Formatting the Plot Area .............................................................................................................. 29
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**Text to Columns**

Depending on the way your data is arranged, you can split the cell content based on a delimiter such as a space or a character (comma, a period, or a semicolon) or you can split it based on a specific column break location within your data.

1. Navigate to the **Text to Columns** worksheet.
2. Select column B and **Insert** a new column.
   - **Note:** If you do not insert a new column, the text to columns wizard will replace any content in the adjoining cell.
3. Select column A.
4. Choose **Text to Columns** in the **Data** tab. The **Text to Columns** wizard will appear.

![Figure 1](image1.png)

5. Select the **Delimited** radio button (already selected by default) and click **Next**.
6. Select **Comma** from the list of delimiters. The preview of selected data will show the text split.

![Figure 2](image2.png)
7. Click **Next**.
8. The final step of the wizard appears. This allows you to pre-format the column before it goes back into the Excel worksheet. In this example, we will leave the default as is.

![Figure 3](image)

9. Click **Finish**. The Excel worksheet will show the columns split. You may have to go into specific cells and do further clean up. See cell B14 for example.

![Figure 4](image)
Concatenate

The concatenate function joins two or more text strings together into one string. For example, if you have the customer’s first name in column A and the last name in column B, you could use “=concatenate (A3,“, ”,B3)” to produce a string containing first name and last name.

Concatenate text can also be achieved using the “&” symbol. Concatenation works best when combined with other functions like upper, proper, left, and right.

**Note:** When you join two strings, Excel does not insert a space or any punctuation between the two. You must do it by inserting “ ” between the two strings, as shown above, or by replacing that space with a hyphen or other punctuation. The quotation marks are required.

### The Concatenate Function

1. Navigate to the **Concatenate** sheet.
2. In cell A2, type: =concatenate(C2,“, ”,D2).
3. This will join the contents of two cells together and place a space in between them.

![Figure 5](image1.png)

### The Right Function with Concatenation

The right function with concatenation enables you to take sensitive data (credit card numbers, social security numbers, etc.) and replace a portion of it. If you are handling data with sensitive personal identification information, this process will give you the ability to protect that information.

1. In cell B11, type: ="xxx-xx-"&right(C11,4).
2. This will append the social security number leaving the last four characters.

![Figure 6](image2.png)
**Absolute Cell References**

When copying a formula, you may want one or more of the cell references to remain unchanged. Unlike a relative cell reference, which preserves the relationship to the formula location, absolute cell references preserve the exact cell address in a formula.

1. Navigate to the **Absolute** sheet.
2. Click in cell **F7**. We are going to find the total of each item including the tax.
3. Type **=D7*E4+E7** and press **Enter**. This will add tax to the product then add shipping. No tax is added to the shipping cost.
4. Using the fill handle, drag the formula down to cell **F10**. Notice the odd looking results. This is because it is using relative cell references.
5. Click back in cell **F7**. Press **Delete** and type **=D7*E4+E7**.
6. Highlight the E4 inside the formula and then press the **F4** function key on your keyboard. Notice the $ signs around cell **E4**.
7. Press **Enter**.
8. Drag the formula down to **F10**.

![Figure 7](attachment:image.png)
**Data Validation**

Data validation is an Excel feature that you can use to define restrictions on what data can or should be entered in a cell. You can configure data validation to prevent users from entering data that is not valid.

1. Open the **Data Validation** sheet.
2. Select the range **C6:C12**.
3. From the **Data** tab, select **Data Validation**. The **Data Validation** menu will appear.

![Data Validation Menu](image)

*Figure 8*

4. Select **List** from the **Allow** dropdown and choose `$G$5:$G$305` as the source by clicking in the **Source** box and dragging down column G starting at cell G5.

![Data Validation Menu](image)

*Figure 9*

5. Click **OK** or press **Enter**.
6. In the **Input Message** tab, type: *Please select a time.*
7. In the **Input message** box, type: *Allowed time is from 7:00 AM through 12:00 PM.*

![Data Validation](image1)

*Figure 10*

8. In the **Error Alert** tab, type: *Error: Incorrect Time Entered* in the **Title** box.
9. In the **Error message** box type: *Allowed time is from 7:00 AM through 12:00 PM.*

![Data Validation](image2)

*Figure 11*

10. Click **OK**. Test the validation out by manually typing in **2 PM** in cell C7.

![Error Alert](image3)

*Figure 12*
Time and Date Calculations
When you type a date into Excel, you may never see the underlying serial number, like 40519, but it is there nonetheless. This is a date serial number and it is used in calculating dates. Excel uses a numbering system with dates beginning with 1 Jan, 1900 as the serial date number of 1 then continued numbering until this day and beyond. For example, a serial number that is 40519 when converted to a date represents 7 Dec, 2010.

