# Microsoft Excel 2016 Session 3: Databases & Charts

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# Database Tricks

*Excel is often used to manage small databases and has several tools for doing so. In a database table, be sure there is only one header row and no blank rows or columns separating the data.*

#### Freeze the Top Rows and/or Left Columns

*A great trick for large tables.*

1. Click the cell immediately below and to the right of the area you want *frozen*.
2. Click **View > Freeze Panes > Freeze Panes**

*To “unfreeze” the columns and rows, click* ***View > Freeze Panes > Unfreeze Panes****.*

#### Repeat Column Heads on Printouts

1. Click **Page Layout > Print Titles**
2. Enter **1:1** in **Rows to repeat at top of page**

#### Page Breaks & Print Area

1. Click: **View > Page Break Preview**
2. Rt-click row > **Insert Page Break**
3. Select cells to print
4. Click: **Page Layout > Print Area**
5. Choose: **Set Print Area**

#### Sort Items in a List

*Makes it easy to find the biggest or smallest.*

1. Click any cell in the column to be sorted by.
2. Click the **Data** ribbon and then either the **A-Z** or **Z-A** sort option.

#### Sort Items by Two Columns

*Makes it easy to find the biggest in each group.*

1. Click anywhere in the table.
2. Click the **Data** ribbon and click **Sort**.
3. Use list arrows to select 1st column and order.
4. Click **Add Level** button.
5. Use list arrows to select 2nd column & order.

#### Use Filter to Display Certain Items in a List

1. Click anywhere in the table.
2. Click **Data** ribbon and the **Filter** button.

*List arrows will appear atop each column.*

1. Choose a list arrow and select options.

*To clear the filter, click the list arrow and choose* ***(Select All)*** *or click* ***Data > Filter*** *to turn off this feature completely.*

#### Use Filter to Display a Range of Items

1. Click anywhere in the data list.
2. Click the **Data > Filter**.
3. Choose a list arrow and select **Number Filters** and then **Greater Than ….**
4. Enter the desired criterion.

*You can also filter text: “Begins with A”.*

#### Splitting Text into Columns

A fast way to split full names into first and last names.

1. Insert two blank columns to the right of the column that you want to split.
2. Select the cells to be split.
3. Click: **Data > Text to Columns**
4. Click: **Next**
5. Check the box for **Space**
6. Click: **Finish**
7. Note problem caused by middle initials

#### Flash Fill Text into Columns

An amazing new way to split full names.

1. Insert two blank columns to the right of the column that you want to split.
2. In the cell to the right of the first full name, type the first name.
3. Select the cell with the first name.
4. Click: **Data > Flash Fill**
5. Repeat for the last name column.
6. Delete the Full Name column
7. Note: no more problems caused by middle initials.

#### Pick Values from a Data Validation List

This trick makes it easy to ensure a consistent set of values in a column.

1. Select the cells that require valid data.
2. Click: **Data > Data Validation**
3. In the Allow list box, choose: **List**
4. Click in the **Source** box
5. Navigate to the list of options and select them.
6. Click: OK
7. Now when you click one of these cells, a list arrow will appear.

#### Combining Text

In a formula, use the & operator.

#### Calculate Subtotals for Groups of Data

*This is an old technique used to find totals or average for groups of data.*

1. Sort the data by the desired group field (e.g., Class or Category)
2. Click **Data > Subtotals**.
3. In the **At each change in** list box, choose the desired group field.
4. Choose the desired function (e.g., Average)
5. Select field(s) to be calculated.

*To list only the Subtotal rows, click the “2” box in the left margin.*

*To remove the Subtotals, click* ***Data > Subtotals > Remove All****.*

#### Naming Cells for Easier Formulas

If you define names for cells, your formulas will be easier to create and understand.

1. Select a range of cells.
2. Click in the **Name Box**.
3. Enter a name (no spaces).
4. To use the name in a formula, press F3.

#### AVERAGEIF() and SUMIF() Functions

*Considers only certain data in a table.*

1. Format: AVERAGEIF(range, criteria, average\_range).
2. Example: AVERAGEIF(C2:C10, “Yes”, D2:10): This averages the values in column D that have a value in column C equal to “Yes”.

#### The Easy Way to Format Tables

Excel Tables or Formatted Tables provide some special formatting and editing capabilities, which can save time.

#### To convert a Range into an Excel Table:

1. Click someplace inside the range  
   (Or, select whole range)
2. Click **Home > Styles > Format as Table**
3. Choose the desired Table Style
4. Verify table range and click OK
5. To remove filter buttons, click **Data > Filter**

#### To convert a Table back to a Range:

1. Select a cell in the table
2. Click **Table Tools Design >   
   Convert to range**
3. Clear formatting manually, if desired.

# Charts

Tables are great for displaying large amounts of specific information. But Excel Charts are often the most effective way compare data.

#### Creating a Chart

1. Select part of a table (including row and column headings)
2. Click the **Insert** ribbon
3. Click the desired chart type and subtype
4. Drag sizing handles in the border of chart to change its size
5. Drag another part of the border to move the chart

#### Adjusting a Chart

##### Two new tabs on the Ribbon:

###### **Design**: Formats the whole chart

###### **Format**: Formats part of the chart

##### Three chart option buttons on the right:

###### **Chart Elements**: Adds or removes parts.

###### **Chart Styles**: Changes the general look.

###### **Chart Filters**: Limits the data to appear.

**The Format task pane appears at the right:**

###### Fill and Line options (bucket button).

###### Effect options (pentagon button)

#### Applying Data Labels to a Chart

This alternative to a Legend makes it much easier to identify data in a Pie Chart.

1. Click one of the slices in a Pie Chart.
2. Click the Chart Elements button (**+**).
3. Check the box for **Data Labels** and click the option arrow at the right.
4. Choose: **More Options…**
5. Uncheck: **Value**
6. Check: **Category Name** or **Series Name**
7. To adjust the **Label Position**, click the option button for **Center**

#### Annotating a Chart

Excel offers several ways to point out key areas of a chart. This one uses a Callout shape:

1. Click: **Insert > Shape**
2. In the **Callouts** section, choose the **Callout: Line** shape.
3. Click the desired location for the annotation.
4. Type the text for the annotation.
5. Use the Sizing Handles of the shape to adjust its size.
6. Use the **Drawing Tools Format** tab to adjust the color of the shape.