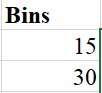
Movie Theatre Releases – Teaching Tips

# Tabular and Graphic Summaries

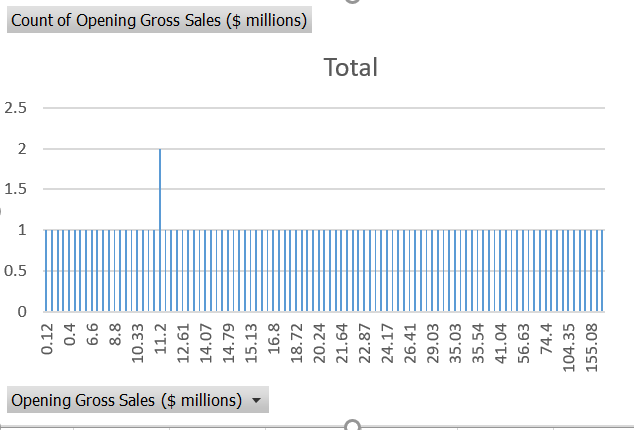
Creating frequency distributions of quantitative data relies on determining the number of classes (between 5 and 20) to use to effectively summarize the data. Students that get stuck on this first subjective/arbitrary step often delay getting started or even give up. I used 12 for Opening Gross Sales, 10 for Total Gross Sales, 20 for number of theatres, and 5 for number of weeks. Perhaps give the students the number of classes for each table to avoid a slow start.

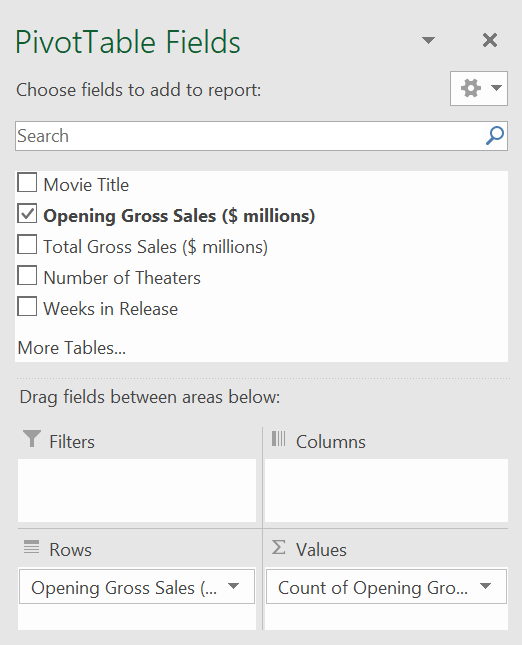
I recommend using either the Data Analysis tool or Pivot Table approach to avoid a discussion of control array formulas (and how to enter them).

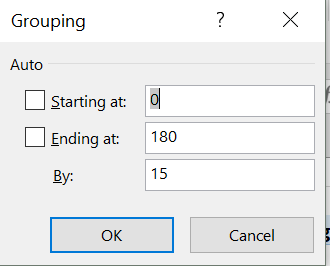
The bin width is a computed value. Start point again is fairly arbitrary. Once width is established and first 2 ranges computed (For example, 0 – 15, 16 – 30), the bins column can be computed by establishing the pattern and then using the fill handle to complete the bins, working backwards then to complete the ranges for display (31 – 45…).

The majority of students in this level Statistics course may not have been exposed to the use of Pivot Tables. Students should be referred to the exercise in the Chapter 2 (pp. 98-101) as a reference.

The Pivot table for Opening Gross Sales will initially appear as shown below.



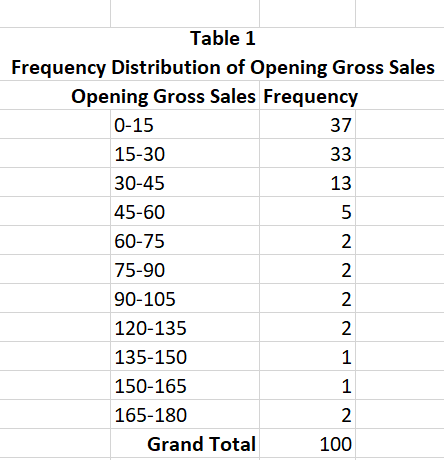


The Grouping option is the key to creating the Pivot table/chart. Right-click on any of the row label columns to select the Grouping option.

Both the Data Analysis Tool and Pivot Chart create the chart as a bar graph. To make the chart a histogram remove the gap (set to 0) in the Data Series Option.

Students should be reminded that frequency distributions/charts may differ from one another depending on values chosen for number of classes.

To create tables, suitable for reports, students should copy the pivot table and paste special just the values before formatting. Just getting through the Pivot Table steps is a challenge. Students may need to be reminded that just copying the Pivot Table or Histogram output into the report may not be acceptable. Perhaps offer an example:



# Table of Amount of Expenditures by Department and the Percentage of Expenditures by Department

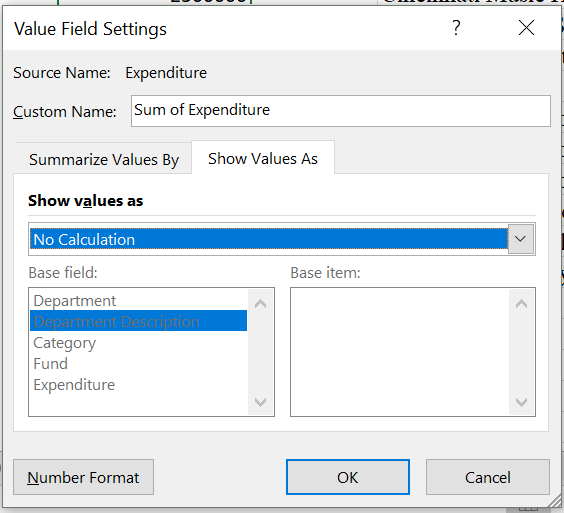
It may be helpful for students to generate a new worksheet and sort the data by department to help visualize the process while creating the Pivot Table. Remind students to select the table by clicking in A1 and using CTRL-SHIFT-Right Arrow then CTRL-SHIFT-Down Arrow to select the data (dragging the mouse to select this size data is inefficient). For this table, the Row category is department description (again visualize Department names in the rows in column A). The values field is again the Expenditures.

Once created the table summing expenditures can be copied to a new location (allowing for a table name), column titles added, and the expenditures data can be formatted in an exceptable style (comma, 2 decimals is appropriate). Remind students that the $ style clouds the data with extra symbols.

The original PivotTable can now be used to create the % of Expenditures table. To change the Expenditures values to percent, students will have to right-click on the expenditures data in the Pivot Table and choose Value Field Settings. They will most likely not be familiar with the Show Values As tab and should be instructed to select that tab and choose the desired calculation (% of Expenditures).

To combine all percent values less than 1%, PivotTable data should be copied (use the Paste Special to remove PivotTable features from the data). Formatted as a table, sorted, less than 1% data combined and and Other field created. Use the SUMIF() function to compute the Other data. Students will have to be reminded that the criteria (<1%) must be put in quotes (“<1%”). Appropriate formatting (column headings, table name can then be added for reporting).

The Paste Special feature is often overlooked. For example, once the Other department description has been created, this result (21.20%) must be copied/paste special to remove the SUMIF function or the result will be lost.



# Table of Amount of Expenditures by Fund and the Percentage of Fund by Department

This table is created exactly as the expenditures by department tables. Use the previous Teaching Tips for help.