When you type a time into a cell in Excel, the underlying value is a fraction, but Excel interprets this as a time serial number and formats the cell accordingly. You can calculate this fraction for any time value during the day by taking the total number of seconds that have passed from midnight until your time value and dividing by 86,400 seconds in a day.

A time value of 6:00PM will show up in Excel as .75

When time and dates are combined, they show up as a serial number with a decimal point. For example: 42446.50 is noon on March 17, 2016.

1. Open the Date and Time sheet.
2. Enter the current date as a fixed date into cell C2 using the Ctrl+; keyboard shortcut
3. Delete the cell contents and replace them with the current date formula =now().

![Figure 13](image)

4. In cell D4, use a formula to add 30 days to the invoice date. This will determine the Invoice Due Date. In this instance type: =B4+30. Autofill the contents down.

![Figure 14](image)
5. Next, calculate how old each invoice is by calculating between two dates. In cell E4, type =SCS2-B4. The dollar signs are absolute values which lock the cell C2 into the formula.

6. Autofill the formula down.

<table>
<thead>
<tr>
<th>Invoice Due Date</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4/2016</td>
<td>47</td>
</tr>
<tr>
<td>4/8/2016</td>
<td>12</td>
</tr>
<tr>
<td>2/24/2016</td>
<td>56</td>
</tr>
<tr>
<td>3/22/2016</td>
<td>29</td>
</tr>
<tr>
<td>2/26/2016</td>
<td>54</td>
</tr>
<tr>
<td>4/5/2016</td>
<td>15</td>
</tr>
</tbody>
</table>

Figure 15

7. In cell F4, calculate the number of days an invoice is past the deadline. Type =E4-30 and autofill down.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
</tr>
<tr>
<td>Advertising Accounts Receivable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Date: 11/8/2016</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>92334</td>
<td>9/22/2016</td>
<td>577.82</td>
<td>10/22/2016</td>
<td>47</td>
</tr>
<tr>
<td>5</td>
<td>92356</td>
<td>10/27/2016</td>
<td>264.67</td>
<td>11/26/2016</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td>92362</td>
<td>9/13/2016</td>
<td>810.21</td>
<td>10/13/2016</td>
<td>56</td>
</tr>
<tr>
<td>7</td>
<td>92379</td>
<td>10/10/2016</td>
<td>577.82</td>
<td>11/9/2016</td>
<td>29</td>
</tr>
<tr>
<td>8</td>
<td>92393</td>
<td>9/15/2016</td>
<td>86.50</td>
<td>10/15/2016</td>
<td>54</td>
</tr>
<tr>
<td>9</td>
<td>92407</td>
<td>10/24/2016</td>
<td>2595.00</td>
<td>11/23/2016</td>
<td>15</td>
</tr>
</tbody>
</table>

Figure 16
Conditional Formatting

Conditional formatting in Excel enables you to highlight cells with a certain color depending on the cell's value. Using this feature can make analyzing data easier by applying visual styles to the data.

1. Open the Conditional Formatting worksheet.
2. Select the cell range D4:H13.
3. On the Home tab, in the Styles group, click the arrow next to Conditional Formatting and choose Color Scales.
4. Hover over the color scale icons to see a preview of the data with conditional formatting applied. In a three-color scale, the top color represents higher values, the middle color represents medium values, and the bottom color represents lower values. This example uses the Red-Yellow-Green color scale.

![Figure 17](image)

Exploring Styles and Clearing Formatting

On the Home tab, in the Styles group, click the arrow next to Conditional Formatting and then experiment with the available styles by completing the following:

1. Select cell range I4:I13 and apply a 3 Arrows set in the Icon Set menu.
2. Select cell range D15:H15 and apply a Solid Fill Blue Data Bar.
3. Practice using the Top/Bottom and Highlight Cells Rules on the worksheet.
4. From the Conditional Formatting dropdown menu, hover over Clear Rules, then click Clear Rules from Entire Sheet.
Using Conditional Formatting to Hide Cells

If you have cell contents and you do not want to be visible, you can use conditional formatting to hide them.

