## Pivot...pivot...pivot... Video: Start working with pivot tables 7 min Video: Pivot tables continued 5 min Reading: Elements of a pivot table 10 min Reading: Using pivot tables in analysis 10 min Practice Quiz: Hands-On Activity: Explore movie data with pivot tables 2 questions Practice Quiz: Test your knowledge on using pivot tables 3 questions Learn more SQL calculations The data-validation process Using SQL with temporary tables Weekly challenge 4

Course challenge

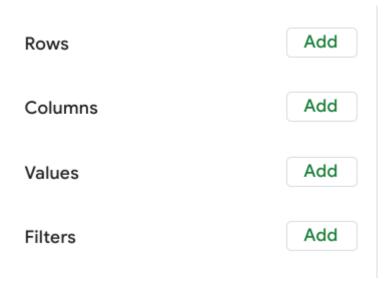
Get started with data calculations

## Elements of a pivot table

Previously, you learned that a pivot table is a tool used to sort, reorganize, group, count, total, or average data in spreadsheets. In this reading, you will learn more about the parts of a pivot table and how data analysts use them to summarize data and answer questions about their data.

**Pivot tables** make it possible to view data in multiple ways in order to identify insights and trends. They can help you quickly make sense of larger data sets by comparing metrics, performing calculations, and generating reports. They're also useful for answering specific questions about your data.

A pivot table has four basic parts: rows, columns, values, and filters.



The **rows** of a pivot table organize and group data you select horizontally. For example, in the <u>Working with pivot tables</u> ☑ video, the Release Date values were used to create rows that grouped the data by year.

<u>working with pivot tables</u>	كا	video
Release Date - Year		
2012		
2013		
2014		
2015		
2016		

The **columns** organize and display values from your data vertically. Similar to rows, columns can be pulled directly from the data set or created using **values**. **Values** are used to calculate and count data. This is where you input the variables you want to measure. This is also how you create calculated fields in your pivot table. As a refresher, a **calculated field** is a new field within a pivot table that carries out certain calculations based on the values of other fields

In the previous movie data example, the Values editor created columns for the pivot table, including the SUM of Box Office Revenue, the AVERAGE of Box Office Revenue, and the COUNT of Box Office Revenue columns.

SUM of Box Office Revenue (\$)	AVERAGE of Box Office Revenue (\$)	COUNT of Box Office Revenue (\$)
\$18,078,040,000.00	\$170,547,547.17	106
\$13,672,800,000.00	\$160,856,470.59	85
\$20,013,420,000.00	\$168,180,000.00	119
\$13,521,310,000.00	\$109,042,822.58	124
\$11,921,900,000.00	\$161,106,756.76	74
\$77,207,470,000.00	\$151,983,208.66	508

Finally, the **filters** section of a pivot table enables you to apply filters based on specific criteria — just like filters in regular spreadsheets! For example, a filter was added to the movie data pivot table so that it only included movies that generated less than \$10 million in revenue.

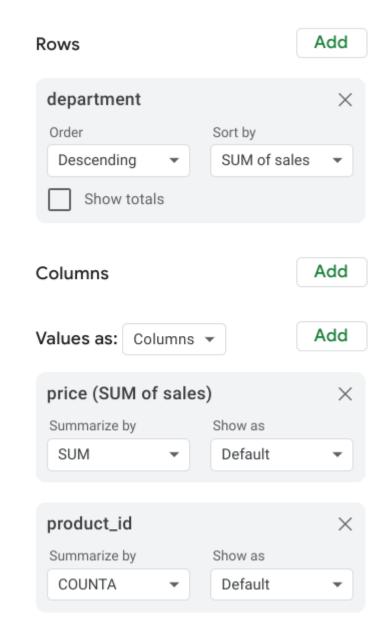
Grand Total	\$77,207,470,000,00	\$151,983,208,66	508
2016	\$11,921,900,000.00	\$161,106,756.76	74
2015	\$13,521,310,000.00	\$109,042,822.58	124
2014	\$20,013,420,000.00	\$168,180,000.00	119
2013	\$13,672,800,000.00	\$160,856,470.59	85
2012	\$18,078,040,000.00	\$170,547,547.17	106
Release Date - Year	SUM < \$10M	AVERAGE < \$10 M	COUNT < \$10 M

Being able to use all four parts of the pivot table editor will allow you to compare different metrics from your data and execute calculations, which will help you gain valuable insights.

## Using pivot tables for analysis

Pivot tables can be a useful tool for answering specific questions about a dataset so you can quickly share answers with stakeholders. For example, a data analyst working at a department store was asked to determine the total sales for each department and the number of products they each sold. They were also interested in knowing exactly which department generated the most revenue.

Instead of making changes to the original spreadsheet data, they used a pivot table to answer these questions and easily compare the sales revenue and number of products sold by each department.



They used the department as the rows for this pivot table to group and organize the rest of the sales data. Then, they input two Values as columns: the SUM of sales and a count of the products sold. They also sorted the data by the SUM of sales column in order to determine which department generated the most revenue.

SUM of sales	COUNTA of product_id
\$3,045.95	49
\$2,958.37	55
\$2,880.55	57
\$2,869.96	48
\$2,785.80	49
\$2,728.90	51
\$2,669.25	52
\$2,613.56	48
\$2,589.56	47
\$2,586.92	45
\$2,460.12	46
\$2,459.22	44
\$2,399.48	47
\$2,353.65	41
\$2,313.01	42
\$2,272.77	46
\$2,222.99	38
\$2,206.20	44
\$2,117.98	41
\$2,108.33	39
\$1,858.47	38
\$1,809.36	33
	\$3,045.95 \$2,958.37 \$2,880.55 \$2,869.96 \$2,785.80 \$2,728.90 \$2,669.25 \$2,613.56 \$2,589.56 \$2,586.92 \$2,460.12 \$2,459.22 \$2,399.48 \$2,353.65 \$2,313.01 \$2,272.77 \$2,222.99 \$2,206.20 \$2,117.98 \$2,108.33 \$1,858.47

Now they know that the Toys department generated the most revenue!

Pivot tables are an effective tool for data analysts working with spreadsheets because they highlight key insights from the spreadsheet data without having to make changes to the spreadsheet. Coming up, you will create your own pivot table to analyze data and identify trends that will be highly valuable to stakeholders.

