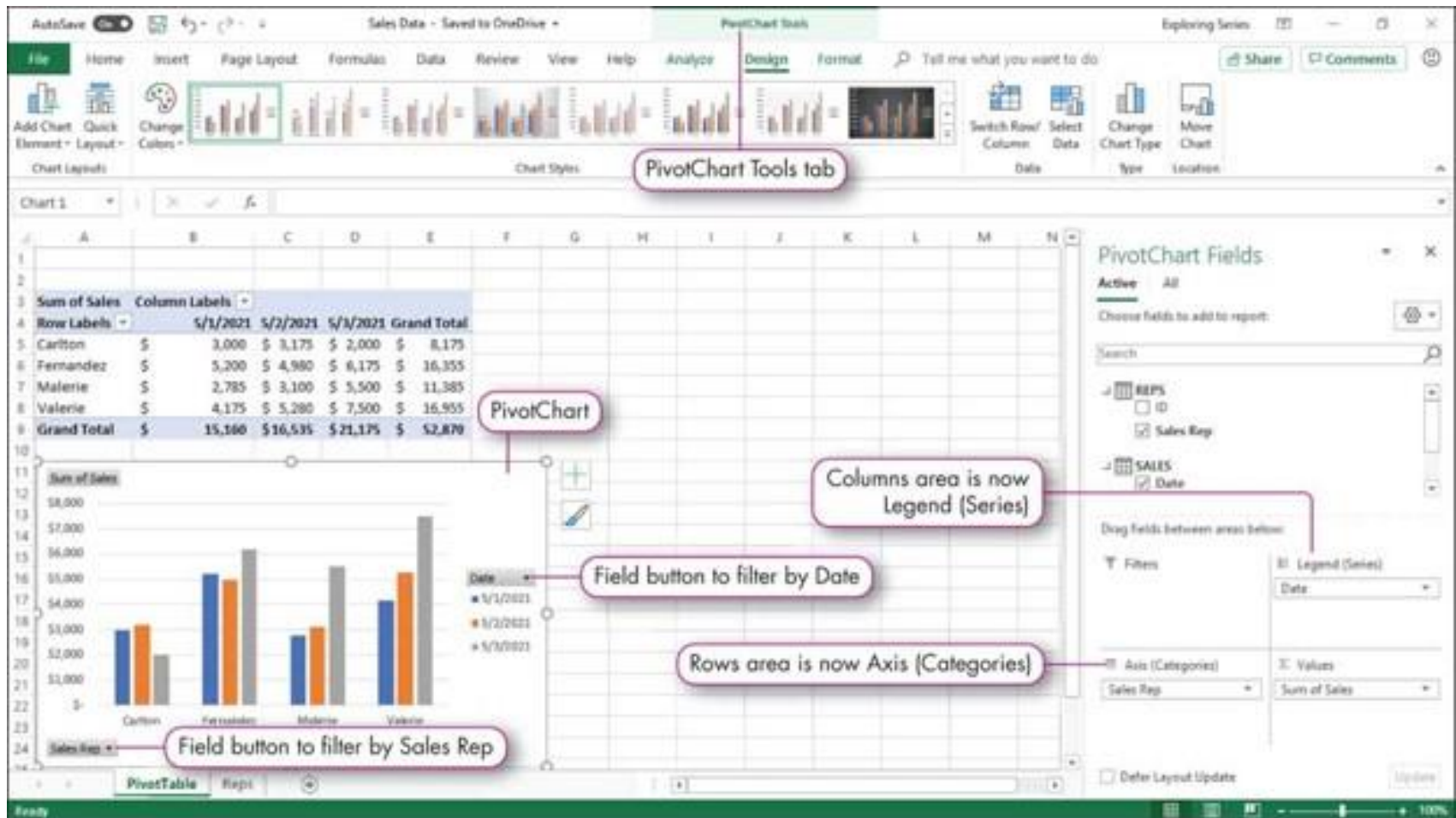
The screenshot displays an Excel worksheet with a PivotTable summarizing sales data. The PivotTable is structured with 'Sales Rep' as the row labels and 'Date' as the column labels. The values are the sum of sales for each rep on each date. The PivotTable Fields task pane on the right shows the 'REPS' table with 'Sales Rep' selected for the Rows area and the 'SALES' table with 'Date' selected for the Columns area and 'Sum of Sales' for the Values area. Annotations with callouts point to these elements:

- Displays all tables in the data model (points to the task pane header)
- REPS table and fields (points to the REPS table list)
- SALES table and fields (points to the SALES table list)
- Dates and sales values from SALES table (points to the Columns and Values areas)
- Sales Rep names from REPS table (points to the Rows area)