2. Choose Conditional Formatting from the Home tab and select New Rule from the dropdown menu.
3. Select the Format only cells that contain option.
4. Choose Cell Value is less than or equal to zero as the criteria.

![Figure 18](image)

Click the Format button and change the font color to white. This will give the appearance that the cells that do not meet the criteria are hidden.

![Figure 19](image)
The IF Function

The IF function is a logical function that is designed to return one value if a condition you specify evaluates to be TRUE and another value if it evaluates to be FALSE.

Basic Concept:  =IF(logical_test, value_if_true, value_if_false)

If the first quarter total is equal to or greater than the 1st quarter quota then the salesman will get the 2% bonus. If not, they get 0.

1. Click on the **Bonuses** sheet.
2. Select cell **G6**.
3. Click the **Formulas** tab on the ribbon.
4. Click the down arrow under **Logical**.
5. Choose **IF**.
6. Type what you see in the box below.

![Function Arguments](image)

*Figure 20*

7. Using the fill handle, copy the formula down to cell **G11**.

**Changing the “Value if false” Condition to Text**

1. Click in cell **G6** and click in the **Formula** bar.
2. Change the 0 to **“No Bonus”** (you must type the quotation marks).
3. Press **Enter** and copy the formula down using the fill handle.
3D Formulas
3D formulas typically refer to specific cells across multiple worksheets. This formula is also sometimes called a “cubed formula”. It can, but does not need to, use a function to calculate across worksheets.

**Basic Concept:** =Sheet1Name!Cell1Name+ Sheet2Name!Cell2Name

**Example 1:** =SUM('Qtr1:Qtr2'!F5)

1. Click the Summary worksheet.
2. Select cell C5.
3. Type =SUM.
4. Click on the QTR1 tab.
5. Hold down **Shift** and click on the QTR2 tab.
6. Click in cell F5, then close the parenthesis in the formula.
7. Press **Enter**.
8. Drag the formula down.

![Figure 21](image-url)
**Pivot Tables**
A pivot table is a special Excel tool that allows you to summarize and explore data interactively.

**Table** - A collection of data. It was first coined in MS Access. However, it is commonly used in Excel nowadays. A table in Excel has a header and there are no entirely blank rows or columns. (Example: Home > Format as Table)

**Pivot** - The ability to alter the perspective of retrieved data.

**Pivot Table** - The ability to create a brand new table based on existing data for the purpose of viewing, reporting and analyzing data.

**Creating a Pivot Table**
1. Click on the **Performance Appraisals** worksheet.
2. Click in a cell within the data range.
   
   **Note:** No entirely blank rows or columns can exist. There must be a header row for a PivotTable to work.

3. Click the **Insert** tab on the ribbon and click the **PivotTable** button in the **Tables** group.
4. Accept the defaults, click the **OK** button.

![Create PivotTable dialog box](image)

*Figure 22*
5. A PivotTable will open in a brand new sheet titled **Sheet1** and inserted to the left of the **Performance Appraisals** worksheet.

![Excel PivotTable](image)

**Figure 23**

**Specifying PivotTable Data**

Before creating a PivotTable you must know what you want to analyze. There are three questions you have to ask before proceeding:

- What do you want your column headers to be?
- What do you want your row headers to be?
- What data do you want to analyze?

By understanding the layout, you will have a better perspective on how to create a PivotTable.

1. Click back on the **Performance Appraisals** sheet and ask participants if it is possible to determine the average salary for each performance rating.
2. Expand to see if you can group that data by **Position** and **Department** as well.
3. Click back on Sheet1.
4. Drag the Performance Rating field down to the Rows area.
5. Drag the Salary over to the Values area.
6. A PivotTable will begin to show the results of the data analysis.
7. Drag the Performance Rating field from the Rows area to the Column area.
8. Drag down Position to the Rows area.
9. Your PivotTable will now show the income for each position separated by Performance Rating.

![Figure 24]

**Changing a PivotTables Calculation**

1. Click the dropdown arrow next to Salary in the PivotTable Fields list.
2. Select Value Field Settings.
3. Change the Summarize value field by: to Average.
4. Click OK.
5. Now, the totals will show the Average of each grouping.

![Figure 25]
Filtering and Sorting a PivotTable

1. Drag the **Department** field to the **Filters** area. This top-level filter allows filtering data by department only.
2. In cell **B1**, select **Administration** from the dropdown list.
3. Click **OK**.
4. The results are filtered to show just those positions that are part of **Administration**.
5. In cell **B1**, click the **Select Multiple Items** checkbox from the dropdown list.
6. Add **Executive** to the filter and click **OK**.
7. In cell **B1**, click the **All** checkbox from the dropdown list and click **OK**. All records are now displayed.
8. Drag **Department** from the **Filters** area to the **Rows** area. Position it so that it lies above the **Position** field.
9. The positions are now grouped by department.
10. In cell **A4**, select **Training** only from the dropdown list. Click the **OK** button. All other records are filtered.
11. Click cell **A4** and choose **Select All**. Click **OK**. All records are now returned to view.
12. Click cell **A4** and select **Sort A to Z** from the dropdown menu. The departments are now sorted alphabetically.
13. Click cell **B3** and choose **Sort Largest to Smallest**. The **Performance Ratings** now show the highest rating first.

![Figure 26](image)
Creating a PivotChart

1. Select Sheet1 (the PivotTable created based on Performance Appraisals).
2. In the Analyze tab under the PivotTable Tools tab menu, select PivotChart in the Tools group.
3. Choose the default column chart.
4. Click OK.
5. A new chart is added on top of the data.
6. Remove Position from the Rows area.
7. The chart updates accordingly.
8. Delete the chart.
9. Click on a cell inside the PivotTable.
10. Press the F11 key. This is another way to create a chart. This time a chart is added to a new sheet titled Chart1.
11. Drag Department from the Rows area (known as Axis Fields).
12. Drag Performance Rating from the Legend Fields (Column area) to the Axis Fields (Row area).
13. Change Sum of Salary to Average.
14. The chart updates.
15. Click back on the PivotTable.
16. Double-click on cell B8 (the 1 rating).

Note: It is only one person listed and that is why the results may be skewed.
Grouping Items

1. Click the 2006Donations sheet.
2. Select a cell in the data range.
3. From the Insert tab on the ribbon, click PivotTable.
4. The Create PivotTable dialog window will appear. Click OK to accept the defaults.
5. A new PivotTable will be created on a new worksheet labeled Sheet3.
6. Drag Date to the Rows area.
7. Drag Amount to the Values area.
8. The PivotTable will summarize the amounts donated on a particular day.
9. Click on a cell in column A in the data range.

Note: It must be a cell in the data range and not a label (ie: A3).

10. Right-click and select Group from the pop-up menu.
11. Months will already be highlighted. Deselect Days and click OK to group by Months.

12. Select Ungroup from the Group group in the Analyze tab on the ribbon. The data will be ungrouped by months and now show dates.
Updating a PivotTable

PivotTables will not automatically update to reflect data changes. Either the Excel spreadsheet will need to close and re-open (thus forcing an update) or you can manually update the workbook using the refresh button.

1. Click the **2006Donations** worksheet.
2. Insert a row between row 6 and 7.
3. Type the following:

   | 6/5/2006 | New   | Property | 87,000 | Ohio | Mail |

4. Save the file.
5. Click the **Sheet2** sheet.
6. Click the **Analyze** tab under the **PivotTable Tools** contextual menu.
7. Click **Refresh** in the **Data** group.
8. Scroll to **June 5, 2006** (cell B158).
9. Double-click cell **B158**. A new sheet will appear showing the results of donations made that day. The new $87000 donation appears on the list.
10. Click back on **Sheet2**.

Formatting a PivotTable

1. Select column A.
2. Select Long Date from the **Number** group on the **Home** tab.
3. Notice that all dates show the Day of the Week now.
4. Select column B.
5. Select Accounting format from the **Number** group on the **Home** tab.
6. Decrease decimals by two places so that just the whole numbers appear.
7. Select Row 3.
8. Increase the font size to 14 points.

![Figure 28](image_url)
Using Slicers
Slicers enable you to filter the data within a PivotTable. Inserted Slicers will appear as a set of buttons allowing for rapid filtering of data.