Sum of Sales	Column Labels				
Row Labels	5/1/2021	5/2/2021	5/3/2021	Grand Total	
Carlton	\$ 3,000	\$ 3,175	\$ 2,000	\$ 8,175	
Fernandez	\$ 5,200	\$ 4,980	\$ 6,175	\$ 16,355	
Malerie	\$ 2,785	\$ 3,100	\$ 5,500	\$ 11,385	
Valerie	\$ 4,175	\$ 5,280	\$ 7,500	\$ 16,955	
Grand Total	\$ 15,160	\$ 16,535	\$ 21,175	\$ 52,870	

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Creating a PivotChart (1 of 3)

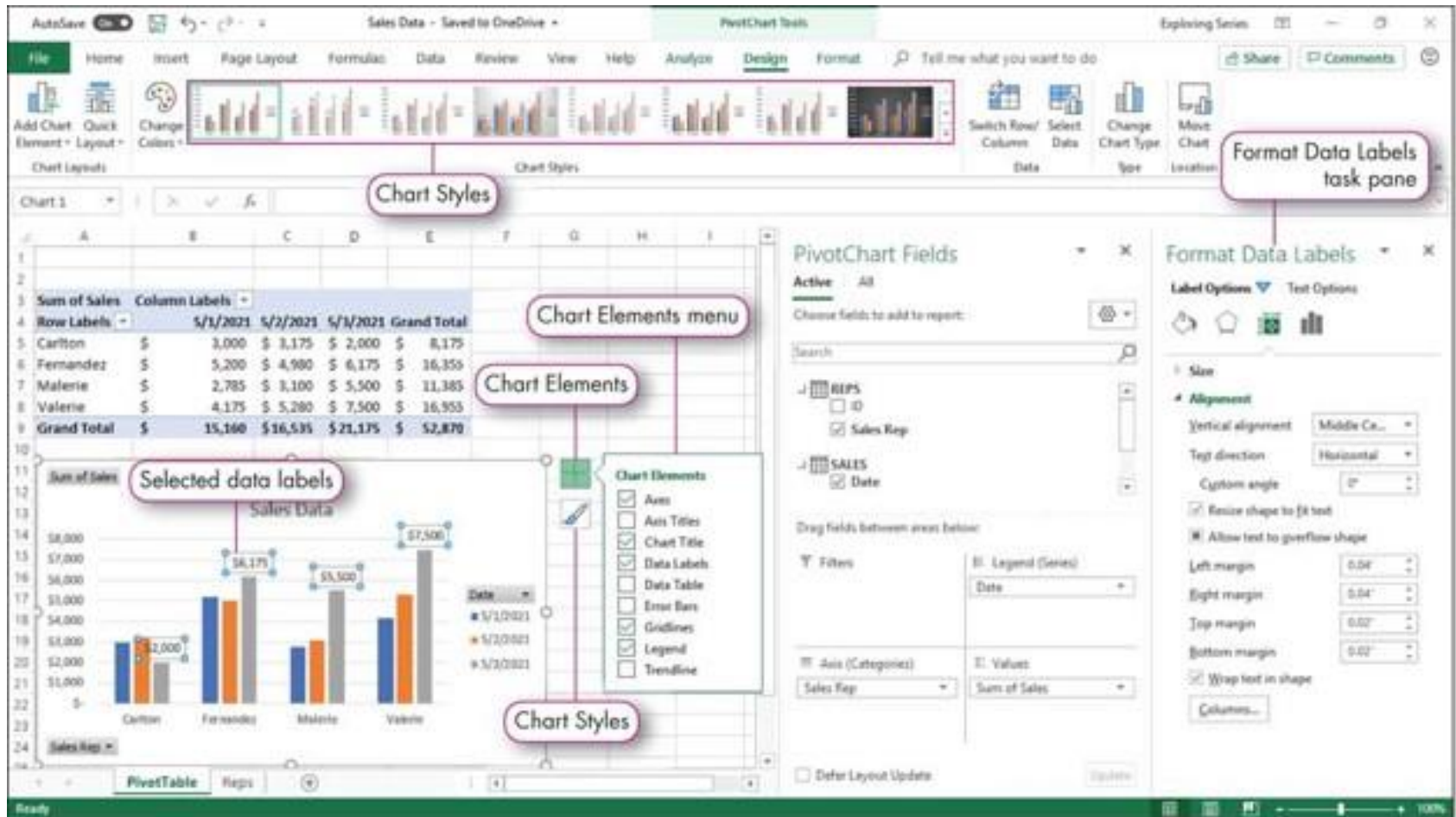


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Creating a PivotChart (2 of 3)

Group	Commands
Chart Layouts	Add chart elements (such as a chart title and data labels) and apply a layout to the PivotChart.
Chart Styles	Apply a different chart style to the PivotChart and then customize the chart by changing the color scheme.
Data	Switch how rows and columns of data are represented in the PivotChart and change the data source used to create the chart.
Type	Change the chart type, such as changing a column chart to a bar chart.
Location	Move the chart to a different sheet in the workbook.

Creating a PivotChart (3 of 3)



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