1. Click the Payments by City sheet.
2. Select a cell in the data range.
3. From the Insert tab on the ribbon, click PivotTable.
4. The Create PivotTable dialog window will appear. Click OK to accept the defaults.
5. A new PivotTable will be created on a new worksheet.
6. Drag City to the Rows area.
7. Drag Payment Type to the Columns area.
8. Drag Amount to the Values area.
9. Click the Analyze tab from the PivotTable tools contextual menu.
10. Select Insert Slicer from the Filter group.
11. Choose City and click OK.
12. Select Insert Slicer from the Filter group again.
13. Choose Payment Type.
14. Drag the slicers to a clear spot in your PivotTable.
15. Select Baltimore from the City slicer group.
16. Select Visa from the Payment Type slicer group.
17. You can now view a list of Visa Payments made for the City of Baltimore only.
18. Click the Clear Filter button in both slicers.
19. Experiment by holding the Ctrl key to select multiple slicers.
20. Select Baltimore and Boston in the City slicer group.
21. Select Cash, Check and Money Order in the Payment Type slicer group.

![Figure 29](image-url)
Charts
Charts are a great way to visualize your data.

Creating a Simple Chart
1. Navigate to the worksheet called Charts.
2. Select the range of B2:E5.
3. Press the F11 key.

Chart Terminology

Charting Non-Adjacent Cells
1. Click on the Charts sheet again. Select the range B3:C5. Hold down the Ctrl key and select the range E3:E5 (must use the dragging technique when the Ctrl key is held down).
2. Press the F11 key.
Creating a Chart Using the Chart Wizard
1. Click on the Charts sheet again.
2. Select the range of B2:E5.
3. Select the Insert tab on the ribbon.
4. In the Charts group, click the Recommended Charts icon.
5. Click the All Charts tab in the Insert Chart window.
6. Choose 3-D Clustered Column under the Column section.
7. Click OK.

Point out the contextual tabs.

Modifying Charts
There are many different ways to modify your charts to best visualize your data.

Moving an Embedded Chart
1. Place your mouse on the chart area of the chart. This is the white area within the perimeter.
2. Hold down the mouse button and drag the chart to cell B7.

Sizing an Embedded Chart
1. Select the chart. You know the chart is selected because it has handles around the perimeter.
2. Place your mouse on one of the handles until your mouse turns into a dual headed arrow.
3. Hold down your left mouse button and drag until the chart becomes larger or smaller.
4. Drag the chart over to the H column and down to row 22.

Changing the Chart Type
1. Click on the chart to select it.
2. Click the Design contextual tab on the ribbon.
3. In the group named Type, click Change Chart Type.
4. Hover over the different chart types to see what they look like and look at the table above to get an idea on how to use the different chart types.
5. End with a 3-D Clustered Column chart.

Chart Types

<table>
<thead>
<tr>
<th>Chart Type</th>
<th>Used For</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td>Displays values over a period of time. Emphasis on amount of change.</td>
</tr>
<tr>
<td>Bar</td>
<td>Displays values for comparison.</td>
</tr>
<tr>
<td>Column</td>
<td>Displays values for comparison.</td>
</tr>
<tr>
<td>Line</td>
<td>Shows trends over time.</td>
</tr>
<tr>
<td>Pie</td>
<td>Displays only one data series. Each piece of the pie is a percent of the whole.</td>
</tr>
<tr>
<td>Doughnut</td>
<td>Similar to a pie, except it can display more than one data series.</td>
</tr>
<tr>
<td>Radar</td>
<td>Displays changes of data relative to a center point and also to each other.</td>
</tr>
<tr>
<td>XY (Scatter)</td>
<td>Displays the relationship between numeric values in several data series.</td>
</tr>
<tr>
<td>Bubble</td>
<td>Plot and coordinate values.</td>
</tr>
</tbody>
</table>
Changing the Way Data is Displayed

1. With the chart still selected, click the Design tab on the ribbon.
2. Click the Switch Row/Column button.

![Chart Design Options](image)

Figure 31

Moving the Legend

1. Click once on the legend to select it.
2. From the Chart Layouts group in the Design tab, select the Add Chart Element dropdown.
3. Select the Legend group and choose Right.

![Chart with Legend](image)

Figure 32
**Formatting Charts**

**Adding Chart Items**

1. Switch to the sheet entitled *Monthly Orders* in the *Excel Master File* spreadsheet.
2. Create a *Clustered Column Chart* from the data.
3. Click on the chart to select it.
4. Click the *Quick Layout* dropdown from the *Chart Layouts* group.
5. Select *Layout 2* from the list.
6. Click on *Add Chart Element* in the *Chart Layouts* group.
7. Click on the *Chart Title* option. The *Title Options* will appear.
8. Click the *Above Chart* option and type *Sandwich Sales*.
10. Add the following *Axis Titles* from the *Add Chart Element* dropdown menu.
    - **Primary Horizontal Axis** = *Month*
    - **Primary Vertical Axis** = *Sales in ($)*

![Figure 33](image)
Formatting All Text

1. Select the entire chart by clicking once in the white chart area.
2. Click on the **Format** contextual tab.
3. Apply the **Colored Outline, Black, Dark 1** theme from the **Shape Styles** group.
4. Apply the **Fill Black, Text 1, Shadow** WordArt style from the **WordArt Styles** group.

![Sandwich Sales Chart](image)

*Figure 34*

Formatting and Aligning Numbers

1. Select **Add Chart Element** from the **Chart Layouts** group in the **Design** tab.
2. Select **Primary Vertical** from the **Axes** group to add the Y axis to the chart.
3. Double-click on the Y axis.
4. Select **Number** from the **Axis Options** tab.
5. Choose the format of **Currency** and **0 decimal places**.

![Number Format](image)

*Figure 35*
6. Click the **Size and Properties** tab.
7. In the **Custom Angle** field, type **-45** to place the text at a slanted angle.
8. Click **X** to close the panel.
9. Make the chart larger by dragging the bottom handle fill the screen.

**Formatting the Plot Area**
1. Double-click on the white of the chart background.
2. Select the **Fill** toggle.
3. Click on **Picture or texture fill**.
4. Click the **Online** button and type **Cheese Pattern** in the **Bing Image Search** field.
5. Select the swiss cheese image and click **Insert**.

![Sandwich Sales Chart](image)

*Figure 36*
Formatting Data Markers

1. Double-click on the **Swiss** data marker to select. Notice that all the Swiss data markers will become selected.
2. Select the **Fill** toggle.
3. Select **Picture or texture fill**.
4. Click the **Online** button and type **Swiss Cheese** in the **Bing Image Search** field.
5. Select the third swiss cheese image and click **Insert**.
6. Select the **Stack** radio button.
7. Click **X** to close the panel.

![Figure 37](image-url)
Pie Charts
Pie charts can present the relationship of different classes of data in a visually simple way.

Creating a Pie Chart
1. Click on the **Pastry Sales by State** sheet.
2. Select the range of **A4:B11**.
3. Click the **Insert** tab on the ribbon.
4. In the **Charts** group, click on the **Insert Pie or Doughnut Chart** icon.
5. Under the **3-D Pie**, click on **3-D Pie Chart**.

Moving the Pie Chart to its Own Sheet
1. Click the pie chart to select it.
2. Click the **Design** contextual tab. Under the group **Location**, click **Move Chart**.
3. Click beside **New sheet** and type **Pastry Sales Pie Chart**.
4. Click **OK** or press **Enter**.

![Pie Chart Diagram]

Figure 38
Adding Data Labels

1. Click the Design contextual tab.
2. From the Chart Layouts group, select the Add Chart Element dropdown.
3. Select Data Labels and choose Inside End.

![Data Labels dropdown](image)

4. Click Data Labels again and choose More Data Labels Options.
5. Click Percentage to turn it on and click Value to turn it off.
6. Click Category Name to turn it on.

Exploding a Slice of a Pie Chart

1. Click directly on top of the pie chart to select the entire chart.
2. Click again on the California slice to select only that slice of the pie.
3. Hold down your mouse button and drag the slice towards you.
4. Press Esc on your keyboard to deselect the pie.
Rotating and Changing the Elevation of a Pie Chart

1. Right-click on the chart.
2. Click 3-D Rotation from the contextual menu.
3. Beside Perspective, click the up and down arrows.
4. Change the Rotation by moving the X Rotation and Y Rotation input fields.

![Figure 40](image-url)